THE TRAGEDY OF NURSING HOME FIRES: THE NEED FOR A NATIONAL COMMITMENT FOR SAFETY

JOINT HEARING

BEFORE THE

SUBCOMMITTEE ON HEALTH AND LONG-TERM CARE

OF THE

HOUSE SELECT COMMITTEE ON AGING

AND

SUBCOMMITTEE ON LONG-TERM CARE

OF THE

SENATE SPECIAL COMMITTEE ON AGING

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THE TRAGEDY OF NURSING HOME FIRES: THE NEED FOR A NATIONAL COMMITMENT FOR SAFETY

THURSDAY, JUNE 3, 1976

U.S. HOUSE OF REPRESENTATIVES,
SUBCOMMITTEE ON HEALTH AND LONG-TERM CARE,
SELECT COMMITTEE ON AGING,
and
U.S. SENATE,
SUBCOMMITTEE ON LONG-TERM CARE,
SPECIAL COMMITTEE ON AGING,
Washington, D.C.

The subcommittees met, pursuant to call, at 9:30 a.m., in room 318, Russell Building, Hon. Cluade Pepper, chairman of the House Subcommittee on Health and Long-Term Care, and Hon. Frank E. Moss, chairman of the Senate Subcommittee on Long-Term Care, jointly presiding.

Subcommittee members present: Representatives Pepper of Florida, H. John Heinz III of Pennsylvania, and William S. Cohen of Maine; and Senators Moss of Utah, Charles H. Percy of Illinois, and J. Glenn Beall, Jr., of Maryland.

Also present: Hon. William J. Randall, chairman of the House Select Committee on Aging, and member, ex officio, of the Subcommittee on Health and Long-Term Care.

OPENING STATEMENT OF SENATOR FRANK E. MOSS

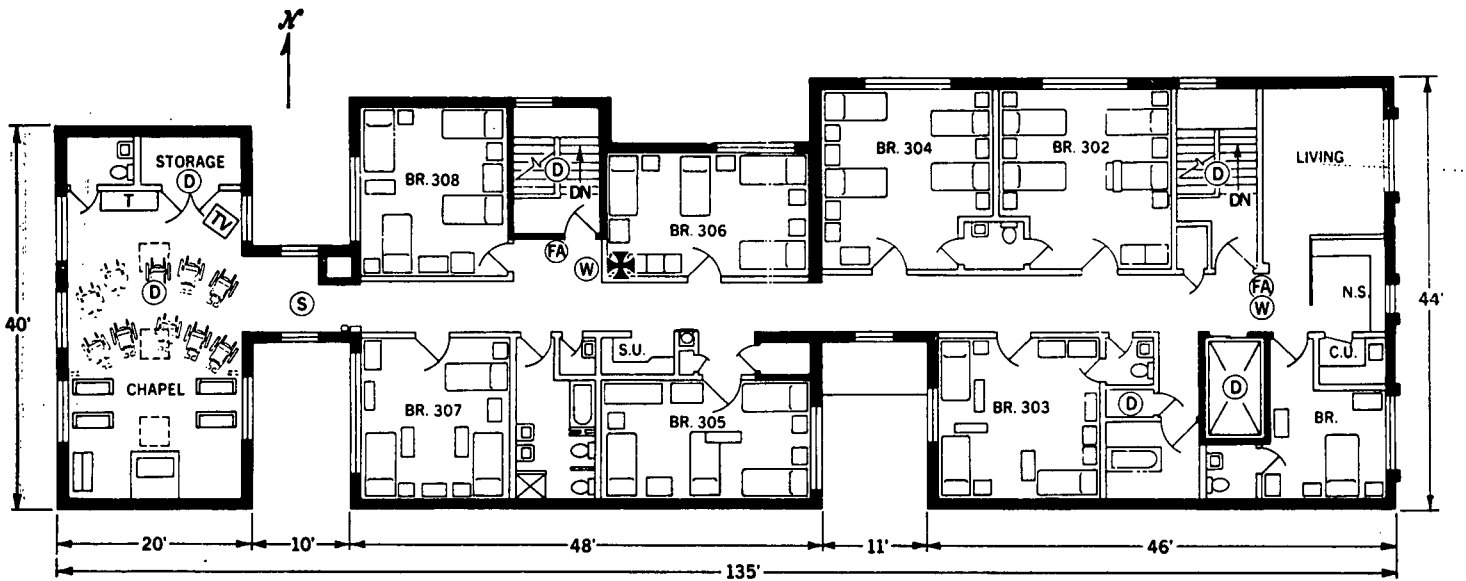
Senator Moss. The hearing will come to order.

This is a joint hearing of the Senate Subcommittee on Long-Term Care and the House Subcommittee on Health and Long-Term Care chaired by Representative Claude Pepper, and we have the Senator from Illinois as the ranking minority member on the Senate committee, Senator Percy. We hope there will be others who will be able to join us as we proceed.

We are here to probe the causes and implications of the two recent nursing homes fires in Chicago which claimed 31 lives earlier this year.

Since we are going to be talking about two fires today, I just want to take a moment to describe each fire with the hope of minimizing confusion.

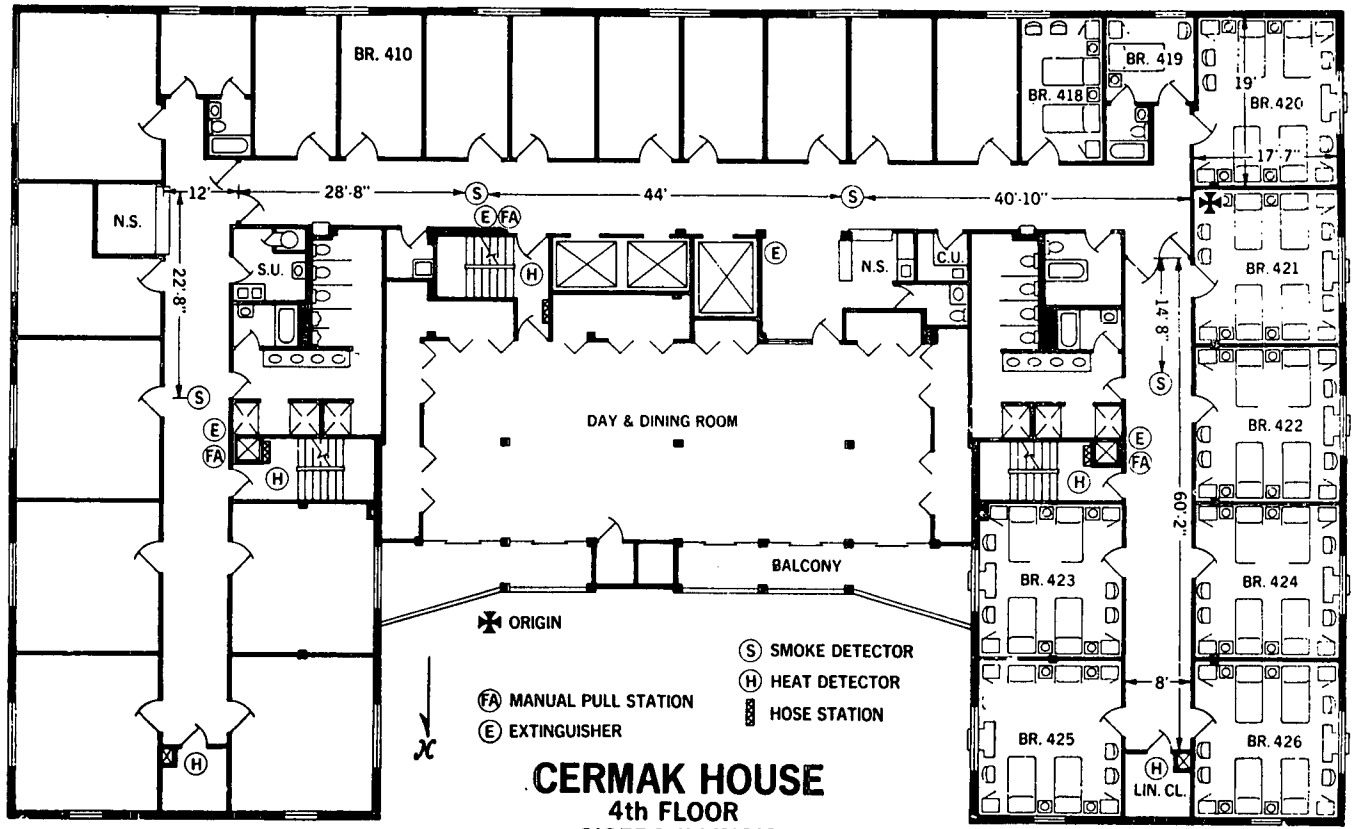
The first fire occurred in the Wincrest Nursing Home at 11:40 a.m. on January 30, 1976. This home was of modern design, basically a steel and concrete structure. It is said to have been in substantial compliance with the existing Federal fire safety standards for nursing homes: The Life Safety Code of the National Fire Protection Association. Arson was the alleged cause of the fire. The reaction of the fire department was swift, arriving at the scene 3 minutes and 40 seconds after receiving the initial alarm.



ORIGIN
(FA) MANUAL PULL STATION
(W) PRESSURIZED H_2O EXT.
(D) HEAT DETECTOR
(S) SMOKE DETECTOR

WINCREST NURSING HOME
THIRD FLOOR
CHICAGO, ILL.

SOURCE: NATIONAL FIRE PROTECTION ASSOCIATION



CERMAK HOUSE
4th FLOOR
CICERO, ILLINOIS

SOURCE: NATIONAL FIRE PROTECTION ASSOCIATION

Senator Moss. You will note by the floor plan on display here that the fire reportedly started in a patient's wooden clothing wardrobe on the third floor of the home. The contents of room 306 were totally incinerated but the fire did not spread to adjoining rooms. Employees trying to battle the fire left the door to the room open so that dense smoke filled the hall, the open rooms, as well as the chapel at the end of the corridor. Twenty-three of the home's 83 patients died in the fire. Most of them were attending religious services in the chapel at the time the fire broke out. Significantly, the chapel is at the end of a "dead end" corridor; patients had to be moved in the direction of the fire to be evacuated.

On February 4, 1976, a second fire occurred at Cermak House Nursing Home in Cicero, Ill., a modern 9-story 618-bed concrete-and-steel nursing home. The fire began at 6:30 a.m. in room 421, on the home's fourth floor. The fire department responded promptly but eight patients died, most from smoke inhalation. The exact cause of the fire is undetermined; the best theory is that it was the result of electrical failure. In this fire, as in Wincrest, most of the fatalities occurred because of a dead end corridor. Again, this means that patients had to be evacuated in the direction of the fire. Cermak House, like Wincrest, was allegedly in substantial compliance with all Federal and State fire standards for nursing homes.

These two tragedies raise a series of inevitable questions:

Why did 31 patients die in nursing homes that were ostensibly in compliance with existing Federal and State fire safety standards?

Does the existing Federal standard, which is in compliance with the Life Safety Code, adequately protect patients?

Should every nursing home receiving Federal medicare and medicaid funds be required to provide automatic sprinkler protection regardless of construction type?

Should smoke detectors be required in every facility as the first line of defense against fire?

Should the Congress enact greater controls with respect to the kinds of furnishings that may be used in nursing homes? Put differently, does it make sense to require operators to build homes of concrete and steel and yet to allow them to furnish such homes with highly flammable nightstands, wardrobes, chairs, wastebaskets, and the like?

In this connection, I want to find out why the Department of Health, Education, and Welfare has not fulfilled the promise they made to me after the January 1970 Marietta, Ohio, nursing home fire to issue appropriate flammability standards for carpeting installed in nursing homes.

I want to know why, 9 years after the enactment of the Flammable Fabrics Act, the Department of Commerce has not promulgated effective flammability standards to protect consumers. After our hearings on the Marietta fire 6 years ago, I was promised that such standards would be forthcoming. Unfortunately, both the Commerce Department and HEW continue to rely upon the anemic "pill test," a test of questionable value which provides limited protections to consumers in general and almost none to nursing home residents.

I want to know why there is little or no emphasis within the Department of Commerce or HEW on the question of smoke generation and the toxicity of burning gases. We have raised this question in the

hearings we have held on several of the major nursing home fires, and yet, little seems to have been accomplished on this score.

I hope that we can have some of these questions answered today.

I am very pleased that Representative Pepper, the chairman of the House Subcommittee on Health and Long-Term Care, is here on this joint hearing. I will ask if he has any opening remarks.

OPENING STATEMENT OF REPRESENTATIVE CLAUDE PEPPER

Mr. PEPPER. Thank you very much, Senator Moss.

I wish to thank you and your subcommittee for accepting our invitation to join with us in today's hearing. You and your staff have, over the past several years, developed tremendous expertise in the area of nursing home fire safety, and we are privileged to be able to work together. Today's hearing is our second joint effort, the first having been at Senator Moss' invitation on the subject of proprietary home health care on October 28 this past year. I also am very grateful that Senators Moss and Percy were kind enough to agree to the delay of this hearing until today because of my recent operation.

Our Subcommittee on Health and Long-Term Care of the House Select Committee on Aging is very pleased to meet with your subcommittee to consider the vital matters of safety of people all over America who are patients in nursing homes against the danger of fire, although the circumstances necessitating today's hearing are unfortunate.

Thirty-two defenseless elderly persons died and 50 were injured in two fires in nursing homes in the Chicago area earlier this year, with multiple deaths and injuries in earlier fires elsewhere across the country.

The tragedy of the recent fires mandates congressional and executive action. It is shocking to learn that so many deaths and injuries occurred in the two Chicago fires this year, and several earlier fires elsewhere, even though the buildings were supposedly fire-resistant and were in substantial compliance with the Federal fire safety requirements. Evidence to date from Chicago fire officials and others indicates that sprinklers throughout the facilities would have avoided the multiple deaths which occurred. Current Federal life safety standards are simply inadequate.

In addition, bureaucratic tangling between the Departments of HEW and HUD—which have joint authority to approve federally assisted loans for the construction of sprinkler systems—has resulted in the approval of not a single loan anywhere in the country.

Prompt action by the Congress and the executive branch is needed to make certain that repetitions of the Chicago tragedies—which we now learn were clearly avoidable if adequate standards were in effect—do not recur.

At our request, the General Accounting Office has conducted a study on the Chicago fires. The GAO report, just completed, has concluded that "Federal fire safety requirements do not insure life safety in nursing home fires." GAO's recommendations for action include requiring all nursing homes to be fully protected with an automatic sprinkler system and expediting and publicizing Federal loan procedures for sprinkler construction. I hope our joint committee will consider the possibility of loans by HEW to nursing homes which need financial assistance in order to provide sprinklers for the safety of their people,

loans that could be amortized over a reasonable period of time. In addition, some of them may require grants, and I hope our committee will study that possibility.

I hope these matters will be carefully studied with an eye both to introducing legislation and to urging Secretaries Mathews and Hills to implement the administrative recommendations.

The General Accounting Office will be a principal witness today, and I want to express our deepest gratitude to them for their prompt completion of their study in time for today's hearing. Their study will be released for the first time at this hearing. I particularly wish to thank Alan Zipp of GAO for his thorough and dedicated service in the preparation of the background work and report itself. I understand that Alan gave up a Florida vacation to complete the report and to be with us today.

The testimony of the General Accounting Office will be followed by other leading national experts in nursing home fire safety both from the executive branch and other organizations.

Following our hearings, I intend to introduce legislation upgrading nursing home fire safety standards. The hearings will be vital to letting us know just what needs to be done.

I am grateful to you, Chairman Moss, and I would like to introduce my distinguished colleague on our committee, Mr. Heinz, of Pennsylvania.

I am going to have to go back over to the Capitol for an event there and if Senator Moss is not able to stay, I understand Senator Percy will stay until we can return.

Senator Moss. Thank you very much, Congressman Pepper, for that very fine statement and for the great leadership you have exercised in the House committee, the counterpart committee on which Senator Percy and I serve.

I now recognize the senior Senator from Illinois who is interested doubly in these two unfortunate events because they occurred within the boundaries of the State which he so ably represents in the U.S. Senate.

OPENING STATEMENT OF SENATOR CHARLES H. PERCY

Senator PERCY. Mr. Chairman, before Congressman Claude Pepper leaves, I would like to thank him very much indeed for ordering the GAO report. I certainly agree with you it is an excellent job. We welcome your participation, Congressman Pepper, not because I am a native of the State of Florida but because of our common deep interest in this problem. I certainly welcome Congressman John Heinz here as well.

Mr. Chairman, there is little I can add to the analysis you and Claude Pepper have made, other than that I happened to be in Chicago on January 30. I went to the nursing home at Wincrest after I heard the radio report.

The fire department officials who led the fight at the time of the fire were still there. I would like to express my appreciation to the owners of the home, to the Chicago Police and to the fire department who spent several hours with me going through the still smoldering room where the fire began to let me examine firsthand what had happened.

I frankly went out because I expected to see exactly the same thing that you and I have seen on so many occasions in Chicago—dilapidated old converted apartment hotels bought up cheaply and written off, rented to operators who were bilking a tremendous return on investment out of elderly patients.

I was stunned when I saw the building at Wincrest. It was an outstanding facility. This irony is what makes it all the more tragic for the family and friends. The Wincrest Nursing Home and the Cermak House Nursing Home were in substantial compliance with all Federal, State, and local laws and regulations. They are excellent facilities. They are modern and well constructed, constructed of fire-resistant materials.

We immediately sent for the inspection records. The records we looked at indicated that fire drills and tests of evacuation procedures had been carried out at least by the staff.

What I think we should ask of our witnesses today is whether or not it is feasible in long-term care facilities to have any fire drill procedures, that is, evacuation procedures that could be used by the patients themselves.

Certainly, the staff here had, by the records, been well trained. When the fires were discovered alarms were turned in or automatically activated and the fire departments of Chicago and Cicero responded promptly and acted professionally. The fires were largely confined to the rooms in which they originated.

Yet, 23 persons died in the Wincrest fire and eight died in the Cermak House fire. These persons died of smoke inhalation. They died not because rules and regulations were being flaunted by operators and administrators concerned only with profits. They died in spite of what appear to be honest and well-meaning efforts by staff and operators alike to provide a safe and secure environment for the frail and infirm.

I did notice, and I am sure we will bring out in testimony today certain mistakes in judgment that were made at the time. I think it is best for our witnesses to bring those out themselves.

If 31 persons can die under these circumstances, how many are in jeopardy in those many facilities identified by this subcommittee and others which are not in full compliance with the law?

If substantial compliance with Federal, State, and local fire safety regulations still cannot guarantee the safety of the elderly, how can we achieve this objective? Or must we concede that it is impossible to attain?

Additional steps can and must be taken to reduce the possibility of future nursing home fires.

It seems clear that sprinkler systems are cost-effective ways of extinguishing fires before they become a risk to life. As has been noted many times before, no life has ever been lost because of fire in a sprinklered facility. The Congress must act to make sprinklers mandatory in all medicare and medicaid nursing homes.

I think we ought to ask ourselves, every Member of Congress, how would we like to have our mother and father in an unsprinklered nursing home facility.

I do not think sprinklers are the whole answer. They are not alone the answers.

We have learned from the Illinois tragedies that toxic smoke is the real killer. We must eliminate from nursing homes to the extent possible those furnishings and fabrics which are likely to produce toxic smoke. In addition, we must be sure that staff and residents alike are trained to the extent possible in fire prevention and evacuation.

If fire does break out, it must be possible to contain it by means of smoke-activated self-closing doors which seal off the affected portion of a corridor. Although some risks are involved, we should also contemplate similar devices for patient rooms. Occupants of rooms adjacent to those in which the Wincrest and Cermak House fires were isolated escaped injury and damage so long as the doors were closed.

I talked to the people in the room next to the Wincrest fire. They did not know there was a fire until the firemen actually came in and led them out of danger. Where doors were open, damage and death occurred.

Mr. Chairman, although time may have dimmed our memory of the Wincrest and Cermak House fires we can still apply what we have learned because of them before yet another tragedy occurs. The fact that we are holding these joint hearings with our colleagues from the House Select Committee on Aging means that there is hope for prompt and effective action.

The first incident I ever investigated in the Senate 10 years ago involved three astronauts who were incinerated on the pad. The Senate investigation made safety regulations the rule for all future flights, and we have not had a single accident since then. I think the same care and diligence must be applied in this case.

Surely, it is not asking too much to attempt to insure the same degree of safety for elderly Americans who reside in nursing homes. Surely, we have the will and the capacity to achieve this objective.

Thank you very much, Mr. Chairman.

Senator Moss. Thank you very much, Senator Percy. Not only have you worked long and diligently on this problem, but you have more firsthand knowledge of what happened in these two fires than any one of the committees, and we will be able to elicit more information from the witnesses that we need for our record.

I now wish to recognize Representative John Heinz from Pennsylvania who has served on the House Committee for any comments that he has to make. I must leave very briefly. Senator Percy will preside during the time I am out. I know of his deep interest and concern and knowledge about this matter. I shall return as soon as I can.

OPENING STATEMENT OF REPRESENTATIVE H. JOHN HEINZ III

Mr. Heinz. Mr. Chairman, I thank you. Let me just take this opportunity before you leave to commend you on holding these joint hearings on the subject that is of great interest both in the House and the Senate, but most of all to our senior citizens in nursing homes.

I think you deserve a tremendous commendation for bringing this opportunity about.

I would also like to recognize the excellent work of my own subcommittee chairman, Claude Pepper of Florida who, quite correctly as Senator Percy pointed out, is the person who brought to the GAO the need to study the Federal fire safety regulations and has produced what is obviously a very timely and provocative report.

Finally, Senator Percy, I must say, listening to your comments about your firsthand experiences in the Wincrest Home in Illinois, I think that perhaps you should be both witness and chairman today, and you have a very special contribution that is usually remanded to the Congress and in particular this very serious problem.

I would like to identify myself with your opening statement about the necessity for swift and more congressional action to improve our Federal fire safety requirements for nursing homes.

The fact that this committee is jointly meeting here today under Representative Pepper and Senator Moss's leadership, really marks a decade of attention to this problem.

The efforts in particular of the Senate Committee on Aging have yielded important results. In fact, the social security amendments of 1967 which became effective on January 1, 1970, required nursing home facilities participating in medicaid programs to comply with the 1967 lifesaving code standards of the National Fire Protection Association.

This was the first time policy was taken to insure that residents of the nursing homes would be protected from the effects of fire.

Nonetheless, in the 6 years since 1970 that followed Federal implementation of fire safety codes, we have, unfortunately, learned much about the effectiveness of the provisions of this and later versions of the Life Safety Code.

Unfortunately, because most of the experience we have learned comes at the expense of the nursing homes, the stark tragedy of the 31 patients in the January and February Chicago medicare facilities brings our attention to the fact that our nursing home safety codes, while expensive to comply with and often lead to inconvenience to residents and administrators of homes still do not insure fire safety.

Both of the Cermak and Wincrest facilities were in compliance as Senator Percy pointed out with the current version of the code and were a relatively new fire-resistant construction.

Yet, despite quick action by the fire department and the nursing home staffs, a lethal environment was created for those residents.

The ethical and policy implications of these facts should not be lost on us here in Congress, nor on the executive branch, nor on the American public.

We continue to foster halfway approaches to critical problems faced by our institutionalized elderly and disabled population.

I hope today's testimony by our witnesses can lead us to a fuller understanding of what combination of safety measures can most effectively prevent the effects of fire and toxics and suffocating by-products from reaching lethal proportions as it so often does under the present Life Safety Code.

In that connection, I hope our witnesses will particularly address the question of sprinkler system and the most effective way to implement that kind of system in nursing homes.

In conclusion, Mr. Chairman, I would only add that earlier this year our House Select Committee on Aging, Subcommittee on Health and Long-Term Care issued a report on new prospects in health care for older Americans.

Mr. Chairman, this is a report that was drafted before these terrible fires in Chicago. In part, the report observed that, and I quote:

> Current regulatory practices may over-emphasize compliance of a physical plan to standards not fully appropriate to them.

It is a grim and slightly pathetic irony that even with our tendency to regulate to a certain extent by physical overkill, that is to say to require blanket application standards to all personal care institutions which are not sufficiently flexible or effective, such tragedies as Chicago are still commonplace.

Our mission today would seem to me is to point in a new direction, to determine how dollars and resources can best be allocated and permit our senior citizens and others to live a safe and active life in institutions.

I certainly pledge my full support to the efforts of this joint committee today, and I certainly believe that this is a very timely meeting of both our House and Senate Select Committees on Aging.

I would like, Mr. Chairman, at this point to recognize, if I may, another distinguished member of the House Select Committee on Aging who is here, but I also see that Senator Beall is here.

Let me advise the Chair that Congressman Cohen of Maine is here, a very valuable member of the minority on the House Subcommittee on Health and Long-Term Care, and I would hope that when the time comes the Chair will recognize him.

Senator PERCY [presiding]. We will be very happy to recognize Congressman Cohen after Senator Beall, who would like to make a brief statement.

OPENING STATEMENT OF SENATOR J. GLENN BEALL, JR.

Senator BEALL. Thank you, Mr. Chairman.

First of all, let me say that I heartily endorse the remarks that you just made relative to the necessity of improving the standards for fire protection in nursing homes. As one who spent most of his working life, prior to becoming a full-time legislator, in the insurance business—I know from firsthand experience the cost effectiveness of sprinkler systems. Of course, any fire prevention measure is cost effective when you consider the savings in lives and property that results from good standards effectively enforced.

I would like to point out that we must strengthen and expand the Federal role in the development of new standards for nursing homes. In addition, the Commerce Committee, of which I am a member, last year developed and the Senate and House passed legislation that established the new National Fire Prevention and Control Administration. This legislation gave the Federal Government a central administrative body that can undertake the research and development of new technology to prevent, detect, and control fires.

Some interesting experiments are now taking place at the National Bureau of Standards. One such area of research involves treating certain floor covering and wall covering materials with fire retardant chemicals. This concerted research effort on the part of the National Fire Prevention and Control Administration will help to make and market new fire prevention technology. This new technology should

be promptly put into place so that the public can get a greater degree of protection from fires.

I am pleased to have had a role in shaping the National Fire Prevention and Control Act and I congratulate the committee for holding this joint hearing this morning.

Senator PERCY. Thank you very much.

I now recognize Mr. Cohen of Maine.

OPENING STATEMENT OF REPRESENTATIVE WILLIAM S. COHEN

Mr. COHEN. Thank you, Mr. Chairman.

I would like to say that I join in the remarks of my good friend and colleague from Pennsylvania, Mr. Heinz.

I welcome the opportunity afforded by this joint meeting of the Long-Term Care Subcommittees of the House and Senate Aging Committees to focus attention on fire safety standards in our Nation's nursing homes.

This is not the first time Members of Congress have met to discuss the importance of fire safety in long-term care facilities. Deaths by fire are three times higher for older Americans than for the population as a whole and invalid patients of nursing homes are especially vulnerable to this threat. Recognizing the danger of this situation, the Social Security Act was amended in 1967 to require compliance with fire safety standards issued that year by the National Fire Protection Association, a voluntary, nonprofit organization formed to promote the science and improve the methods of fire protection and prevention, for purposes of reimbursement under medicaid and medicare.

Technological advances and further study led to revisions of the Code in 1967 and 1973. My State of Maine was one which recognized the value of the updated codes—particularly the 1973 Code which emphasized the use of automatic sprinklers. Maine is now one of two States in the Union in which long-term care facilities have been fully equipped with sprinklers.

As a result of mounting evidence underscoring the value of automatic sprinklers in protecting lives and property against the dangers of fire, I introduced legislation late last year with the other members of the Maine congressional delegation to update the Fire Safety Code requirements of the Social Security Act by incorporating the provisions of the 1973 Code. This legislation was subsequently attached to an omnibus social security bill and is now a part of Public Law 94–182. The provisions of that law concerning fire safety went into effect this week.

Since the Congress has placed itself in the position of mandating fire safety codes, it is unfortunate that we have not acted more promptly on the lifesaving benefits of the 1973 Code. It has taken such tragedies as the recent Chicago nursing home fires to make Congress fully appreciate its responsibility in this area.

The GAO report released to us today indicates that our past legislation has not gone far enough toward protecting lives and property from the dangers of fire. I was amazed by the report's conclusion that buildings constructed of fire-resistant materials, as required by the 1967 Code, do not insure life safety. In fact, GAO found evidence

that increased use of fire-retardant materials may increase the hazard of death in fires rather than reduce it—due to the toxic gases released when these substances catch fire. The report also notes that fire-resistant buildings are too often filled with flammable materials, such as carpets, curtains, and upholstery. In view of these findings, I commend GAO for recommending that all long-term care facilities be fully equipped with sprinklers.

The report's other disclosures on the ineffectiveness of fire-resistant and noncombustible construction, however, lead me to wonder if the Congress should not legislate that the requirement for fireproof construction also be modified as allowed by the 1973 code, when sprinklers, smoke detection, and other fire prevention techniques are used in a home.

I commend you, Senator Percy, for the long years you have devoted to the problems in this area, the books you have written concerning it and your continued demonstrated interest in this field, and I congratulate you for holding these hearings.

I believe we will be rewarded by our active participation in this hearing today, and I look forward to the testimony of our witnesses. Thank you.

Senator PERCY Thank you very much, indeed, and I appreciate both you and Congressman Heinz coming over to the Senate today for this joint hearing and for your contribution.

The Chair will call the first panel, the Reverend William Pollard, chapel reverend, Wincrest Nursing Home, Dr. Paul Hurwitz, examining physician, the Wincrest Nursing Home, Mr. Charles Chandler, administrator, Cermak Nursing Home.

Gentlemen, we would like you to make any statement you would care to make. If you would like to incorporate your full statement in the record, it will be so ordered and you can summarize your comments. Proceed as you see fit.

STATEMENT OF REV. WILLIAM POLLARD, CHAPEL REVEREND, WINCREST NURSING HOME, ACCOMPANIED BY DR. PAUL HURWITZ, EXAMINING PHYSICIAN, WINCREST NURSING HOME, AND CHARLES CHANDLER, ADMINISTRATOR, CERMAK NURSING HOME

Reverend POLLARD. Thank you very much, Mr. Chairman.

Gentlemen, my name is William Pollard and I am a member of the St. Patrick's Missionary Society. We are here in America offering mission education to the people of America, and we work in Africa and South America.

Mr. Chairman, I was born in Ireland and I was educated there. I was ordained in 1968 and spent 8 years in Kenya in east Africa, teaching and doing social work, with the Terrakani tribe in north Kenya.

Mr. Chairman, this is not my first time in America. I was here 5 years ago, and I came and did some mission education work and then stayed for 5 months and also took a flying course in Chicago and used my flying experience in Africa to help the East Africa Flying Doctors Service there.

Now, I have come back to study and offer my missionary experience to the people of America, and I have just arrived.

I was 2 weeks in Chicago and I was asked to go to the Wincrest Nursing Home to see the people in the nursing home.

I would like to summarize very briefly my experience there.

The chapel there, as you can see from this chart, is at the end of the building, and we had just come to the end of mass and a nurse had left the chapel area when a bell had sounded. I was not sure what this bell was, and I was happy to see her leave.

Well, she left immediately and I was happy to see her going out to find out what the bell was. She came back very quickly and said to me, "Father, there is a fire. It is serious."

At that stage, I took my vestments off, put them on the chair and went out into the corridor.

Could I stand here, please, sir?

Senator PERCY. Yes, of course.

Reverend POLLARD. I left the chapel area and went out here [indicating on chart].

When I came to the fire, the fire was in room 306. There were two men here standing on the threshold pointing fire extinguishers into the room. The door I have no recollection of seeing. Fire seemed to be in this area over here.

On the path of this room back toward the window here was very dense smoke. The two men were pointing two extinguishers into the small area, so I took an extinguisher from one of the men and asked him to go get another fire extinguisher, and I pointed the extinguisher here in this area where the fire was.

Very, very quickly in the space of seconds, I would say the white smoke turned to black smoke and it began to descend on us until we could no longer see the fire, until we could no longer breathe.

We retreated along the corridor to this stairwell here. The smoke covered the corridor and it was impossible to stay in the corridor with the black smoke, so we went out here to the other corridor.

I remember very well and I probably will remember until the day I die going down along this corridor and thinking about the poor people at the end of the corridor in the chapel area, and I prayed that the fire department would come quickly because I felt they were the only ones who could rescue those people at that stage.

Senator PERCY. Father, at that stage, how dense was the smoke?

Reverend POLLARD. The smoke had come down to about this area, about 4½ feet. It was totally dense. I could not see in front of me. I could not see who was with me.

I went out to the stairwell and very quickly the fire department arrived. The firemen put on their oxygen equipment and went down along here. I went back down the stairs and went over to this stairwell.

Very soon, the fire department had the fire under control and I gave absolution to the people as the firemen brought them out of the building, using this staircase.

That is my experience at the Wincrest, and if I would like to say one thing, I would like to say that the whole experience happened over a few seconds, just a few brief minutes. It was very, very quick.

Senator PERCY. Before you leave the chart, could you identify the objects?

You pointed to an area where you said the fire was.

Reverend POLLARD. Yes.

Senator PERCY. At the time you entered the room, what was that object?

Reverend POLLARD. I'm afraid I could not say because of the fire there, and it was smoke here and the fire.

Senator PERCY. Could you identify the object immediately behind the door?

Reverend POLLARD. No.

Senator PERCY. You do not know what that was?

Reverend POLLARD. No.

Senator PERCY. That is a cabinet, a wooden plywood cabinet jammed, apparently, with a number of personal effects. Did you enter the room later and examine those objects?

Reverend POLLARD. When the fire was over.

Senator PERCY. In other words, I want to know, did you know personally where the fire started?

Reverend POLLARD. Personally, before the fire and when the fire was going on, I did not know where the fire started.

I could only distinguish here [indicating] where there were names in this area here.

After the fire, I learned this—where it had started.

Senator PERCY. Could you determine whether or not there was at any time that you were there any windows open at any place on the floor?

Reverend POLLARD. No, I could not, I'm afraid.

Senator PERCY. Did you subsequently learn that a window had been opened?

Reverend POLLARD. Yes.

Senator PERCY. And which window? Would you point out to the committee what window was actually opened?

Reverend POLLARD. Not really. It was a window in the chapel, I believe.

Senator PERCY. A window in the chapel?

Reverend POLLARD. Yes.

Senator PERCY. And could you point out which window that was?

Reverend POLLARD. I'm afraid I cannot.

Senator PERCY. You have no idea which one it was?

Reverend POLLARD. No.

Senator PERCY. This was all so fast, I know, but at what instant was that window open?

Are you certain it was open while you were down there trying to use the fire extinguisher?

Reverend POLLARD. I do not know when it was open.

Senator PERCY. You are not certain from any questions you put to any of the staff subsequently at what point the window was open?

Reverend POLLARD. No.

Senator PERCY. What do you think the effect of that window was when it was opened?

Reverend POLLARD. I have no idea, Senator.

Senator PERCY. You have no idea at all?

Reverend POLLARD. None whatsoever.

Senator PERCY. You have no knowledge as to whether the window being open actually hurt or helped the situation as to whether the smoke went out or what happened?

Reverend POLLARD. I'm afraid not, no.

Senator PERCY. Before the Reverend leaves the chart, would any of the other members of the committee like to ask any questions?

Mr. COHEN. No, Mr. Chairman.

Senator PERCY. Then if you care to be seated again—does that complete your statement?

Reverend POLLARD. That completes my statement.

Senator PERCY. Dr. Hurwitz?

Dr. HURWITZ. Good morning, gentlemen. I am Paul Hurwitz and a physician from Chicago where I practice medicine.

I divide my time between school health and emergency medicine.

Wincrest Nursing Home is a small family business owned by my mother and uncle, and I have often been associated with it since childhood.

At the time of the fire, I was in my car transferring some cultures I had done for several studies for the board of education downtown.

I drove to Wincrest and arrived 10 minutes after the fire was struck out.

Though I normally have no professional responsibilities at Wincrest, I did so on that day because the attendant physician was in California.

I made certain observations at the time of the fire, however, and drew certain conclusions which members of your staff might continue the description of the fire scene which Father Pollard has already begun.

My first impression is, I crossed the police line and entered the building and there was pandemonium. The lobby and entire first floor was filled with horrified people, both police, fire and government officials, board of health inspectors, insurance adjusters and occasional family members which made it over very, very quickly and, of course, nursing home employees.

Everybody seemed to be attempting to provide service.

Miss Cassidy, the Administrator of Wincrest for 20 years, I first found in the ground floor hall looking terribly stressed, but as usual, working as competently as ever attempting to organize with vital components of the nursing home, remained so as to provide continuation of services to the uninjured residents living on the lower floors.

Incidentally, most of whom as we are going to learn later in the day, most of these people were not even aware that a fire, much less a holocaust, had occurred.

Over the next 30 minutes as they passed, additional members of our family arrived, both past and off duty current employees arrived and certainly other friends.

Each of us instinctively were attracted to those services which we know most about. Several minutes after my arrival, I spoke with Miss Cassidy and asked her what I could do, and she suggested that the best thing for me to do would be to go up and take a look at the remaining patients.

I did that and went to the second floor and then down to the first floor and found them to be peaceful and comfortable.

I was shocked by this, tragically shocked, by the order and the quiet, more or less retrospectively, which prevailed on the patient floors in gross contrast to what I had experienced on the ground floor, and in gruesome contrast to what I was soon to see when I went to the third floor.

I walked up after examining the patients, the remaining patients. I walked to the third floor via a rear enclosed stairwell to a rubble-strewn third floor.

While you are going to hear expert testimony throughout the day about observations and thoughts which pervaded from their lips on the first few minutes after the fire was out, was the terrible shame that the fire could not have been prevented, but the terrible smoke could not have been contained in room 306, which the Father has pointed out, which housed the fire.

Also, the news as Senator Percy has related to the hearing, several patients in room 304, which you can see right on the schematic there, that several patients were right next to the scene of the fire, came out after the fire was over.

Their door had been closed and they had asked if, in fact, there was a fire. I think it might be well to limit my initial comments to those I have made and suggest that I am in total agreement and in identification with the points Senator Percy offered in his opening remarks.

I think it might be well once again for whatever good it might serve to underscore the necessity of having confidence in fire retardants of these structures, their ability to compartmentalize the fire and smoke.

I think it is well to point out if we were to go right now to any nursing home and drag 30 people down from the third floor, you are going to kill a substantial number, and I think we have got to remember and remember throughout the day that evacuation is really futile. It is a waste of personnel and as the Father has pointed out so aptly important in time as this thing took place in such a short number of minutes, that we have to limit our efforts to those which will save lives and evacuation will not.

I thank you.

Senator PERCY. Thank you very kindly.

Any questions my colleagues would like to ask at this point?

Mr. COHEN. I have one, Senator.

Doctor, you stated evacuation is a waste of time, that you feel a certain number of patients would die when you would drag them down to the first floor.

What if you have a single-level nursing home?

Dr. HURWITZ. You drag them out. To move a patient without hurting them with a senile, fragile body requires two members of the staff over, you know, a couple of minutes and when you think of the chaos and the pandemonium that reigned under the circumstances, and remember you are dealing with human elements, and I am referring to staff elements, and you have to remember that people are not functioning quite on the level that they would in a drill.

Mr. COHEN. You also indicated we have to have confidence in fire-retardant materials.

My understanding is that the nature of materials is what produced the smoke.

What if you had had fire-retardant materials?

Dr. HURWITZ. That is right, that is in the room where the fire was. You have to have confidence. We have to think of the definition of the word "retardant" which slows the fire.

Mr. COHEN. Produces noxious gases.

Dr. HURWITZ. Obviously, even if you were to limit and legislate against component products to produce nothing but gases that would normally not provide ill health to a person breathing them, it is not going to be oxygen you are producing, and people will still die of carbon monoxide or oxygen deprivation.

Mr. COHEN. You do not think it would be worth while for us to investigate when other agencies are investigating the use of that material?

Dr. HURWITZ. I am not an expert in these areas.

I know what allows the human body to maintain its integrity and maintain life.

I am familiar with health education and you have to remember the pulmonary reserve capacity and the cardiac reserve capacity is markedly limited, depending on the disease process and aging.

You have to expose them to the least amount of trial and provide them with as normal an atmosphere of life-sustaining conditions as they are used to, because they are not doing a heck of a lot with what they have even when they are perfectly well.

Mr. COHEN. No further questions.

Senator PERCY. I would like to ask a question about the people in the chapel.

Was there confusion?

How would you describe the state of mind of those people as smoke poured in?

Dr. HURWITZ. I was not there.

Senator PERCY. I am addressing this question to Father Pollard.

Reverend POLLARD. I was surprised at the calm of the people in the chapel area, and when I left the fire there was quite a lot of noise from the fire itself, but I had no panic in the chapel area.

Senator PERCY. Did they know where the evacuation stairway was from the chapel?

Were they well aware of that?

Reverend POLLARD. Really, I could not answer that question. I am a visitor.

Senator PERCY. The principal problem was actually getting them out of the chapel, was it not, getting them to that stairway?

Reverend POLLARD. Yes.

Senator PERCY. Would it have been possible to just have formed a chain by hands? It is not very far down the corridor and they could lead each other down there.

Was not the principal problem one of getting them to that stairway through the heavy smoke-filled hall?

Reverend POLLARD. Possibly, but with the smoke they would not have been able to breathe anyway and the smoke got so dense that a chain would not have worked.

Senator PERCY. Were there patients in room 304 right next door?

Reverend POLLARD. I do not know.

Senator PERCY. You do not know. Did you hear whether or not, as I reconstructed the story that afternoon, there were actually patients in room 304 that did not realize there was a fire, and when the firemen came, they actually led them out to safety?

Reverend POLLARD. I heard last night that it was. That was my first time here.

Senator PERCY. Because you were actually there, I would like you to describe the smoke a little more which developed with the fire.

At what point did it rise? You mentioned before, it was about waist high.

At what point did it obscure your vision entirely?

Reverend POLLARD. The first occasion when I saw the smoke was just after the nurse had left the chapel area, and it was a small puff of white smoke coming into the chapel area.

Then, when I walked down the corridor, there was white smoke in the room itself but very quickly it turned black smoke, very dense black smoke which descended very quickly on us.

Senator PERCY. Did you have any sensation that the smoke was being pulled out into the corridor?

Reverend POLLARD. No.

Senator PERCY. In other words, the smoke originated from the fire inside of 306?

Reverend POLLARD. Yes.

Senator PERCY. It could have been confined, obviously, by just shutting that door.

Why was that door not shut, do you know, Father?

Reverend POLLARD. No, I do not know and I have no recollection of seeing a door.

Senator PERCY. You subsequently have learned that when doors were closed, the people inside those rooms actually suffered no damage; no smoke seeped into those rooms.

If that door had simply been closed and confined the fire to that one room, would that not have prevented what occurred subsequently?

Reverend POLLARD. In my mind, I am not an expert on fire, and I think you would need a fire expert, really, to answer your question.

When I got to the fire, as I have described it, I do not know whether the door would have stopped or not.

Senator PERCY. You have worked with nursing home patients.

I have always been concerned that we emphasize fire drills with children to get them to remember if there is a fire, to intuitively respond as in that drill.

I have been concerned that the fire drills are confined to the staff in nursing homes and that I know of no regular procedure for having fire drills among the residents, the guests in a nursing home.

Do you think working with older people confined to a long-term care facility that any kind of training by them about what to do in case of danger, how to quickly seek an exit, would be helpful?

Reverend POLLARD. From the point of view of a layman, I would certainly think so and being a father in education, I would deem it helpful, but whether they would react in a situation like that, I cannot say.

I think I pointed out that the sequence of events happened so quickly that it is difficult to know whether people would be able to respond from this kind of an education program.

Senator PERCY. Yes. Did the chapel have a door?

Reverend POLLARD. No.

Senator PERCY. It did not have a door?

Reverend POLLARD. It was an open space.

Senator PERCY. If it had a door and it simply could have been shut, could the tragedy then have been averted?

Reverend POLLARD. I would think so, yes.

Senator PERCY. It would have?

Reverend POLLARD. Yes.

Senator PERCY. Because the flames did not spread to the chapel at all.

Reverend POLLARD. It never left the chapel.

Senator PERCY. It was just the smoke.

Reverend POLLARD. Just the black smoke.

Senator PERCY. All we would have to do would be to shut the door.

Reverend POLLARD. Yes.

Senator PERCY. Did the open window cause the smoke to be drawn into the chapel at an accelerated rate, faster than it would have if the chapel window had not been opened?

Reverend POLLARD. I cannot answer that, I am afraid.

Senator PERCY. Dr. Hurwitz, you arrived shortly after the fire was extinguished and helped get the facility on an even keel.

With your years of experience with this home, what, in your judgment, was the most beneficial type of outside help you received?

Dr. HURWITZ. Well, it is really hard to put your finger on any one service considering the number of services at the time.

I really never thought that any one particular person provided the most benefit.

I think that retrospectively viewing the situation, frankly, when you look back at what happened, in view of the fact that all the injured were out of the building at the time, the staff and certainly Miss Cassidy needed the reassurance that the remaining patients were safe and medically sound.

I guess the member service that was provided was most important to get things moving.

Once we were sure that everybody was safe, everybody who needed evacuation was out, we could move in a little bit more orderly manner.

I guess that is my answer.

Senator PERCY. You provided followup medical care to many of the home survivors?

Dr. HURWITZ. Within the nursing home patients that were transferred, I did not see. A number were taken to the hospital.

Senator PERCY. Was there any significant medical pattern among the individuals that you treated?

Dr. HURWITZ. Well, not for a couple of days. There were a number of upper respiratory tract infections that evolved.

We see those every year, but in view of the number of drafts people were exposed to by the fire, by those who were forced to have doors and windows open for the first minutes during and after the fire, I think considering that we are dealing with a very fragile body that probably was the ideology of so many of these. They were pretty mild. I only had to transfer two to the hospital.

I think the remaining 55 patients, 2 of those, there were about 30 people who became ill anywhere ranging from nausea and only 1 patient became sick enough that they went into pulmonary edema from pulmonary pneumonia.

To me, that was the worst sequel of the actual fire incident.

Senator PERCY. Any further questions?

Mr. HEINZ. Mr. Chairman, if I might ask Dr. Hurwitz; a few minutes ago you indicated that it would be difficult and even impractical to move a large number of patients.

Dr. HURWITZ. Absolutely.

Mr. HEINZ. For evacuation.

Absent of the forms of protection and absent better ways of containing fire, whether through the closing of doors or sprinkler systems, what would be your opinion as to the benefit and feasibility of having some form of respirator for oxygen-breathing system available to the patients?

Dr. HURWITZ. The best breathing system available is the patient's lungs, and consequently, we need to provide them oxygen in the normal pattern they receive it so as not to excite them and cause the psychologic trauma which outside influences would impose.

Senator Percy mentioned a point that he and I discussed after the fire, the use of smoke protectors and door closers, one in each room and I would like to see something like that.

Not only would it make possible isolation of each of the rooms immediately and mechanically after smoke begins due to whatever cause, but even nursing home employees who might try to sneak a cigarette against the rules or certainly patients in a lot of sheltered-care facilities—we know patients smoke; they hide matches between the mattress and bedsprings and this would kind of blow the whistle on them.

We have ice cream parlors where they have the smoke detectors and it sounds a horn when someone lights a cigarette.

It has saved a lot of lives and private dwellings so far, and I think it would be a wonderful benefit.

Mr. HEINZ. My question is directed not so much toward those positive recommendations, but we are faced, for example, with a situation where the chapel had no door at the end of the corridor to protect the residents in the chapel against a fire that would not be contained.

Dr. HURWITZ. Absolutely, doors in any location.

Mr. HEINZ. Are you saying that some form of self-contained breathing apparatus should be available, in oxygen bottles such as are available on airplanes?

Dr. HURWITZ. We have to get them on the people's faces. They will not put them on themselves.

We had only a couple of minutes to work. What I discussed last night when I came in with a number of the Senate staff was the use of firehoses in the halls.

Again, this is also within the Code, how beneficial this might be. We suggested it might require two people to operate them.

We have all seen them in apartment buildings. You have to pull them off of a contraption and that would put the fire out at Wincrest. It would have cooled that storage closet and it would have put an end to the smoke.

If you could not breathe, you would be able to hold your breath and be able to cool those superheated particulate matter and it would have fallen to the floor.

I am not a fire official, just a layman.

Mr. HEINZ. Then you feel there is really no need under any circumstances to have it?

Dr. HURWITZ. We need to put out the fire.

Mr. HEINZ. I understand that. I was thinking Father Pollard had to evacuate himself because he had nothing more than his lungs to permit him to stay.

Dr. HURWITZ. Well, those fellows on the floor, if they had had a hose line there rather than going for a fire extinguisher, we could have put out the fire.

If it had happened at 4:30 in the morning, there would be no staff to handle the equipment or have the composure to do it, but it would have worked during the day shift.

Mr. HEINZ. Thank you.

Senator PERCY. One final question, Father Pollard, or Dr. Hurwitz.

Did other nursing homes in the area provide assistance with the patients?

Dr. HURWITZ. Yes.

Senator PERCY. Valuable assistance?

Dr. HURWITZ. Pardon me?

Senator PERCY. Was this valuable assistance that was rendered?

Dr. HURWITZ. Oh, sure, and especially with regard to information to family and assistance to the inspectors who were attempting to, as you did, gain immediate information on the fire scene.

Yes, it was terribly valuable. As it turned out, assistance to the remaining patients was not really necessary living in an urban setting. People do respond, you know, to such a stress, and as we had a number of past employees who had not been working for the home a number of years and those off duty, there were more than enough people aware of it. It was on radios at 4:30 in the morning.

Senator PERCY. I am very impressed that the aging are getting better organized all the time.

We have here today Marge Jones who has a 9,000 member senior citizens council in McHenry County, Ill.

I was up there recently and they are organizing effectively and well.

Can those councils and organizations be used in connection with fire prevention?

Can they help coordinate nursing homes so that they can render assistance in case of an emergency?

Can we coordinate better our overall activities to have available services of the kind that were available in this particular case and prove invaluable?

Dr. HURWITZ. Certainly, there is potential in anybody who is healthy and able.

Senator PERCY. Thank you.

We move now to Mr. Charles Chandler, who is the administrator of the Cermak House Nursing Home.

Mr. CHANDLER. Thank you, Mr. Chairman and gentlemen.

I am accompanied by Michael Stromberg.

Let me give you a little background information on the facility. It is a modern nursing home, fire-resistant construction with automatic closing and smoke barrier doors in the corridors and the corridor a smoke detection system.

Fire on the fourth floor room of the building west wing was filled with smoke and caused the death of eight residents on that floor.

The facility was built in 1973. It is poured concrete structure with 5-inch reinforced concrete floors, reinforced interior partitions.

The home is licensed by the Illinois Department of Public Health. There are 540 patients approved for Federal medicaid funds.

The fourth floor is typical of all other nursing homes and contains 26 rooms.

The west wing where the fire occurred has six, four-patient rooms.

Furniture in the rooms consist of wardrobes, beds, night stands.

Doors have a self-closing mechanism.

Fire alarm systems is of the smoke detection type which notifies the fire department and releases the smoke-type odors.

Ventilation shafts in the north end of the corridor creates a natural exhaust vent to the roof.

The building is equipped with standard pipe and hose systems being located in every stairwell.

Sprinklers are installed on the first floor only.

Now, as I go through the recap of the fire, I would like to invite your attention to the chart to my right and your left which lists the rooms, their numbers and the general position of the furniture as it was in those rooms on the morning of the fire.

At the time of the fire, it was 70 patients on the fourth floor.

Following the fire, four patients were found alive in room 426.

Four patients were found dead in room 425 and one had been removed by the fire department through the window of room 423.

At 6:44 a.m., the fire department received its first notification of the fire from the smoke detection connected with the facility. They responded promptly with engine and truck companies.

They immediately called for a second alarm and started attacking the fire with two, one-and-a-half-inch-hose lines from the building system.

At 6:55 a.m., the fire department had evacuated the patients from 423 and were fighting the fire on the fourth floor at the location of the smoke hose.

The 14 patients that occupied the west wing, other than the four who died in 425 and the four found alive in 426 and the one who was rescued by the fire department from 423, were out of the west wing at this time.

By 6:44 a.m., a human chain made up of staff personnel had been established in the center stairway from the fourth to the first floor, and by 6:56 a.m., 61 patients on the floor, other than the 9 I listed, had been passed down that chain to the first floor.

Some of the detail at 6:44—a male nurse and nurse's aide on the fourth floor heard strange noises.

In running to the area of 420, they saw flames to the ceiling of the room.

The male nurse led one patient, got her out of bed and carried her to the nurse's station and then went back to the wing. The smoke was dense. It was so dense that he tripped over a patient who was in the hallway and pulled her out. He went back a third time and could not get into the wing because of the smoke.

The other two patients that had been assigned to room 420 were not there when the nurse first arrived, but they did survive.

As to the patient in room 423 who was rescued from the window by the fire department, was in the washroom area and from that position as noted in the chart could have gone either through the corridor doors or down the west stairwell which was between the washroom and her room. She could have gone to safety.

She did not do either one and rather she went back to the room after her valuables and after the staff closed all the doors with the exception of room 421.

It also appears after the doors had been closed that patients went back in the rooms 423 and 425.

While it is a matter of conjecture because all the patients in room 425 died, one of those patients was seen at the elevator going down to the lower floors 10 minutes before the fire started and, yet, she was found near the window of room 425. That window had been broken and the door to the room open.

It can only be assumed she may have contributed to the death in those rooms.

The rooms in the west wing, 421, there were three beds.

One was rescued by staff, two were evacuated from the floor.

It cannot be determined whether staff rescued these persons.

In room 422, four residents, one death, three were evacuated from the floor, but it cannot be determined whether the staff rescued them from the room.

In room 424, four residents and one death.

Three were evacuated from the floor, but it cannot be determined whether or not the staff rescued them.

Room 426, four residents were found in the room after the fire occurred and all survived.

Room 423, four residents, one death, one evacuated by the fire department, one evacuated by the staff, found on the floor in the corridor and one evacuated from the floor and it cannot be determined whether staff rescued her.

Room 425, four residents and four deaths.

The nine people were evacuated from the floor by the human chain evacuation procedure.

Senator PERCY. Thank you very much.

Mr. Heinz, any questions?

Mr. HEINZ. Thank you very much, Mr. Chairman.

You mentioned that there was a smoke detector hooked up to the fire department.

Did it also ring in the nursing home to alert nursing home personnel?

Mr. CHANDLER. Yes.

Mr. HEINZ. You were also able to establish a human chain to bring your patients out.

Did the patients who were brought out of the room seem calm, suffer any trauma or have any problems of this type?

Mr. CHANDLER. Yes.

Mr. HEINZ. Could you elaborate?

Mr. CHANDLER. At the time we had teams, doctor and nurse teams, come in from two different hospitals plus one of the house physicians enroute to the hospital, and two additional physicians.

They sent other patients, other than the ones who were obviously in bad condition, they sent other patients and staff members to the hospitals as they tried to cover every patient in the house at the time and we had patients going out in 35 or 40 minutes after the fire.

Mr. HEINZ. How much of that trauma was because of smoke or because of the excitement of the situation, the fright, as they were being moved down the stairway? There was snow on the ground.

Mr. CHANDLER. I just cannot tell you. We had a lot of water on the floor and a lot of water in the building.

Afterwards, I did not see what happened right on the fourth floor, and I did not see the human chain, but, finally, they were calm and they were waiting patiently to be saved.

At that point in time, a relatively few minutes after the fire itself, calm had been restored.

The patients that were in the lounges up on the floors remained. Volunteers and staff workers went in to them and talked to them and calmed them down, and they accepted that we had had a disaster. It was accepted.

And to go forward from here quickly now to answer your question, I cannot tell you how much because of the move, there were so many contributing factors.

Mr. HEINZ. You mentioned that there was a sprinkler system on the first floor.

Mr. CHANDLER. Yes.

Mr. HEINZ. That there was not one on the fourth floor.

Had there been a sprinkler system on the fourth floor, would it have had an effect on the kind of fire that you had?

Mr. CHANDLER. At that point in time, it would have had to have an effect, yes. It depends on what the temperature you get at the ceiling levels to set off that sprinkler head and how much gases have already been created and how much smoke of a toxic nature that had already been created, had it been sufficient at that point in time to do injury.

It would have probably confined the physical damage, yes.

As to the patient injuries, I cannot answer.

Mr. HEINZ. Thank you, Mr. Chairman.

Senator PERCY. Mr. Cohen?

Mr. COHEN. Thank you, Mr. Chairman.

Can you tell me the rationale as to why you have sprinklers on the first floor and none on the second, third or fourth floors?

What would be the rationale, the design rationale for having the sprinkler system on the first floor if, in fact, it is a four-story building and the patients on all four levels?

Why a sprinkler system on one floor?

Mr. CHANDLER. Hazard risks.

Mr. COHEN. Is not the hazard greater on the fourth floor in terms of evacuation as opposed to the first floor?

Mr. CHANDLER. Let me answer in a different way, if I may.

We have a laundry on the first floor and kitchen, fire apparatus. We have machinery and at nighttime there is less occupancy. There is more storage. It is relatively unattended and in the period usually from 8:30 in the evening until some time around 5:30 in the morning, we only have one person on the floor.

For instance, there is a complement of people going around making the rounds of the nursing floors at night.

Mr. COHEN. You indicated, I think, that you had smoke detectors in the corridors, is that correct?

Mr. CHANDLER. Yes.

Mr. COHEN. You had none in the individual rooms?

Mr. CHANDLER. No, sir.

Mr. COHEN. I guess one final followup point of Mr. Heinz and Senator Percy.

I believe Senator Percy touched on the question of whether or not it would be valuable to have periodic fire drills by residents or the personnel in the nursing home.

Would you agree with the previous witness, Dr. Hurwitz, that evacuation is a waste of time?

Let me retract. I'll ask you one question before that.

How many people were moved from 6:44 a.m. when you first heard the screams to 6:46?

Mr. CHANDLER. 6:46, I do not know.

At 6:56, 12 minutes we moved 61 patients off the floor.

Mr. COHEN. You moved 61 patients. How many of those patients who were moved out died, any?

Mr. CHANDLER. Two.

Mr. COHEN. Two of sixty-one who were moved?

Mr. CHANDLER. Yes.

Mr. COHEN. And I will ask you a question: Would you agree with Dr. Hurwitz that evacuation is a waste of time?

Mr. CHANDLER. I cannot say evacuation is a waste of time, sir.

Mr. COHEN. Particularly in this case where you saved 59 out of 61 at least from potential danger.

Mr. CHANDLER. I think there might be other alternatives that could be done that would be just as effective.

Mr. COHEN. In addition to or the exclusion of?

Mr. CHANDLER. In the threat of actual evacuation of patients.

Mr. COHEN. And what would you recommend?

Mr. CHANDLER. I would like to reserve the evacuation of patients to that time when you absolutely have to move.

Mr. COHEN. You would recommend sprinkler systems, I assume, at each level.

I would assume that you would recommend that you have smoke detectors in each room, would you not?

Mr. CHANDLER. No.

Mr. COHEN. What would you recommend?

Mr. CHANDLER. OK, I think the smoke detectors in individual rooms are a good idea.

I think smoke detectors probably are one of the best means of identifying a fire long before and possibly even before a human being can smell it because they identify the vapors and the gases.

Once an alarm is sent in, you have started the function much quicker than you would have if you wait until actually smoke or flames could be detected.

It gets extremely hot and if you had your professional firefighters en route to you, you have narrowed that gap extremely, and once they are on the scene it is a short time then when everything is under control.

As to sprinklers, I will not comment on those or the door closers, but the smoke detectors, yes.

Mr. COHEN. You have no opinion with respect to sprinklers?

That is all I have, Mr. Chairman.

Senator PERCY. Mr. Chairman, could you describe the value that you feel that smoke stop doors had in saving lives?

Mr. CHANDLER. A great deal. Those smoke doors were charred. The heat was that intense on them, Mr. Chairman.

We had a great deal of smoke in the center corridor, but if it had not been for those doors, I am afraid we might have lost everybody on the floor.

I do not know, but it appears that they saved a great number of lives. It gave a barrier from behind which the firemen could fight the fire itself.

Senator PERCY. Both fires burned material that generated toxic smoke, and in the case of the Cermak Nursing Home, the fire burned a polyurethane foam rubber mattress or mattresses and this created hydrogen cyanide gas.

Do you feel there should be regulation with respect to all kinds of materials that are used in a nursing home? Should these have the most fire retardant capability practicable?

Mr. CHANDLER. I think more testing should be done or there should be some testing.

We should know what we are facing. We should know what will and will not stop fires.

Hopefully, this would be done before legislation was passed and new regulations that would have to be complied with before we know what the results will be.

If we can find out what it is that we need to stop the flame or at least stop the lethal gases from it and then go from there, fine.

The conversations, and we have had discussions since February on this subject, many people have said they do not know what the answer is until tests are done.

I understand from the comment that was made this morning by Senator Beall that there are tests on some materials being done right now.

This could be expanded so that we know where we need to put our signals, what we need to make the materials from and what materials we need to use to make the beds and everything else proper.

I think that will give us guidance.

Senator PERCY. If you were sitting in our shoes in the House and in the Senate with the responsibility to try to insure to the greatest practical extent, that is to insure the safety of patients that are receiving benefits of Federal funds, what steps would you recommend that we take?

What steps would you take to insure that we minimize the risk of death through fire?

Mr. CHANDLER. That needs some attention. Beyond that, I think we need to speed up the testing.

In the interim, we need to assure that these things that we have today in the Life Safety Code are being followed.

I think there should be some form of interpreting those and guidelines given to us on how to interpret them, but what I am afraid of is, if we enact additional legislation before we have all of this, it will be

something else we have to comply with, and from the nursing home operators' point of view, it may or may not be the solution to it.

Senator PERCY. You are an administrator of a home that has been called an outstanding facility.

Have you visited homes that you would consider to be submarginal from the standpoint of standards that you feel should be maintained where you would be concerned about having any of your own patients?

Do you think the hazard is greater in such homes than it is in a fire-resistant building such as you operate?

Mr. CHANDLER. Yes, there probably is, depending on the type of facility we are talking about.

I have seen substandard homes in terms of building, but whether or not an individual would have any greater risk versus another one, would depend on the circumstances at the time we are talking about.

I think every fire has its own contributing factors, and all of them are different, something minute.

In this instance, there are different circumstances.

Senator PERCY. The committee thanks you very much, indeed, for your appearance today.

The Chair will now call on Mr. James D. Martin, Deputy Director, Manpower and Welfare Division, U.S. General Accounting Office.

Mr. Martin will be accompanied by Mr. Robert E. Iffert, who is an Assistant Director, Manpower and Welfare Division, U.S. General Accounting Office, and Mr. Alan Zipp, Project Manager, Manpower and Welfare Division, U.S. General Accounting Office.

I appreciate you being here very much, indeed, and you may proceed with your testimony.

STATEMENT OF JAMES D. MARTIN, DEPUTY DIRECTOR, MANPOWER AND WELFARE DIVISION, U.S. GENERAL ACCOUNTING OFFICE, ACCOMPANIED BY ROBERT E. IFFERT, ASSISTANT DIRECTOR, AND ALAN ZIPP, PROJECT MANAGER

Mr. MARTIN. Mr. Chariman and members of the subcommittee, I am pleased to appear here today to discuss the results of our review of Federal fire safety requirements for nursing homes, which we undertook at your request. You asked us to investigate the reasons for the severity of two nursing home fires which occurred earlier this year in the Chicago, Ill. area, and to suggest possible actions to avoid similar situations.

The results of our review are included in a report to the Congress entitled "Federal Fire Safety Requirements Do Not Insure Life Safety In Nursing Home Fires." At this time, I will summarize some of our findings, conclusions, and recommendations.

The Department of Health, Education, and Welfare (HEW) estimates that there are about 16,500 nursing homes (referred to as skilled nursing facilities or intermediate care facilities), participating in the Federal or federally assisted medicare and medicaid programs. Of these, more than 50 percent are not required to be fully protected by automatic sprinkler systems. The Federal fire safety requirements, which include the standards of the Life Safety Code, do not require automatic sprinkler systems in nursing facilities classified as 2-hour fire resistive, or one-story, 1-hour protected noncombustible. Both

Chicago nursing homes were classified as fire resistive. As a result, automatic sprinkler systems were not required for these nursing homes to be in compliance with the Federal fire safety standards. Neither nursing home had automatic sprinkler protection throughout the facility.

CHICAGO AREA FIRES

We reviewed reports on the fires at Wincrest Nursing Home located in Chicago, and Cermak House Nursing Home located in Cicero, Ill., a suburb of Chicago. On January 30, 1976, and February 4, 1976, fires occurred at the Wincrest and Cermak nursing facilities, respectively, which resulted in the deaths of 31 patients and injuries to about 50 patients. Both institutions were intermediate care facilities participating in the medicaid program. According to reports of investigations, these deaths occurred even though (1) the nursing facilities substantially met Federal fire safety requirements; (2) the fire departments responded promptly to the alarms; and (3) the construction of the buildings adequately confined the flames to the rooms of origin.

The deaths were reported to be caused by smoke and other products of combustion rather than burns. No fatalities occurred in the rooms of fire origin. Investigators of the fires stated that sprinkler systems would have prevented deaths in these nursing facilities.

ANOTHER NURSING HOME FIRE

On February 18, 1976, within 3 weeks of the Wincrest and Cermak fires, another nursing home fire occurred. This one, at the Plaza Nursing Home in Niles, Ill., resulted in no deaths. This facility was protected throughout with an automatic sprinkler system. The fire activated one of two sprinklers in the room which extinguished the fire before the firemen arrived. The local fire chief attributed the absence of injuries and the prompt control of the fire to the sprinkler system and the prompt response by employees.

CAUSES OF DEATH

The fires at both Wincrest and Cermak burned materials which generated toxic smoke. At Wincrest, the fire burned vinyl chloride wall and mattress covers, generating hydrogen chloride gas. At Cermak House, the fire burned foam rubber mattresses, generating hydrogen cyanide gas. In addition, carbon monoxide gas was produced from combustion of the various furnishings.

At Wincrest most of the fatalities occurred in the lounge-chapel area which did not have a door and into which lethal smoke traveled. The lounge-chapel was not damaged by fire, however, the plastic covers on the ceiling light fixtures were melted by heat.

At Cermak House, the fatalities and smoke damage occurred in residents' rooms with doors open to the corridor.

COMPLIANCE WITH FEDERAL FIRE SAFETY STANDARDS

The Illinois Department of Public Health inspectors make annual health and safety surveys of intermediate care facilities. The depart-

ment's architectural section has 14 registered architects and 2 engineers who make fire safety surveys.

The Illinois Fire Marshal's office has a staff of 44 inspectors who survey skilled nursing facilities for fire safety.

In addition, the City of Chicago Fire Department makes fire safety inspections of nursing facilities within the city.

The results of recent inspections by the State agencies at both Wincrest and Cermak House indicated that both facilities were in substantial compliance with existing fire safety standards.

FEDERAL FIRE SAFETY STANDARDS DO NOT INSURE LIFE SAFETY

The deaths from these two fires show that the Federal fire safety standards do not insure life safety in nursing home fires. Thirty-one people died, as the result of fires, in nursing homes which substantially met the Federal fire safety standards.

Investigations of other nursing home fires by subcommittees of both the Senate and the House also showed that deaths occurred in nursing homes which were of fire resistive construction but were not fully protected with automatic sprinkler systems. For example, a 1970 fire in a fire resistive nursing home in Marietta, Ohio, killed 32 people because of smoke inhalation. In 1971, a fire resistive nursing home in Buechel, Ky., had a fire which killed 10 people. In 1973, a facility classified as fire resistive in Wayne, Pa., had a fire in which 15 people died.

These and other examples had been studied by congressional subcommittees and cited as the basis for their recommendations that all nursing facilities be required to be fully protected with automatic sprinkler systems.

In the opinion of Chicago Fire Department officials, sprinkler systems provide the best fire protection because they signal the fire location and immediately spray 22 gallons of water per minute on fires which activate the system. Fire department officials believe sprinkler systems would have extinguished the fires at Wincrest and Cermak and prevented deaths.

After its investigation of the Wincrest fire, a special panel appointed by the mayor of Chicago recommended that new requirements be made part of the building and fire ordinance of the city. One of these recommendations was that sprinkler systems be installed in all new and existing nursing homes and be electrically interconnected with the fire alarm system.

On February 4, 1976, the mayor of Chicago asked the city council to require all nursing homes to have automatic sprinkler systems. The ordinance was introduced only a few hours after the Cermak fire.

On April 7, 1976, this ordinance was approved by the city council and requires all Chicago nursing homes to install sprinkler systems by February 1977.

According to an HEW engineer's report on the Wincrest fire:

> The only alternative to a well trained staff is a complete sprinkler system, smoke compartments and smoke detectors.

Another HEW report concluded, as a result of the two Chicago area fires:

The facilities in each case were of fire resistive construction, but failed to provide reasonable protection. There is a need for several fire safetv measures which exceed current regulations.

According to a report by an official of the Illinois fire marshal's office. which was presented at hearings in Illinois:

The Wincrest and Cermak House fires demonstrated that ignition of coverings and furnishings can turn nursing facilities into gas chambers.

NEED FOR SPRINKLERS

We believe that a strong case can be made for a requirement that all nursing facilities, regardless of construction type, be fully protected with automatic sprinklers.

In addition to the findings applicable to the two Chicago nursing homes, which were exempt from the sprinkler requirement, our review showed that: (1) Efforts by nursing home staffs to extinguish the fires and prevent the loss of lives were unsuccessful; (2) the fires created a lethal environment in a short period of time; (3) the National Fire Protection Association has no record of a multiple death fire in any nursing home fully protected with an automatic sprinkler system; (4) the National Safety Council and the American Nursing Home Association stated that automatic sprinkler systems provide the greatest "safety to life" feature available in the fire protection field; (5) after numerous fire tests by a fire safety engineering firm, it was found that with automatic sprinklers, the fire is quickly extinguished even in rooms with combustible wall paneling and ceiling tiles.

In line with previous recommendations of congressional committees, we recommend that the Congress enact legislation which will require that all nursing facilities be fully protected with automatic sprinkler systems.

THE COST OF AUTOMATIC SPRINKLER SYSTEMS

The cost of installing an automatic sprinkler system will vary with the size and type of facility, and whether it is of new or existing construction.

In April 1976, we obtained data from seven sprinkler installation companies in the Washington-Baltimore area. According to their estimates, a complete system may cost between $0.50 and $1.75 a square foot in an existing facility. Installations during 1975 in four existing nursing facilities, three in Ohio and one in Minnesota, showed costs ranging from $393 to $625 a bed, with costs per square foot ranging from $1.21 to $1.55.

Using the highest cost per bed, the monthly cost of amortizing $625 a bed over a 20-year period with a 9¼ percent interest rate is $5.57 a bed a month, or about $0.19 a bed a day.

According to the National Fire Protection Association, sprinkler heads need replacement at the end of 50 years. However, financing sprinkler system installation over a period in excess of 20 years does not seem likely. Consequently, our computation shows the monthly payment expected over the term of a 20-year loan.

SAVINGS ON FIRE INSURANCE

Although fire insurance rates vary among States, savings are possible on both building coverage and contents insurance when nursing facilities are protected by automatic sprinkler systems. We obtained information on nursing home fire insurance rates in Maryland and Washington, D.C., and found that savings of about 30 percent are possible on building coverage and 50 percent on contents insurance.

MEDICARE AND MEDICAID WILL HELP PAY FOR AUTOMATIC SPRINKLERS

Nursing facilities participating in either medicare or medicaid will be reimbursed for these programs' share of the cost of automatic sprinkler systems through reimbursement for interest and depreciation. Medicare is federally funded and medicaid is funded by Federal, State and local governments.

The actual amounts to be paid by medicare and medicaid will vary among facilities depending on the number of residents covered by the programs. According to a report from the Social Security Administration, medicare and medicaid paid over 55 percent of the national health expenditures for nursing home care during fiscal year 1975. These expenditures include services in skilled nursing facilities, intermediate care facilities and all other homes providing nursing care.

FEDERAL LOAN INSURANCE PROGRAM

In its August 9, 1972, report, the House Committee on Government Operations concluded that unless the Federal Government provided a mechanism for insuring loans for sprinkler systems, not all facilities would be able to finance such systems. The committee recommended that the appropriate congressional committees consider legislation to provide insurance for long-term loans made for the installation of sprinkler systems as a means of assisting facilities in obtaining financing.

As a result, on December 28, 1973, Public Law 93–204 was enacted, which authorized the Secretary of the Department of Housing and Urban Development (HUD), to insure loans made to nursing facilities for the purchase and installation of fire safety equipment. This law amended section 232 of the National Housing Act which is designed to provide mortgage insurance for nursing homes.

In October 1974, 10 months after enactment of the law, the Secretary of HUD and the Acting Secretary of HEW entered into an agreement for administering this section of the National Housing Act.

LOAN INSURANCE PROGRAM HAS NOT BEEN UTILIZED

According to HUD officials, there have not been any loans approved under Public Law 93-204. As of late April 1976, only one application had been received by HUD, and this was disapproved because the facility did not meet the HUD financial requirements regarding the ability of the borrower to repay the loan.

According to HEW/HUD procedures, HEW approves parts of the application and sends certain certifications to HUD before the

facility is considered for an insured loan. HUD requires that an application be submitted through a HUD approved lending institution before it will consider insuring the loan.

According to HEW officials, there has been relatively little interest in the Federal loan insurance program for fire safety equipment. They said nursing facilities did not apply or withdrew their applications, because the program offered no advantage over conventional loans and involved much more paperwork and time.

We examined the applications received in the Chicago regional office of HEW. As of September 1975, of approximately 159 inquiries into the program, only 10 applications were received by HEW. In six of the cases, HEW refused to process the applications because the nursing home owners had already started to make corrections of their fire safety deficiencies. HUD officials had taken the position that the law did not authorize them to insure loans for previously purchased equipment. A HUD official told us that if work had begun, the purchase was considered to have previously been made, and HUD would not insure the loan.

The remaining four cases resulted in the installation of sprinkler systems, but not with HUD-insured loans. In each of the four cases, HEW processing time took between 6 and 8 months. Until HEW had approved the application, the nursing facilities could not begin work, or continue processing their applications for HUD-insured loans. Two of the nursing home owners told us they became so frustrated with the time HEW was taking to process their applications that they withdrew their applications for insured loans.

LONG PROCESSING TIME CAN BE A PROBLEM

The long processing time by HEW can be a problem to nursing homes. HEW regulations provide that a nursing facility's certification will be automatically canceled within 60 days of the date established for the correction of health or safety deficiencies unless all deficiencies are corrected or substantial progress has been made in correcting the deficiencies. HEW guidelines define "substantial progress" to mean that corrections are well underway, and that there is tangible and visible evidence of progress made. If the only progress by the facility had been a loan application, according to the guidelines, this would not be substantial progress sufficient to prevent the automatic cancellation.

If the facility begins work in order to make substantial progress in the correction of its deficiencies, to avoid the automatic cancellation of its certification, HUD will not insure the loan. If the facility waits for HEW to process the application, the long processing time could result in the facility's certification being automatically canceled.

An illustration of the problems facing nursing homes is the case of a nursing facility in Minneapolis, Minn. In January 1975, the facility was cited by the State survey agency as requiring an automatic sprinkler system to be in compliance with Federal fire safety requirements. At that time, an automatic cancellation date was established as September 1975, which was 60 days after the planned correction date.

In February 1975, the facility applied through HEW for a federally insured loan to pay for the sprinkler installation. HEW approval of the loan insurance application was not received until mid-August 1975. Very little time remained for the facility to locate a lending institution, negotiate a loan, process the HUD application, obtain a sprinkler contractor, and begin work before the certification of the facility would be automatically canceled in September. The facility obtained financing through other means in order to expedite installation.

CAUSES OF DELAYS IN HEW PROCESSING

The Deputy Director, HEW Chicago Regional Office of Long-Term Care said that it is necessary that HEW engineers physically inspect the facilities before the loan insurance applications can be processed because of the HUD requirement that HEW certify that the facility will be in compliance with Federal fire safety requirements. She said that because of past experience with the quality of State inspections in Ohio and Minnesota, HEW engineers were reluctant to rely on the State life safety code surveyors. She pointed out that neither Ohio nor Minnesota use engineers or architects to make fire safety inspections. In the case of the four facilities approved by HEW for HUD-insured loans, deficiencies were found at each facility by HEW engineers which were not identified by the State inspectors.

She said also that the processing time by HEW includes the onsite inspection by HEW engineers and evaluation of architectural drawings and exhibits. In addition, HEW evaluates cost estimates from sprinkler contractors. These documents must be obtained from the facilities. In the four cases reviewed by the Chicago office, several letters were sent to the facilities requesting this information, which delayed the final approval of the applications.

HOW TO IMPROVE THE LOAN INSURANCE PROGRAM

We believe the HUD loan insurance program could be a viable source of assistance to nursing facility owners in obtaining financing for automatic sprinkler installations.

We believe the problems encountered in the loan insurance program for fire safety equipment rest both with HEW's processing procedures and HUD's position not to insure loans on projects which have already started.

In order to alleviate the difficulties encountered by HEW, we believe both HEW and HUD should evaluate the loan application processing procedures and reduce the need for HEW's detailed review and inspection.

Currently, HEW receives copies of the State inspection reports which indicate nursing facility deficiencies of the fire safety requirements. In addition, HEW receives copies of the plans of correction, which when completed, should bring the facility into compliance with the Federal fire safety requirements. Consequently, it seems that these documents could satisfy the HUD requirement that HEW certify that correction of the fire safety deficiencies should result in compliance with the Federal fire safety requirements, because medicare and medicaid certification is contingent upon the approved correction

of such deficiencies. With regard to the certification of reasonable cost estimates by HEW, it seems that this function could be more efficiently accomplished by HUD personnel, because they deal with estimating costs in other types of construction projects. The certification of reasonable cost could be made part of the HUD underwriting procedures and thereby reduce HEW's processing time.

To solve the problem experienced by nursing facilities denied loan insurance applications because work had previously started, we believe HUD should reconsider its position regarding not insuring loans for such ongoing work. Nursing facilities can be under strict time constraints to begin making corrections of fire safety deficiencies or face the possibility of cancellation of their certifications. It would seem to be in the interest of patient safety to have the corrections made as soon as possible. In some cases, work could be started while the loan insurance application is being processed.

Based on our review of the applicable laws, we do not believe HUD is prohibited from insuring loans for work in progress or completed.

In conclusion, Mr. Chairman, our review of these Chicago nursing home fires and related matters has shown that a strong case can be made for a requirement that all nursing homes be fully protected with an automatic sprinkler system. Consequently, we recommend that the Congress enact legislation which will require all nursing facilities to be so protected. We shall be happy to answer any questions that you or other members of the subcommittees might have.

Senator PERCY. Thank you very much for the testimony and for your report which has already proven to be very valuable to us.

I would like to first talk about the fire itself at Wincrest.

Why were the staffs and the fire department unable to be present and, therefore, prevent deaths from occurring?

Was it a lack of time, lack of training, something mechanical?

You can also include the Cermak House Nursing Home.

Was there a lack of familiarity with the floor plans, the physical layout where the stairways were, how they could get out?

What were some of the human factors involved here besides the physical ones?

Mr. MARTIN. I do not think there was any indication of staff panic.

I think once the staffs at Wincrest and Cermak found the fires, they attempted to put out the fires and took whatever action they could.

By the time the firemen got there, the heat and smoke were so heavy they could not get the door closed.

They started to move patients, but these are elderly patients; the average age was 80 at Wincrest and 75 at Cermak. It was not easy to move them quickly.

There was no reason to believe, as far as we had been able to find out, that the staff panicked.

It was our understanding that they responded well in the situation.

Senator PERCY. Yet, when the fire department came, they did not require a particular skill. They just led patients out of the rooms where the doors were closed. They led them out through the blackened hallway. Is it not possible for staff to do the same thing, just lead patients out knowing where the access doors are?

Mr. MARTIN. It is possible if the patients are ambulatory.

If they are bedridden, moving them down stairways is very difficult, particularly with a limited number of staff available. I think prior testimony indicates that it takes a couple of people to move some of the patients.

It is difficult to move the number of patients involved in the short time available.

Senator PERCY. Has the GAO found out what caused the smoke to move as rapidly as it did and leave the area in room 306 and fill the halls and then start moving to the chapel at the end of the hall?

Mr. MARTIN. No, sir, we did not make that determination.

Senator PERCY. You did not get into that aspect of it?

Mr. MARTIN. No, sir.

Senator PERCY. Do you feel that the training of nursing home attendants would help in evacuation once it is required?

Mr. MARTIN. I think our review and I think the opinion of experts showed that the key to saving lives in nursing homes is to have them fully protected with automatic sprinklers.

In addition, you need smoke detectors. You also need heat detectors and a well-trained nursing home staff.

These, Mr. Chairman, are the key elements in saving lives in nursing homes in fire situations.

The training that you speak of for the patients within the nursing home is also important. I think the elements I mentioned are the key in protecting patients. They should, however, certainly be familiar as to where the stairwells are and the procedures to go through in the event of fire such as closing of doors, which is a simple thing for ambulatory patients to do, but the key is automatic sprinkler systems, smoke detectors, and fire doors.

Senator PERCY. Should the staff members of a nursing home know that to open a window in a situation that feeds oxygen to a fire which might be running out of it would cause a draft and the smoke to be pulled, and should a staff member have known not to open a window?

Mr. MARTIN. I think it is reasonable to assume that part of the training of the nursing home staff should include a discussion of the impact that an open window would have on a fire; yes, sir.

Senator PERCY. You strongly recommend automatic sprinklers.

What about smoke detectors or doors which automatically close when smoke is detected?

Mr. Chandler said smoke detectors are more valuable than sprinklers.

Mr. MARTIN. I think an important element would be to tie the smoke detectors in with the sprinkler system. The detectors can then activate the sprinkler system as well as the heat.

The automatic closing doors could be a problem with elderly patients if they bump into them when they close. In some cases, they may not be able to get them open, and they could be trapped.

If you have a well-trained staff, the first thing they should do is close the doors. In that type of situation, automatic doors would not be required.

Senator PERCY. The characteristics of both of these fires is that people died, not from burns or the flames, but from toxic smoke and gases.

What can we do to minimize the possibility of death from smoke inhalation in nursing homes?

Are sprinklers sufficient, or must standards be established also for furniture and kinds and amounts of personal clothing, et cetera?

Can we do anything through tighter regulations to prevent this kind of death?

Mr. MARTIN. I think as I indicated in the testimony, there has not been a multiple death fire in a fully sprinklered home. It goes a long way to prevent this.

It is my understanding also that the National Bureau of Standards is conducting toxicological research on fabrics which can be helpful when those results are published.

I do not believe the state of the art is such now that you could eliminate all the possible fabrics that might give off toxic substances in case of a fire.

Senator PERCY. Last year, you reported that 72 percent of the nursing homes in the country, by your sample, had one or more major violations of the life safety code.

Do you have any reason to believe that things have changed and that more homes are now in compliance?

Mr. MARTIN. We have not, at least as far as I'm concerned. One of the other fellows here might want to comment on it, but we have not followed up on the report we issued in March of 1975 to determine what the situation is now; no, sir.

I do not have any knowledge that indicates change.

Senator PERCY. Last year, you reported that many States were using nurses and other unqualified people, in some cases policemen, to conduct fire safety certifications.

Has HEW acted on your recommendation on surveyor training?

Mr. MARTIN. Not to my knowledge, they have not.

Senator PERCY. Do you think followup should be made in that case, then, to see that they do?

Mr. MARTIN. Yes; it is our standard procedure, after a certain lapse of time, to follow up on recommendations to see if they have been implemented. We will certainly continue to follow up on our March 1975 report.

Senator PERCY. As we have indicated, smoke was a major problem in both the Cermak House and Wincrest Homes fires. The Life Safety Code is silent with respect to smoke standards.

Would you favor the promulgation of smoke density standards for nursing home furnishings?

Mr. MARTIN. I think we would favor that if the state of the art is such that standards could be reasonably promulgated, yes, sir.

I am not sure of the current state of the art.

Senator PERCY. Thank you.

Mr. Heinz, any questions?

Mr. HEINZ. Thank you, Mr. Chairman.

In 1972, the House Government Operations Committee, Special Studies Subcommittee, which I was privileged to serve on, wrote a report indicating the need for sprinklers.

Subsequently, another committee of Congress did enact legislation, that is, loan guarantee legislation to install sprinklers.

I note in your report a lengthy analysis of the problems that have accompanied the joint administration by HUD and HEW of that program.

Is it your belief that the program can be administered without any further changes in the law by Congress, strictly a regulatory matter that can be solved within the agencies to make these loan insurance programs workable and available?

Mr. MARTIN. Yes, sir, we believe that the principle of the guaranteed loan program is sound; that it could be used by HUD and HEW together to improve the administrative procedures processes, yes.

Mr. HEINZ. One of the things that Senator Percy touched on was the extent to which better management, things like closing doors and the use of perhaps fire extinguishers might be improved.

Do you have any specific recommendations that come out of your careful studies as to the kind of training that nursing home personnel might properly be given in order to minimize some of the problems that we have seen here today?

Mr. MARTIN. Congressman, I would like to have Mr. Zipp respond.

Mr. ZIPP. Congressman, there are measures which can be taken to train nursing home staffs in the art of fire prevention and control.

However, the staff turnover in most nursing homes is relatively high, and from a practical perspective, you simply cannot rely on staffs to control the fire and move people to save lives.

The critical point is what Senator Percy mentioned, and that is time—time is extremely important.

I have witnessed fire tests at the National Bureau of Standards where a chair was ignited with a single piece of paper. Within 5 minutes the entire room was engulfed in flame because of technical processes called flashover and other characteristics of fire.

The problem can be solved by a number of procedures which happen automatically; which notify the staff that there is a fire, which confines the fire; and which begins extinguishing the fire.

The quicker the fire is put out the less smoke there will be, the less toxic gases and the less heat. This is the issue that we have cited as the basis of our recommendation; that if the fire is extinguished very quickly, you control smoke, heat, and the other elements of combustion itself.

The fire in Niles, Ill., could have been just as deadly as the Wincrest and Cermak Nursing Home fires. There is nothing to suggest it could not have been, but there was a sprinkler system that was activated before the fire got out of control and there were no injuries, very little damage, and no deaths.

Mr. HEINZ. I think you have helped establish a point that I want to emphasize; that is, that it is relatively almost impossible for anybody to rely on the human element in the kind of fires we're talking about.

In effect, you can try and train people to be cool under pressure as you have every right to expect them to be, but when you have an emergency, when you have that very fine chap pressed into duty coming out of church service, you cannot expect the kind of human perfection that we would think might be theoretically possible, and therefore, it is very valuable, I think, to establish once and for all that we cannot rely on nonautomatic procedures here for saving

lives in nursing homes and human beings are nonautomatic, and therefore, I think the emphasis that you are placing on some of the relatively automatic sprinkler systems, smoke detection systems, is very well placed.

I wanted to make sure the record reflects your comments on the need for relying on the automatic versus nonautomatic devices.

Thank you, Mr. Chairman.

Senator PERCY. Mr. Cohen?

Mr. COHEN. Thank you, Mr. Chairman.

I have just a couple of points.

You indicated that both these nursing homes were in substantial compliance with the Federal regulations.

Would full compliance with the regulations have, in any way, reduced the deaths?

Mr. MARTIN. The inspections of the nursing homes indicated that the standards they were not in compliance with had no impact on the severity of the fire.

Mr. COHEN. No causative factor whatsoever?

Mr. MARTIN. No, sir.

Mr. COHEN. Speaking of the sources and emission of fires, could you tell us perhaps, and it has been established for the record, but what was the origin of the fire in both the Wincrest and Cermak Homes?

Mr. ZIPP. Mr. Cohen, the Cermak fire was attributed to a faulty lamp cord.

At the time of our review, the fire investigators were investigating for other causes.

The Wincrest fire on the other hand was suspected arson and without prejudicing any cases that may be pending, we do not have any substantive evidence to support any statement to the contrary.

Senator PERCY. In what object of furniture in room 306 was the fire actually set or do you know?

Mr. ZIPP. The location of the fire?

Senator PERCY. Yes.

Mr. ZIPP. It was in a wooden wardrobe.

Senator PERCY. Behind the door?

Mr. ZIPP. Yes.

Senator PERCY. And customarily, patients in Wincrest keep their personal effects in the wardrobes.

Mr. ZIPP. Yes, sir.

Senator PERCY. A lot of those I went through are plywood chests or stand-up chests holding hanging clothes and paper bags. Ordinarily they just stuff their things in there.

Mr. ZIPP. That is correct, sir.

Senator PERCY. The personal effects of the patients.

Mr. ZIPP. Yes. I might add you can regulate furnishings. However, unless everything is made of steel, for example, you are going to have combustion problems. You are going to have a fire load which is what it is classified as, and these are homes for people.

To make them institutionalized to the point of taking everything out that will burn, which I do not think is practical, indicates that something else needs to be done. With respect to the Wincrest Home, there was a problem with regard to the standards themselves regarding the length of corridor which did not require a smoke barrier.

There is a problem with the technical definition of a place of assembly where the chapel was. There were no doors to the chapel. People were trapped at the dead end.

These types of things are technical aspects of the Life Safety Code which the facility complied with, and which questions, perhaps, might be directed toward the National Fire Protection Association.

Mr. COHEN. I just have one final question, Mr. Chairman.

As I understand it, the 1973 Life Safety Code is not a mandate with respect to a single-level fire resistant home, but it does, in fact, encourage it and apparently from your statement, that encouragement has not been very strong or the nursing home community has not been terribly responsive.

From the testimony we have received so far today, it seems to me that the emphasis is that really time is of the essence, and the emphasis today in the Life Safety Code has been on fire-resistant materials.

I was wondering, is there some point in time that perhaps we have overemphasized the fire-resistant materials. We mandate that it be resistant to fire for up to periods of 1 or 2 hours when, in fact, it is minutes that are of the critical time and we should direct more attention to the smoke detectors and sprinkler systems?

Mr. MARTIN. That is a fair statement, sir. We should shift to sprinklers, smoke detectors, and heat detectors.

Mr. COHEN. And, perhaps, get away somewhat from the expensive requirements of fire-resistant materials. We still have them but not to the point where they have to resist fire up to one or two hours at a time when, in fact, that may not be necessary to save the lives when we are really talking about quick action in a matter of minutes.

Mr. MARTIN. There should be some tradeoffs of this type if you put automatic sprinklers in there.

Mr. COHEN. What would you recommend?

Mr. MARTIN. We are not experts in the field in terms of types of fabrics, in terms of how many hours it should resist or minutes it should resist.

That, sir, is better left to the experts to research.

Mr. COHEN. That is all.

Senator PERCY. Congressman Randall, we are delighted to welcome you today.

Mr. RANDALL. Thank you very much.

I commend you, Senator Percy and Senator Moss, and all of you others for this joint hearing.

I am delighted to see that these hearings are going forward.

I would suggest that we have plowed this ground before, not we on the House Select Committee but as the Special Studies Subcommittee of the House Government Operations Committee. Beginning in 1970, we analyzed 71 fires in Pennsylvania and Ohio and we wrote a report, and I think if you will dust it off, I think you will find it has the very things that Bob Weiner and Elliott Stern and your staff have discussed, that in the big Honesdale fire and the one in Ohio deaths were not caused by anybody actually burning up and being incinerated. It was all by suffocation.

The recommendation of the report was that there be a mandate that there be sprinklers and smoke detectors.

You will find in the 1971 report that it went on to recommend a loan program to provide for sprinkler systems that had some type of Federal assistance so that there was both the carrot and the stick, the stick of a Federal regulation and the carrot of a loan.

Senator, I am grateful for you recognizing me.

Senator PERCY. We appreciate your comments very much, indeed. I think we should note that the Chicago City Council has acted. Every nursing home in the city of Chicago by 1977 will be required to have a sprinkler system.

The cities around the country do not have to wait for the Federal Government to act. They can take action on their own initiative and we encourage them to do that before the Federal Government moves in.

The Chair will recognize, in the absence of Congressman Claude Pepper, his staff director, Mr. Robert Weiner, for any questions he might have.

Mr. WEINER. Thank you, Senator.

Again, we want to express our great gratitude to the GAO for their completion of the report on a very severe deadline.

Mr. Chairman, I ask that the GAO report be included in the record.

Senator PERCY. Without objection, so ordered.

[The GAO report is reproduced in the appendix, pp. 124–182.]

Mr. WEINER. Mr. Martin, as you have pointed out, the HUD loan insurance program has been a failure to date.

Why do you believe it could be a viable source of financing for nursing homes wanting to install sprinklers? How many homes might take advantage of the program if it worked based on any similar information you might have, including FHA or other loan insurance programs?

Mr. MARTIN. I have no particular knowledge on how many might take advantage of the program.

However, I think it is indicative in Chicago there were 159 inquiries to the program itself. Only 10 followed through.

We do not know why the 149 did not follow through with it. However, I think as we previously stated, that it is a sound way in principle and theory to get sprinklers into nursing homes.

However, the administrative procedures and the length of time of 6 or 8 months it takes HEW to process paperwork has really, in effect, turned off the nursing home operators from coming to that program for a loan. They can go elsewhere and get a loan quicker.

We think those administrative procedures should be cleaned up and the time shortened and that this should be made known to nursing home operators. If this happens, it is possible they would come into the program and make it viable.

Mr. WEINER. Thank you. Would direct Federal loans rather than loan insurance be more effective for them?

Mr. MARTIN. There is certainly a possibility that it might be.

We have no reason to know whether or not at this point in time loans could not be insured adequately.

A direct loan should cut down on some of the paperwork and processing time in going through a bank and HUD.

For example, if there were HEW direct loans, it would not require two procedures. You would not go through the lending institution procedure. You would not go through the current procedures with HEW and HUD.

Senator PERCY. If anyone is having trouble in hearing Mr. Martin, would you raise your hand?

Mr. Martin, would you please pull that microphone up?

Mr. WEINER. Mr. Martin, how much time do you think is appropriate to phase in the sprinkler system required for the nursing homes?

Mr. IFFERT. I am a little reluctant to speak to the time frame. We think it should be relatively short, perhaps 2 or 3 years.

We have amortized the cost of installation over 20 years. We have a long-term view of the desirability of our recommendation in that you will be providing protection not only to the present generation of nursing home residents but also to future generations in the next 50 years.

Mr. WEINER. You reported that the cost of automatic sprinklers was about 19 cents per bed per day.

Would you elaborate on your computation and discuss the possible savings from insurance reductions and medicare-medicaid reimbursement to the facilities?

Mr. IFFERT. Well, through September 1975, there have been four nursing home applications for insured loans that have been sent to HUD, although in each case the applicant withdrew before the application was processed by the lender. The installation of sprinkler systems was accomplished but not with HUD insured loans.

For these four facilities, there were three in Ohio and one in Minnesota, the estimated cost that was approved by HEW as being reasonable under competitive bid ranged from $393 to $625 per bed, and with cost per square foot ranging from $1.21 to $1.55.

These costs per square foot were very close to information we obtained from seven sprinkler installation companies in the Washington-Baltimore area.

Using the highest cost per bed, $625 and amortizing that over a 20-year period with a 9¼ percent interest rate as the average comes out to 19 cents a bed, a day.

Mr. COHEN. Is that for new construction or existing buildings?

Mr. IFFERT. That is existing buildings.

New construction is less expensive, sir.

Mr. WEINER. Does that include the possible savings from insurance reductions and the medicare-medicaid reimbursement?

Mr. IFFERT. No.

Mr. WEINER. So that would be less still.

Mr. IFFERT. Through medicare reimbursements, the program pays part of the cost.

I do not think it is a savings. Medicare and medicaid are paying their share.

Mr. WEINER. You recommended that Congress require HEW to establish specific waiver of standards which must be met before a sprinkler waiver is issued.

Would you elaborate on why you believe such a requirement should be placed on HEW by statute? In other words, why specific waiver requirements?

Mr. ZIPP. I can respond to that question.

We found in 1975 that there were significant problems with the granting of waivers from the sprinkler requirement.

As a matter of fact, we found that 79 percent of the nursing homes we visited did not meet HEW standards for a waiver designed to insure that there would be no adverse effect on patient health and safety.

HEW had established standards only for wood framed facilities to insure that a waiver of the sprinkler requirement would not result in an adverse effect on patient safety. Seventy-nine percent did not meet these requirements.

We pointed out to HEW, in our report, of the need for establishing standards for other types of construction. This recommendation was not accepted by HEW.

We feel that in rare cases there will be situations which may exist that would create such an unreasonable hardship on a nursing home, that the installation of a sprinkler system would not be practicable.

In those rare cases, we believe that a waiver should be considered. In view of the current waiver provisions of the Social Security Act, we believe standards should be established to meet the congressional requirement that no adverse effect will result from such a waiver. We also believe that since the Department of Health, Education, and Welfare has not established standards as we suggested, we believe that a requirement by statute should be placed on them to establish those standards.

Mr. PEPPER. I believe you said that both the Wincrest and the Cermak Homes were in substantial compliance with existing life safety requirements.

Could you detail the firefighting equipment and the fire-resistant construction they did have?

Mr. MARTIN. Let me give you an answer in terms of the equipment that was available at Wincrest and Cermak at the time of the fire.

Senator PERCY. Could you please speak into the microphone, Mr. Martin?

Mr. MARTIN. At Wincrest, at the time that the fire occurred, they had four alarm boxes, heat and smoke detectors, fire extinguishers, emergency lighting, solid core doors and fire-resistant construction.

At Cermak, they had four boxes for alarms, smoke detectors, fire extinguishers, fire hoses, a public address system, solid core doors, sprinklers on the first floor, vertical pipes to the other floors, but they did not have sprinkler systems installed, and it was also fire-resistive construction.

Mr. PEPPER. Mr. Martin, in other words, these homes were in compliance with present requirements?

Mr. MARTIN. Yes, they were in compliance with the present requirements.

Mr. PEPPER. So the fact that these fires occurred, which was a tragic loss, indicates that the present requirements of Congress are not adequate to protect people against fire.

Mr. MARTIN. There is a strong case they do need one additional item, an automatic sprinkler system.

Mr. PEPPER. Are you able to tell us further that if nursing homes were protected by automatic sprinklers that multiple death fires would not occur?

Mr. MARTIN. According to the National Fire Protection Association, there have not been any multiple death fires in nursing homes fully protected with automatic sprinkler systems.

Mr. PEPPER. Are you able to express an opinion from your study of this subject as to whether any other fire protection device, other than a sprinkler system by itself or with other equipment, does have an equal record of preventing death by fires to patients?

Mr. MARTIN. Not to my knowledge, sir.

Mr. PEPPER. So I would conclude that it is your opinion after a study of this subject that the existence of adequately installed and proper operation of sprinklers is essential to the protection of patients in a nursing home against the danger of fire.

Mr. MARTIN. Yes, sir.

Senator PERCY. Mr. Pepper, if you could take over as chairman now, I would appreciate it very much, indeed.

Are you able to stay, sir?

Mr. PEPPER. I am very grateful to you and for your kindness in staying to do your duty.

Senator PERCY. I shall always regret not seeing the Magna Carta, but please go right ahead.

Mr. PEPPER. This is a very essential thing to the public interest, and you are a great public servant to stay here and carry on.

Senator PERCY. I have no further questions.

I wish to thank the witnesses very much, indeed, and want to join in expressing to the Comptroller General my appreciation for an outstanding job.

Mr. PEPPER [presiding]. Thank you very much, Mr. Martin.

Our joint committee wants to express a great gratitude to the GAO and all the experts with you in your survey for the very fine public services you have rendered.

Now, we are going to have a panel consisting of representatives from the Department of Health, Education, and Welfare and the Department of Housing and Urban Development.

This panel will consist of Dr. Faye Abdellah, Director, Office of Long-Term Care, Department of Health, Education, and Welfare, who will be accompanied by Mr. Marvin Hitt, Director, Office of Long-Term Care Standards Enforcements; Mr. Michael Morelli, Office of Nursing Home Affairs; Mr. Jonas Morehart, Office of Facilities, Engineering, and Property Management; and Mr. Gene Haislip, Deputy Assistant Secretary of Legislation.

We shall also include on the panel Mr. George Hipps, Acting Director, Office of Underwriting Standards, Department of Housing and Urban Development.

Now, then, I guess we will just call upon you in the order on which you appear on our program here.

Dr. Abdellah, you are now the Director of Office of Long-Term Care.

STATEMENT OF DR. FAYE ABDELLAH, DIRECTOR, OFFICE OF LONG-TERM CARE, DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE, ACCOMPANIED BY MARVIN HITT, DIRECTOR, OFFICE OF LONG-TERM CARE STANDARDS ENFORCEMENT; MICHAEL MORELLI, OFFICE OF NURSING HOME AFFAIRS; JONAS MOREHART, OFFICE OF FACILITIES, ENGINEERING, AND PROPERTY MANAGEMENT; AND GENE HAISLIP, DEPUTY ASSISTANT SECRETARY FOR LEGISLATION

Dr. ABDELLAH. Thank you very much, Mr. Chairman. r

First, I want to thank you for your support in the change of out name to the Office of Long-Term Care. It seems quite fitting that tha becomes official today and, of course, broadens our interest and sup port in terms of alternatives to institutional care, and we do thank you very much.

For HEW, I will be the key witness, and to my right is Mr. Haislip, and Mr. Hitt will speak specifically to the Chicago situation.

I would like to read my prepared statement and then provide an opportunity for questions.

Mr. Chairman and members of the subcommittee:

I appreciate the opportunity to appear before you today to discuss fire safety and related problems in nursing homes.

I would first like to take a few minutes to explain how the Department of Health, Education and Welfare enforces the statutory fire safety requirements and to report on the current status of our enforcement efforts. As you know, under titles XVIII and XIX of the Social Security Act, the Department is now required to enforce for skilled nursing facilities the applicable requirements of the 1973 edition of the Life Safety Code (except for existing facilities which have already met the 1967 edition requirements)—a consensus standard published by the National Fire Protection Association (NFPA). The 1973 edition of the code was substituted for the 1967 edition by Public Law 94–182, the provisions of which became effective on June 1.

Although the law only requires that the Life Safety Code be applied to skilled nursing facilities (SNFs) participating in the medicare or medicaid programs (with waivers permitted under certain circumstances), the Department has required, by regulation, that hospitals and intermediate care facilities also comply with the code provisions. In enacting the legislation requiring the application of the Life Safety Code, Congress recognized the fact that the code contains provisions which are nationally accepted and which provide an acceptable degree of safety for patients and staff in institutional buildings.

This is a very important point we would like to make, that the standards today provide only an acceptable degree of safety, not the maximum degree of safety.

The Department's principal enforcement mechanism is direct survey of nursing homes by State surveyors. Our regional offices of Long-Term Care Standards Enforcement, which were established 2 years ago, monitor State survey activities for long-term care facilities

and provide training and consultation to State survey agencies. The directors of our regional offices of Long-Term Care Standards Enforcement, under delegated authority of the regional directors, review surveys and determine whether skilled nursing facilities comply with Life Safety Code requirements. They also pass judgment on requests for waiver of specific requirements for these facilities.

Waiver determinations for SNFs, which are explicitly authorized by law, are made on a case-by-case basis. Waivers are approved only if the waiver will not adversely affect patient health and safety and if by requiring compliance an unreasonable hardship on the facility would result. These waiver criteria can be applied to all code requirements, including the sprinkler requirement. However, the Department does not permit waiver of the sprinkler requirement in one-story unprotected wood frame facilities of multistory protected wood frame facilities, because the type of construction in these facilities offers the least resistance to fire.

In addition, specific criteria have been established for the waiver of the sprinkler requirement on one-story protected wood frame facilities. These criteria must be satisfied before a waiver of the sprinkler requirement can be considered. Although these specific criteria need not be met to approve waivers for the sprinkler requirement in other types of construction, the Department has instructed State surveyors to consider these criteria in establishing the basis for waiving the sprinkler requirement in other types of construction. The Department believes that it would be unrealistic to specify waiver criteria in all types of buildings because each building is unique and a judgment must be made on a case-by-case basis by professional surveyors. However, HEW is continuing to review this matter.

Intermediate care facilities are also subject to Life Safety Code requirements. In this case, the State survey agency determines whether these facilities comply with Life Safety Code requirements and also approved waiver requests. The Department's Directors of Long-Term Care Standards Enforcement (OLTCSE), in this case, monitor State actions to insure that Federal criteria and guidelines are being followed.

In an effort to upgrade the quality of fire safety surveys the Department has conducted a number of training sessions on fire safety. The most recent were conducted in the fall of 1974 for all of the 10 regions. Another training program is being scheduled for this summer to include in each region to orient surveyors to the 1973 Life Safety Code. Our Regional Offices, aided by the Department's Regional Office of Facilities Engineering (ROFEC), providing training and consultation to State surveyors on an ongoing basis. Regional validation surveys of a randomly selected sample of nursing homes serve not only to monitor State enforcement practices, but also identify areas where additional training may be required.

The Department's continuing efforts to improve the quality of surveys and its strong stance on enforcing Life Safety Code requirements have forced many nursing facilities to make the necessary improvements or to be dropped from participation in the programs.

In the State of Pennsylvania alone, since our last meeting, 200 field mission facilities with serious deficiencies are no longer participating in Federal programs.

I would now like to turn to the subject of the automatic sprinkler requirements which is the key issue this morning. The 1967 edition of the Life Safety Code does not require automatic sprinklers in buildings of fire-resistive construction, regardless of height, nor in one-story buildings of protected noncombustible construction. The 1973 edition exempts buildings of fire-resistive construction, regardless of height, as does the 1967 code, and buildings up to three stories in height if they are of protected, noncombustible construction. There are other variations regarding construction types and sprinkler requirements in the 1973 code.

The Secretary accepts the recommendations of the association in terms of the materials and standards under the terms of the existing code—as of June 1, the 1973 edition is the current one in effect.

The recent tragic fires in Illinois have raised serious questions as to the degree of safety provided in institutions of fire-resistive construction that are not required to have automatic sprinklers. These facilities were in compliance with the provisions of the Life Safety Code, yet 31 elderly residents perished. We in HEW are deeply concerned over these tragedies. We took immediate steps working in Chicago to investigate both fires. Mr. Hitt will speak to these a little later.

Fire safety experts within the Department and at the National Bureau of Standards have been studying the reports of these investigations and will soon make specific recommendations to us on actions which should be taken to help prevent similar tragedies in the future. In fact, a departmental committee met yesterday and is meeting again today for the purpose of recommending appropriate action.

Over the past several years, there has been an increasing body of opinion which argues for requiring automatic sprinkler protection in all nursing homes without regard to type of construction. A few States, such as California and Ohio, and most recently the city of Chicago, require that all nursing homes have automatic sprinkler protection.

I would like to suggest that, before any decisions are made with respect to requiring automatic sprinklers, we look at other possible solutions and weigh all proposals in terms of their cost effectiveness.

I might add here also that, in terms of the needs of individual facilities, there are the basic requirements of health and nutrition and occupational therapy—everything we would want elderly individuals to receive in these long-term care facilities. Their overall needs must be weighed against the desirability for sprinklers.

How much additional safety will automatic sprinklers provide? Are there other requirements or combination of requirements which, if required, will provide additional safety yet cost much less? We don't have answers to these questions, but we are trying to find out. We are looking to the National Bureau of Standards regulations to give us guidance in this direction.

Under Secretary Lynch has recently established a departmental work group to examine costs of requiring compliance with the Life Safety Code and to recommend changes which would bring about a proper balance between costs and the degree of safety provided.

In addition, the Department has a contract with the National Bureau of Standards to study the effectiveness of many of the fine safety requirements pertaining to institutional occupancies and to determine whether additional or different requirements should be

mandated. One of the things they are looking at is the placing of automatic sprinklers at selected locations rather than throughout a facility; there is no question that there is evidence to show that lives can be saved by automatic sprinklers. They may determine, for example, that placing sprinkler heads in a corridor, outside each patient room door, would save as many lives but cost much less than sprinklers throughout.

In response to our request for recommendations on Life Safety Code changes suggested as a result of the recent fires in Illinois, the National Bureau of Standards provided us with an analysis indicating the degree to which patient safety is increased for each category of change.

If the chairmen wish, we will be glad to make the report available or to have one of the fire safety engineers here today explain the report. You may also wish to discuss the report with NBS officials. I believe that the report provides a good example of the type of analysis that must be done before decisions are made with respect to extending the current provisions of the Life Safety Code to require automatic sprinklers throughout every facility.

[The report was supplied and is reproduced in the appendix, pp. 183–197.]

As you are aware, the cost of installing automatic sprinklers is considerable. Estimates range from 50 cents per square foot to $3 per square foot, depending on who provides the estimate. The General Accounting Office, on the basis of four actual installations in 1975 in Ohio and Minnesota, has indicated a cost between $1.21 to $1.55 per square foot. Using the higher cost, the GAO has indicated that the cost per bed is $625 and has amortized this cost over a 20-year period at 9¼ percent interest. On this basis the cost per bed is $5.57 or about 19 cents per bed per day.

Assuming that these figures are representative of actual costs throughout the country, which has not been established, the actual cost of installing sprinklers in all nursing homes (SNF's and ICF's) that are currently participating in the medicare or medicaid programs but which are not sprinklered would be $412,500,000. This figure is based on an estimate that 50 percent of the approximately 16,500 SNF's and ICF's currently participating in medicare or medicaid, with an average capacity of 80 beds, would have to install sprinklers. Our best estimate is that, at current prices, the national average cost for installing sprinkler systems in existing nursing homes is approximately $2.30 per square foot. At 1978 prices, the average cost approaches $3 per square foot. At $2.30 per square foot, the cost per bed would be approximately $927, resulting in a total cost of $611,820.000.

Again, this is a very large investment, one that needs to be weighed in terms of the total needs of the individuals in these facilities and arriving at a balance of both safety and health requirements.

Automatic sprinklers do help prevent multiple-death fires (defined by the NFPA as three or more deaths). The NFPA has never reported multiple death fires in buildings which were completely sprinklered. The May 1973 report of the National Commission on Fire Prevention and Control entitled "America Burning" estimated that there are between 3,500 to 4,000 fires annually in nursing homes and homes for the aging, which indicates, I might say parenthetically, that the reason there are not many more fires is because of the dedication of

the personnel in these homes and the kind of training that is now going on.

In the 20-year period from 1951 to 1970, 496 residents of facilities for the aged perished in multiple death fires.

And, while we are all in agreement that automatic sprinklers can help prevent multiple death fires, I believe that we also agree that automatic sprinklers cannot save an individual who is intimate with the source of ignition, especially if the patient is bedridden or otherwise immobile.

In conclusion, I wish to thank you for the opportunity to present our views on this most important issue. The Department will be pleased to assist the committees in whatever way we can in future deliberations. My colleagues and I will be pleased to answer any questions you may have.

Thank you.

Mr. Chairman, Mr. Hitt is on my left to speak specifically to the Chicago fires and is most knowledgeable on our staff about that.

Mr. Morehart in the second section behind me can speak very specifically about the National Bureau of Standards' studies, also about any questions that you might have regarding the carpet test and other related specific factors about the 1973 code.

Mr. PEPPER. Doctor, we will wait until we hear from Mr. Hipps before we ask some questions.

Now, we will hear from George Hipps from HUD.

STATEMENT OF GEORGE HIPPS, ACTING DIRECTOR, OFFICE OF UNDERWRITING STANDARDS, DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT

Mr. HIPPS. Thank you, Mr. Chairman. I do have a brief statement directed to the loan insurance program.

Thank you for the opportunity to testify on the nursing home and fire safety equipment loan insurance program under section 232(i) of the National Housing Act.

As you know, Public Law 93-204, signed on December 28, 1973, added to section 232 of the National Housing Act a provision for FHA insurance for supplemental project loans to finance purchase and installation of fire safety equipment in nursing homes and intermediate care facilities, including those not financed with FHA insured mortgages.

The legislation specifically requires that equipment installation bring the facility into compliance with HEW requirements for providers of services under the medicare and medicaid programs. The committee reports indicated that the program should be implemented with the assistance of HEW. Carrying out this intent, meetings were held in early January 1974 with the Department of HEW to prepare for implementation of the program.

Drafting of regulations and a program handbook began immediately. Development proceeded to the point that a memorandum of agreement was prepared by HUD for signature by both Departments. Former HUD Secretary James T. Lynn signed the memorandum of agreement on March 25, 1974, and it was forwarded to HEW for

execution. Further meetings were subsequently held with HEW to resolve objections to the agreement as submitted and a revised agreement was finally executed by both parties in October of that year.

While negotiating the final memorandum of agreement, HUD drafted proposed regulations which were published for comment by HUD on June 6, 1974. Final regulations were subsequently published for effect on August 12, 1974.

During this same period, we proceeded with the preparation of a program handbook, which included HEW's participation in the program. In September 1974, we began planning for orientation meetings for personnel in both Departments. Three such meetings were held in late October to brief HUD and HEW field office personnel, and the program was operational on November 1, 1974.

During this period of time, from January to November 1974, HEW had been enforcing fire safety standards and requirements before the program became operational. As a result, we received many requests to insure loans retroactively. As you may know, FHA insurance under section 232 is on a prospective basis, thus precluding insurance of mortgages where work has commenced prior to application for insurance.

Soon after the program became operational, we informed all FHA mortgagees of the program and encouraged their participation. To date, no projects have been insured nor commitments issued.

In developing the operating procedures for the program, it was felt that we should keep as much of the processing as possible outside of HUD because of the processing time lags which have developed in some HUD/FHA programs. We believed HEW participation in the program was necessary to assure compliance with fire safety requirements applicable to the medicare and medicaid programs. For this reason, we elected to identify the 10 HEW regional offices as the initial contact point for all applicants.

The following procedural steps are followed in utilizing the program:

One: The applicant takes plans for correction of fire safety deficiencies to HEW.

Two: HEW reviews the plans and advises the applicant in writing—with copy to HUD—that the plans were acceptable and that he may submit an application to the local HUD office.

Three: The applicant submits an application to the local HUD office through a mortgage lender willing to make the loan on an insured basis.

Four: HUD/FHA processes the application mainly on the financial capacity of the proposed borrower. If HUD/FHA approval is obtained, a commitment is issued.

Five: After issuance of the commitment, installing of the equipment may begin.

Six: HEW inspects during the installation of the equipment and advises HUD when the installation has been satisfactorily completed.

Seven: HUD endorses the loan for insurance.

That completes my prepared remarks. I will be happy to respond to any questions you may have.

Mr. PEPPER. What concerns me is that these fires occurred in January and February of this year, and here it is June 3 and you representatives of two of the major departments of Government and

the ones that have to act on this matter are still studying the question and still getting reports which you have not yet evaluated and upon which you have not made a decision.

Now, that is 5 months since the fire occurred, and now you are considering, according to your statement, which is the most desirable method to use and can prevent such a tragedy as these which will get effective cost benefits.

Now, we have already sustained an enormous and immeasurable cost in the loss of 31 lives.

Does Government have to move this slowly when life or death is involved? Citizens of this country are in a way entrusting their lives to public-State authorities when they go into these nursing homes since these nursing homes are supposed to be approved by State and Federal authorities. These people who are patients there, it seems to me, are entitled to rely upon competent observation and scrutiny of these nursing homes. By the fact the nursing homes are permitted to be open and they receive Federal funds, it would seem to me that the Federal Government should confirm their competence and that the Federal Government should see to it that the elderly are safe within those homes.

Why on the 3d of June has our great Government not come up with a solution to this problem with recommendations as to what to do?

Does Government have to move that slowly?

Were you waiting for the GAO report? The report has just been officially filed and released. I do not know whether you have seen it.

Have you seen the GAO report prior to this, Doctor?

Dr. ABDELLAH. Yes, Mr. Chairman.

Mr. PEPPER. When did you see it?

Dr. ABDELLAH. I did see it wrapped up about a week ago.

Mr. PEPPER. Mr. Hipps, when was HUD aware of this?

Mr. HIPPS. Within the past week.

Mr. PEPPER. Did you all meet together on the GAO report before you made a decision on this matter on what to do or recommend to the Congress?

Mr. HIPPS. I think you have to understand HUD's position with respect to this program.

Mr. Chairman, we are the insurer of loans. We do not set the standards that are to be followed, nor do we certify the nursing homes themselves.

That, Mr. Chairman, falls within the responsibility of HEW.

Mr. PEPPER. Yours is only to make a loan certified by HEW?

Mr. HIPPS. That is the sequence.

Mr. PEPPER. Mr. Hipps, if I understand from you, there was only one application for a loan to be made, and was that certified by HEW?

Mr. HIPPS. There was one that we reviewed that HEW found acceptable which we found unacceptable because the nursing home did not have the financial capacity to pay the additional loan.

Mr. PEPPER. Did you offer them the loan payable over a long period of time?

Mr. HIPPS. I do not have the specific circumstances of the terms of that proposal, but normally, yes, it would be a long-term loan.

Mr. PEPPER. You recall how long or how long you may extend the loan?

Mr. HIPPS. It is up to 20 years.

Mr. PEPPER. You say that in this one application the nursing home was not able to pay back the loan over a period of 20 years.

Mr. HIPPS. That is my understanding.

Mr. PEPPER. And HUD certified it, but you did not find a borrower qualified because they did not have the financial capacity to repay the loan.

Mr. HIPPS. No.

Mr. PEPPER. How much of a subsidy would have been necessary in that case to justify your making a loan?

In other words, what subsidy would HUD have required in order to be able to put in a sprinkler system?

Mr. HIPPS. I cannot answer the question, Mr. Chairman. I have not particularly examined that particular application itself. That information could be obtained, I am sure, and provided for the record.

[The Department submitted the following information for the record:]

The application in question was submitted by the Nursing Home of Boaz to our Birmingham Office. The applicant was neither the owner nor the primary lessee of the facility but is categorized as a subtenant. The credit report obtained on the applicant indicated that income was not sufficient to cover operating expenses. An audited financial statement for the period ending November 1973 showed a profit to the Nursing Home of $6,335 and a similar statement for the period ending November 1974 showed a profit of $799. Our calculations, including the debt service on the proposed fire safety equipment loan, projected a $3,000 loss utilizing a 93 percent occupancy factor. To make this loan acceptable a 100 percent subsidy would appear to have been necessary.

Mr. PEPPER. Do you not think it would be desirable to set up some machinery that an applicant may be examined concerning his ability to repay all of it back within the 20-year period allowed for the loan, and if not, a subsidy could be provided to pay for the part they could not otherwise pay?

Mr. HIPPS. I think that is one thing that is under study, from what as I have read the possibility of grants as opposed to loans, but I do not think I can comment on that at this moment.

Mr. PEPPER. Would it be more appropriate for HUD to extend that subsidy if the law should allow one or would it be more appropriate for HEW to extend that?

Mr. HIPPS. I do not think I can really correctly answer that question at the moment without first having an opportunity to examine what kind of a proposal it would be and then determine who would be most appropriate to administer.

I believe HEW has administered a grant or a combination of loan and grant program in the past.

Mr. PEPPER. Does HEW now have any authority or fund to give a subsidy to a nursing home that needs to meet safety requirements that is financially unable to do so without aid?

Dr. ABDELLAH. No; we do not.

Mr. PEPPER. Would it take legislation?

Dr. ABDELLAH. Yes, sir, it would.

One of our problems in the HUD–HEW program, as indicated in the GAO report is that, as Mr. Hipps has indicated, the HUD

program is a prospective program, so that when the applicants did come in seeking a loan guarantee, they had already made arrangements and had already started to install fire safety equipment. The prospective requirement is a real handicap to the applicants.

Mr. PEPPER. Do you think it would be desirable for Congress to authorize HEW to make subsidies and make grants to nursing homes to enable them where that was necessary to meet the safety requirements?

Mr. HAISLIP. That would be a significant change from the manner in which we have proposed standards thus far.

Mr. PEPPER. Give your name for the record.

Mr. HAISLIP. Gene Haislip, Deputy Assistant Secretary for Legislation.

You have to bear in mind that the Federal Government provides extensive multibillion-dollar expenditures for health care in this area to both medicare and medicaid and the standards have been imposed by requiring that facilities meet certain standards in order to be reimbursed under these systems.

I do not know whether you prefer to characterize that as a subsidy, but that is the extent of Federal involvement and that is the manner in which standards have been imposed and not through some sort of direct grant program.

Most of these nursing facilities are private facilities and their capacity to react to regulations or requirements depends upon individual management and funding in many cases.

These are matters over which only those individual owners have control and would present a real question as to whether we simply automatically blanketly subsidize their facilities in any respect.

Mr. PEPPER. Well, it would seem from the evidence that you all have given here that you have no record of a multiple death fire in a nursing home which was protected by a sprinkler system. In addition, there were many fire deaths that occurred in the country in the last 20 years in nursing homes which did not have sprinkler systems. This would seem to indicate that the sprinkler system, even though other requirements would be made, is an essential contribution to the safety of those patients.

Now, let me ask you this, Dr. Abdellah. Is the rule or rather the provision that a fire-resistant building does not have to have a sprinkler system, is that a rule and regulation of HEW, or is that a statutory requirement?

Dr. ABDELLAH. It is part of the requirement of the code.

Mr. PEPPER. Is that passed by the Congress or promulgated by HEW or by some other department of Government?

Mr. MOREHART. My name is Jonas Morehart, Office of Facilities, Engineering, and Property Management for HEW.

Your question has to do with who promulgates the Life Safety Code? It is the National Fire Protection Association, a private nonprofit association consisting of about 35,000 members of the fire service, health care facilities, and so forth.

Mr. PEPPER. You mean there is a rule or regulation promulgated by a private association?

Mr. MOREHART. This is a national consensus standard.

Mr. PEPPER. Well, is it embodied in any rule or regulation of HEW?

Mr. MOREHART. No, sir. It is embodied by reference in the Social Security Act.

Mr. PEPPER. You mean the Social Security Act also authorizes the fire association to lay down fire protection criteria?

Mr. MOREHART. It refers to the standards as a national consensus standard.

Mr. PEPPER. What I am getting at is this: I presently believe that we should not provide any Federal money from medicare or medicaid to a new nursing home if it does not have a sprinkler system in effective operation.

Do we have to have legislation to do that, or can HEW simply eliminate the criteria of fire-resistant construction, which itself unfortunately eliminates the necessity for a sprinkler system?

Can you eliminate the practice of improper "fire-resistive" definitions which you have observed in the past?

In other words, will it take legislation to accomplish what we are looking for, or can it be done by regulation by the appropriate department of Government?

Dr. ABDELLAH. Mr. Chairman, the Life Safety Code which is recommended by the National Fire Protection Association, is the Code which the Secretary of Health, Education, and Welfare follows so that this is a mandate by Congress. Therefore, there would have to be legislation in order to carry out your wishes.

Mr. PEPPER. Now, wait a minute. What is the answer to my question?

Can the change be effectuated by rule or regulation, or does it have to be by statute of the Congress?

Dr. ABDELLAH. It would have to be by statute of the Congress because at present, the statute reads that the Secretary apply the Life Safety Code of the National Fire Protection Association.

Mr. PEPPER. There was one surprise that I got, Dr. Abdellah, from your testimony, the actual surveys of these nursing homes is not made by Federal officials but by State officials, and apparently they report to the Federal Government. Is that true?

Dr. ABDELLAH. Yes, Mr. Chairman, that is true.

The Department does not have the manpower to do the actual annual surveys for all facilities.

Mr. PEPPER. But it is Federal money being put into these nursing homes, is it not?

Dr. ABDELLAH. Yes, sir.

Mr. PEPPER. Well, I think you should be provided with the personnel to protect the proper use of Federal moneys.

How many billions of dollars go into Federal payments through medicaid and medicare to the nursing homes?

Dr. ABDELLAH. $3 billion.

Mr. PEPPER. In other words, we are spending $3 billion a year.

How many people are in the nursing homes under the Federal program?

Dr. ABDELLAH. There are 1.1 million persons.

Mr. PEPPER. 1.1 million people in these nursing homes and we are paying $3 billion a year to keep the people in these nursing homes,

yet you say the Federal Government does not have the personnel to see to it that our money is properly spent, and the people in there properly and safely protected.

Dr. ABDELLAH. May I point out something?

Mr. PEPPER. I am not saying it is your fault. Somebody is at fault for not providing inspection as to where the Federal money goes.

Dr. ABDELLAH. I do not mean to imply the Federal Government does not carry out any inspections.

Through our 10 regional offices, these facilities on a sample basis do have routine validation surveys, but we do not carry out the annual survey.

This is a State responsibility for which the Federal Government reimburses the States.

Mr. PEPPER. I am sorry, Dr. Abdellah, and you other witnesses, but I have to go for another engagement, but others will carry on. I thank all of you very much.

Mr. HAISLIP. Just to respond to which Federal funds are funneled to the States when the States make certain representations, by statute the States have the responsibility for administering the medicaid program, so they have this particular responsibility with regard to medicaid funds.

It is a different situation with regard to medicare. There again, this is a matter that is mandated by law and it would be necessary that we have a basic change in the character of this statute.

Mr. WEINER [presiding]. Mr. Abdellah, or any of the other members of the HEW panel, you say you are providing training and consultation to State surveyors on an ongoing basis.

HEW has been phasing out the surveyor training program. We understand you might phase out Tulane's excellent program and we have seen what they have accomplished.

I agree with your assessment of the surveyor training, so is not this phaseout inconsistent with your stated goal?

Dr. ABDELLAH. I realize that there have been misleading reports about Tulane.

Mr. WEINER. Are they going to continue?

Dr. ABDELLAH. At the moment, that is our only facility for training of State surveyors.

I see no choice for us to have that facility continued.

My colleagues in the Social Security Administration, the Rehabilitation Service, have recommended that that effort be continued.

There are plans to establish a Federal institute locally which is in the planning process which has some strength in that it would certainly pull upon Federal personnel and the faculty and also eventually reach out to the whole training effort.

We are committed to the training of State surveyors and we must have the training component.

I personally have recommended that this training effort at Tulane be continued. We have nothing to substitute for it, as yet.

I see no other alternative to that, Mr. Weiner. I do not wish to say that the program cannot be strengthened.

We recognize that there are problems in that situation, but at the moment that is the only one we have.

Mr. WEINER. I just want to make clear in my own mind because we have been talking about it and they are very, very upset.

That program will not be discontinued, is that right?

Dr. ABDELLAH. What I am saying is, I have recommended, as my colleagues in social security and SRS, that it be continued.

I personally have no control whether it is continued or not.

Mr. WEINER. You do not know what is going to happen?

Dr. ABDELLAH. As of this moment, it is still continuing. I have not heard that it is not.

Mr. WEINER. All right, in 1975, GAO recommended that you establish waiver standards for all nursing homes regardless of construction type to insure that sprinkler waivers did not adversely affect patient safety.

Evidently, the department did not accept that, and I read it is still your position.

Can you explain why and how you can insure patients' safety without minimum standards?

Dr. ABDELLAH. I call on Mr. Morehart.

Mr. MOREHART. The question of waiver standards which has come up here has to do with a very specific criterion that was developed for waivers for a one-story, protected wood-frame construction.

This was a very pressing need and it was developed. If criteria or standards were to be developed similarly for other types of buildings it would put a very severe restraint on the individual surveyor or the individual office making the waiver, and some types of facilities would not be able to qualify for the waiver because of these guidelines, whereas from a commonsense standpoint, they should have a waiver.

Mr. WEINER. But you are intending to promulgate any specific regulations that state what should be. You are on a case-by-case basis making a decision, so perhaps things like Chicago can happen again.

Mr. MOREHART. If every facility could be designed and built identically and operated identically, then you could begin to draw up uniform guidelines for this.

Mr. WEINER. In your opinion, do you not think the possibility of automatic sprinklers is working and do save human lives?

I am still not clear about your position on this in my own mind.

Mr. HAISLIP. I am sure OMB would have an opinion.

I think the problem here is one of taking a particular piece of resource—here, we talk about $600 million—and deciding how a maximum benefit can be achieved in terms of helping a class of people.

Now, I think Dr. Abdellah would be delighted, if you wish to listen, to give you long lists of deficiencies that need to be corrected in nursing homes.

These are deficiencies which also affect people's lives.

Mr. WEINER. It would be very helpful, but perhaps you can provide it later for the record. Would you be willing to do that?

Dr. ABDELLAH. I would be glad to do so.

[The information was later submitted and is reproduced in the appendix, pp. 198–215.]

Mr. HAISLIP. The point is: Which of these deficiencies are you going to cure and how much are you going to spend for them? This particular matter—fire safety—while extremely important, is, alas, only one of many deficiencies.

There are deficiencies in nutrition and quality of care and surveillance and many other areas which also result in people dying.

Mr. WEINER. I agree with you completely on the total of the Federal allocation dollars, but I would like to relate one personal experience having gone around to various nursing homes, having visited with residents. If you ask a patient what concerns him most about his care in a nursing home, he will generally say two things—it is fine, but not like home, and No. 2, he will say fear of a fire because they have seen and heard the stories about the Chicago fires.

They are just deadly afraid of fire, and it just seems to me that on a psychological level, if you are going to provide some kind of happiness in their twilight years, let them be assured of safety.

Mr. HAISLIP. It is very important. We agree.

Dr. ABDELLAH. One should consider balancing priorities with the limited health dollar—where funds and resources should go. We recognize that the sprinklers do save lives, and ask that consideration be given to the recommendations of the National Bureau of Standards, the report that will be coming out if we find that their recommendation is sustained it may be that sprinklers are only needed in corridors and hazardous areas.

Mr. WEINER. When can we have that report?

Mr. MOREHART. We anticipate probably at least another year, although it is part of a 5-year contract which is about 1 year down the road.

Mr. WEINER. We have to wait 1 year? Really, Mr. Pepper's point about the need to avoid delay and act promptly is very valid here.

Mr. MOREHART. If I may, I would like to set the record straight concerning what was said earlier this morning, and that is, that the human element is failing. I cannot agree that this is the case because we are having at least 10 fires in nursing homes every day of the year.

If the human element was always failing, then you can see the number of disasters that we would be faced with.

The fires we are having are accidents, and just like automobile accidents, we have millions and millions of miles driven every year when no accidents ever happen.

This is a case of multiple loss of life, and this is all we are talking about; we are not talking about the several hundred single fatalities from a fire. We are talking about 25 lives per year and the amount of money, whatever it may be, if put on other health care programs, could result in considerably more savings of life.

Mr. WEINER. Well, I think the Senate committee, if I read the summary of their report accurately, has statistics that show they are three times more heavily involved in deaths from fire as the general population as a whole.

It should be a priority. In addition, it is the single most important thing to an elderly person in a nursing home.

Mr. HAISLIP. It is a priority.

Mr. WEINER. You awarded HEW's contract to the American Health Care Association for their safety code.

What were their requirements relating to sprinklers?

Mr. MOREHART. This was a contract to the American Health Care Association? Did I understand you correctly?

Mr. WEINER. Yes.

Mr. MOREHART. As I recall, this was a series of tests, six tests; the entire building burned down.

One of the things the tests did show was that the sprinkler could effectively control the fire and confine it to the room of origin.

There is no question in my mind as a professional fire protection engineer about the effectiveness of the sprinkler system; its effectiveness is proved by 100 years of statistics. But the question that really bothered me as a professional is, we are looking at these sensational media-reported cases of multiple fire deaths, and we are not giving due consideration to solving the problem of the individual.

Mr. WEINER. For HEW, why did it take over 6 months to process the four loan applications cited in the GAO report?

Do you not think this long processing time creates a problem for nursing homes trying to make corrections within the allotted time for correction?

Mr. HITT. I am Marvin Hitt, Director, Office of Long-Term Care Standards Enforcement, and I will try to respond to your question.

I think there are delays in the processing. When we receive letters of interest in our office, we catalog them, and send out packaged materials to the inquirer. The packaged materials consist of a handbook and some of the material referred to and other correspondence.

Sometimes the providers respond immediately with other materials, and the materials they send to us might be obsolete from the standpoint they need updating.

We feel we had to make an outside inspection so we could certify to HUD that if this project was completed the facility would be in compliance with fire regulations. All of these things create some delay.

When we received plans for engineering and architectural appraisal, many times our regional engineers decided they needed additional information and they would have to go back to the provider and again we would have a time delay.

Sometimes, they just would not respond. This is beyond our control.

Mr. WEINER. Well, we have some questions on HUD on these situations also.

Again, for HUD, since you rely on validity of State inspection reports for medicaid and medicare certification, could you not rely on them for the HUD insurance program?

Why the timelag on that?

Mr. HITT. Well, that is a possibility, yes.

Mr. WEINER. Could that be done?

Mr. HAISLIP. We would have to supply that for the record.

[The material was later submitted and is reproduced in the appendix, pp. 216–228.]

Mr. WEINER. Is there any reason why it would be part of a statute since you are determining the process?

Dr. ABDELLAH. As the program was developed, we had recommended HEW involvement in the architectural review and survey because, although some States have qualified people to do this, there are many States which would not have qualified people to carry out their architectural survey. It was the intent of HEW to be helpful by providing the expertise to those States where it was not available.

Mr. WEINER. Well, OK.

Mr. HITT. I think too, if I may add, we did not rely totally on the States for this survey certification effort.

That is part of it, Mr. Weiner. They send the product of those surveys to us and we monitor the process, so it is not a total reliance on the State.

Mr. WEINER. That is what it seems to me, too, in view of the fact of HEW's great involvement here, obviously.

Certainly, with consultation, this would give at least a key to the process.

I believe that this is also recommended by the General Accounting Office.

Would you give us some examples of the situation which might exist at the qualifying nursing home in meeting a reasonable hardship requirement for a waiver?

Dr. ABDELLAH. Do you want to respond to that, Jonas?

Mr. MOREHART. Would you rephrase the question, please?

Mr. WEINER. What qualifies for a waiver in terms of unreasonable hardship?

Mr. MORELLI. If I might clarify the question as I understand it, under what grounds would a waiver be issued?

Dr. ABDELLAH. This is Mr. Morelli of my staff.

Mr. MORELLI. Our basic criteria are that a waiver may be issued if it will not adversely affect the health and safety of patients and would not result in undue hardship on the facility. I think your specific question is what would constitute an "unreasonable hardship" on the facility.

We have some guidelines we have developed, and these are in survey manuals.

One thing we look at is the estimated cost of correcting a deficiency: What would it cost to install a sprinkler system, if that is a deficiency.

Additional considerations would be the extent of destruction to the existing building, disruption of services to the patients, the availability of financing in that area, and the remaining useful life of the building. In other words, is it worth making that expenditure if the building is an old one?

Mr. WEINER. If I might turn to another matter here, Mr. Hipps, I would like to ask on what grounds does the Department support its position that it should not grant loans when the project had been begun, even though the loan is in effect?

Mr. HIPPS. That is the interpretation made by the General Counsel of the language of section 232 of the National Housing Act.

Mr. WEINER. But it is an interpretation, not in the statute.

Mr. HIPPS. That is their legal interpretation of the language of the statute.

Mr. WEINER. Would you be kind enough to supply us with a memorandum which they issued, making that interpretation?

Mr. HIPPS. Yes.

Mr. WEINER. Thank you.

[The memorandum follows:]

HUD-96 (4-72) PREVIOUS EDITION MAY BE USED

Memorandum

U.S. DEPARTMENT OF
HOUSING AND URBAN DEVELOPMENT

TO : George O. Hipps, Acting Director
Office of Underwriting
Standards, FT

DATE: JUN 7 1976

IN REPLY REFER TO:
GHM:DC

FROM : William E. Grossman, Multifamily Mortgage Branch, GHM

SUBJECT: Public Law 93-204 - Section 232(i)

This is to confirm previous advice I gave you that a loan to be insured under Section 232(i) is for the purchase and installation of fire safety equipment for a nursing home or intermediate care facility on a prospective basis rather than for equipment already installed in the facility.

I am attaching, for your information, a copy of a letter dated July 11, 1974, from the General Counsel, Robert R. Elliott, to Senator Philip A. Hart. In his letter, Mr. Elliott sets forth the Department's legal opinion that Public Law 93-204 ". . . does not authorize the insurance of loans to reimburse owners of nursing homes for previously purchased and installed fire safety equipment. . . ."

Assistant General Counsel

Attachment

Director
Multifamily Underwriting
Division

JUN 9 - 1976

RECEIVED
Referred to

Director, Office of
Underwriting Standards
JUN 9 1976

JUL 11 1974

2386(1) Fire Safety Hearings

Honorable Philip A. Hart
United States Senate
Washington, D.C. 20510

Dear Senator Hart:

This is in response to your letter of June 18, 1974, on behalf of Mr. Jerry C. Kole of Town and Country Nursing Home, Inc., who has requested that the proposed regulations for HUD-insured loans for "Fire Safety Equipment in Nursing Homes," be amended to provide for insurance of loans on fire safety equipment which has already been purchased and installed.

These proposed regulations implement Public Law 93-204, which authorizes the Secretary to insure loans "... to provide for the purchase and installation of fire safety equipment ..." In our view, the statute does not authorize the insurance of loans to reimburse owners of nursing homes for previously purchased and installed fire safety equipment and the proposed regulations properly provide for loan insurance only for prospective installation and purchases.

In response to your question, amending the statute to provide for loans covering fire safety equipment purchased and installed prior to the effective date of the statute, or the regulations implementing the statute, would be legally possible. However, we do not believe that it would be generally desirable to depart from the pattern established for all other mortgage and loan insurance programs under the National Housing Act in which commitments to insure are only issued for work to be performed prospectively. This procedure enables HUD to determine not only the acceptability of the construction to be performed but also the financial feasibility of insurance of the indebtedness in relation to the prospective value of the security.

We recognize that Mr. Kole was faced with the dilemma of meeting fire safety requirements, without a then-existing federal program of loan insurance, and may have had to finance the purchase and installation under less favorable terms than may be obtainable when the final rules are made effective. However, making the program available for refinancing of indebtedness or expenditures already incurred, we believe would go well beyond the objective of providing federally insured financing for the prospective purchase and installation of fire safety equipment for nursing homes which might not otherwise be able to finance the purchase and installation of required equipment.

Sincerely,

/s/ Robert R. Elliott

Robert R. Elliott

Mr. WEINER. Why do you believe that no loans have been insured under the program?

Mr. HIPPS. I think there are probably several reasons.

Recalling back to the time the program was being considered and developed, it was clear from some of the information and comments received from the people in the nursing home industry that the type of program provided was not what they thought they were going to get.

Really, many of them, Mr. Weiner, believed that they were getting a grant program. They did not really understand that this was a mortgage insurance program and that it required the participation of private lending institutions.

This is the type of program that has not been particularly attractive to mortgage lenders, although we encourage their participation.

This type of loan is not one that is typically made by a mortgage banker.

Mr. Weiner, you must remember that mortgage bankers originate the bulk of the loans insured by the Federal Housing Administration.

Those, I think, are the primary considerations.

Mr. WEINER. In your opinion, could this loan program, the insurance program work?

Mr. HIPPS. Can this insurance program work?

Mr. WEINER. Yes, Obviously, it is not working now—no loans.

Mr. HIPPS. I do not think that the program is going to work any better than it has now.

I think probably the reason it has not worked is more related to the fact that it is easier to do business with a conventional lender than it is with the Federal Government because of the typical red tape.

Mr. WEINER. It is difficult in the private loan market also.

Mr. HIPPS. The interest rate is 9.25 percent right now.

By regulation, that interest rate was established at one-quarter of 1 percent above whatever the current interest rate is for a multifamily mortgage in the FHA insurance program and is currently 9.25 percent.

I understand that kind of money is obtainable to those who have the financial wherewithal to obtain it in the marketplace.

Then you have to find a lender willing to make the loan and although at the time a program was implemented and announced, there was some initial interest on the part of a very small number of mortgage bankers about the program that interest never continued.

Mr. WEINER. Let me ask you the same question Congressman Pepper asked GAO earlier.

In view of the problems, perhaps direct loans would be a more efficient way to do it.

What would be your reaction to that?

Mr. HIPPS. I cannot respond to that. I think before you can answer that kind of question, you really need to do a complete analysis of the benefits and drawbacks of direct loans and things of that nature.

Mr. WEINER. Would it be possible for your department to provide a staff study on your opinion on this?

Mr. HIPPS. I presume it can be done. It would take a good deal of time.

Mr. WEINER. One other question. There is another loan program, too, according to the GAO in their report.

Why have regulations to implement the Housing and Community Development Act of 1974 not been published?

According to our information, this act gives you the authority to insure loans for projects which have begun.

Mr. HIPPS. That program is under title I of the National Housing Act.

It is my understanding that some of the considerations that went into the delay and implementation of the program really relate to the characteristics.

There again, you are typically dealing with the title I programs of HUD with home improvement lenders.

Those type of lenders are typically not making the kinds of loans involved here and the dollar amounts envisioned.

It was also felt that since the experience with the program under section 232 had been as it has been, that if the program under section 232 was not working well, there was no reason to think that the one under title I would work either.

You also have to remember under title I the lender who makes the loan is taking a coinsured risk, unlike the one under title II where the lender is protected up to 100 percent of his investment.

It makes it even more unlikely that many lenders would be too anxious to engage themselves in that kind of a coinsurance risk, given the dollar amounts of the loans that you can anticipate.

Mr. WEINER. Is it your intention to issue regulations?

Mr. HIPPS. I believe it is, yes, sir.

Mr. WEINER. You have any idea when?

Mr. HIPPS. No, sir, that is not in my area of responsibility.

Mr. WEINER. I appreciate that.

Well, that concludes my questions.

I just want to thank you, Dr. Abdellah and your associates, on behalf of Chairman Pepper for a very thorough, as always, presentation.

You come with an army of preparation and it is very difficult for us to match, but we really appreciate all the work you have put into it.

Also, Chairman Pepper is very grateful for your change of the title of the Office of Nursing Home Affairs to the Office of Long-Term Care to reflect greater Federal concern with developing alternatives to institutionalization.

We are very grateful that on extremely short notice, Mr. Hipps, that you have provided your testimony today. We know it was unusual. We are grateful to you and your shop for putting it together in a week. I now yield to my very distinguished and brilliant colleague, Val Halamandaris.

Mr. HALAMANDARIS. Four or five years from now, somebody will likely look back and see why nursing homes are not sprinklered and wonder why. Today's record will be available to show our resolution that they should be, along with your opposition to the requirement, based on fear of the potential cost of installation.

I have a couple of questions I would like to address to Dr. Abdellah.

In your research paper last year you suggested that two-thirds of the nursing homes of this country have four or more deficiencies.

I wonder if there has been any improvement in that, do you feel encouragement in what you have seen this past year?

Dr. ABDELLAH. Yes; I am very much encouraged. In fact, in view of our discussions, we have seen major improvements in the area leading to requirements for the Life Safety Code.

I would like to see much more emphasis on activities in relation to improvement of the quality of care, the level of care, provided. In relation to this, our undersecretary, Mrs. Lynch, announced last February phase II of the long-term care strategy campaign which is focused on services needed and provided to patients and residents. Because of the encouragement and changes in meeting the Life Safety Code requirements, we feel there should be greater emphasis on quality of care.

We do not hear about those patients who die from poor quality of care. This aspect must be addressed.

Mr. HALAMANDARIS. We all endorse that effort. However, I think we would be remiss in our duty if we did not suggest that we proceed on the other front as well. We must continue the effort to achieve fire safety in nursing homes. We do not want to lose the gains made in that direction.

Last year GAO mentioned, and, Dr. Abdellah, in your testimony reiterated the same point, that many States are relying essentially on untrained individuals to make fire safety surveys.

I am talking about using sanitarians, nurses, and policemen who make judgments as to fire safety.

Can you tell us for the record what has been done to require the States to use qualified inspectors?

Dr. ABDELLAH. Yes; I would be very happy to submit our report that was prepared by the Bureau of Quality Assurance in our Department that details the qualifications of the State surveyors.

[The report was submitted and is reproduced in the appendix, pp. 223–295.]

Dr. ABDELLAH. I am very much encouraged by their report. For example, more than half of the State surveyors today have a minimum of a B.A. degree and have specific training in survey techniques.

Much of this is picked up through the efforts out at Tulane, and some of the earlier programs.

Also, one might categorize about two-thirds of these individuals, as professionals. For example, there are 41 physicians who are doing State surveys, over 400 professional nurses, social workers, and hospital administrators.

Of about 2, 200 State surveyors, only 127 of those do not identify with a specific health discipline. There is a major change from 2 years ago and I am encouraged that most of the surveyors are committed health professionals.

Mr. HALAMANDARIS. The point is a little more specific than that.

I recall in the survey last year, we learned that 22 out of 24 inspectors in 1 State were retired Army officers.

I have nothing against retired Army officers. They may even have had a strong background in health.

My point is, they do not have an engineering background or other training which would qualify them to appropriately apply fire safety standards.

Do you see that as a problem?

Dr. ABDELLAH. Yes; of course, and many States do have very qualified individuals doing this; in each of our regional offices there is a qualified fire safety engineer. In some cases, there are three, some from a Federal level. We do have a very good picture in terms of qualified safety engineers.

In some States, some are fire marshals with limited training, but in most States, we find many of them are participating in the life safety code training courses at the local, State, and individual level.

I think the picture is changing, and I want to mention one important point that was brought out this morning. I see, as I am sure you do also, the change in involvement of industry, in this effort, the American Health Care Association has issued fire safety training manuals. They have also issued, at their own expense, a set of training manuals in patient assessment for some facilities.

I have persuaded them to shift some of their public relations money into the training effort of fire and safety for nursing home personnel. I think that there is greater understanding and an improved working relationship between industry and the States and Federal Government.

Mr. HALAMANDARIS. Good. In terms of the medicaid program it seems to me the Department of Health, Education, and Welfare is in a difficult position. Anyone trying to administer that program gets whipsawed between the Congress and States.

Have any of you reached any personal decisions about changing the nature of the medicaid program?

Have any of you reached the point where you believe direct Federal enforcement is either necessary or prudent or desirable?

Dr. ABDELLAH. That is a hard one. I think we certainly would not in any way relinquish our responsibility for monitoring our capability.

Mr. HALAMANDARIS. I just want an informal response. It is my thought that perhaps direct Federal enforcement would help.

I wonder if that concept would be supportable. Do you find it desirable?

Mr. HIPPS. Well, you have raised such a fundamental question.

In some ways the medicaid program suffers from dualness dilemma.

It is basically a State program, but yet it has a lot of Federal involvement.

It is never clear who has the final say on these particular measures, and the Federal Government does attempt to fulfill its responsibility, but again recognizes that administratively it does not have that responsibility.

The administration has proposed turning it over to the States with broader latitude to clarify. I think the question is just where you come down philosophically on the question of State and Federal relationships, and to what degree do you believe there is confidence in those two different approaches, and who do you think is closer to the problems.

There has been a lack of money in the States to do much about that. The proposal which would clarify that, and provide them with money, could change that picture.

There have been dramatic increases in State capability across the board in the last decade, relative to the past.

It is not an answer.

Mr. HALAMANDARIS. It is an intriguing problem, and I think it is one the Congress is currently grappling with.

We have the administration's proposal, and some others, but we can discuss that point at some different time. However, I am stating my own preference. I am starting to believe that the States are doing a fine job, but others are performing poorly.

I do not wish to remove the authority to regulate nursing homes from the States, but when you reach a point where we can determine that a particular State is simply not living up to expectations, and not doing the job, then I believe the Federal Government should step in and help the State to meet its responsibility.

Dr. ABDELLAH. That is a problem, and we do have a current obligation in that regard.

We are responsible for the coordination of policy related to the medicaid program, and it is a difficult problem.

You may remember about a year ago we planned to publish a regulation that would strengthen the Secretary's authority in terms of waiver for the Life Safety Code in relation to the medicaid program.

With the exception of the State of Washington, all States agreed not to give the Secretary increased authority in relation to medicaid. There seems to be reluctance on the part of the States to relinquish some of this authority to the Federal Government.

Mr. HALAMANDARIS. I would agree, however, I have a strong sense of déjà vu, sitting here today, and talking to all of you HEW officials about nursing home fires.

I have a long memory of past fires, and talking about them with various HEW Secretaries and personnel.

I must digress to applaud Dr. Abdellah with her efforts, and all of the dedicated people who work with her. However, it seems to me that promises to us made by previous HEW officials were somehow lost within the bureaucracy of HEW.

Senator Moss referred to one of these promises in his opening statement.

I am going to address my comments really to Mr. Morehart because I understand he is the officer in charge of technical standards.

Just to set the stage for you briefly, during our hearings on the Marietta, Ohio Nursing Home fire, we learned of the major role which carpet played in the fire. We learned through testimony at those hearings that the only fire test for carpet was the so-called pill test; a test for ease of ignition, a comparatively ineffective test in terms of flammability. In fact, it allows some 90 percent of the carpet made in this country to continue to be sold in the marketplace.

Second, the Steiner tunnel test was characterized as a more effective test but HEW stopped short of adopting it, saying that the chamber test was the ticket. It was HEW's recommendation we test and study, and wait awhile, and maybe this so-called chamber test was going to be the thing.

Five years have gone by with all this bickering and we still have no standard; now I hear HEW is proposing to use the pill test, and the so-called radiant panel test. The latter is a completely new test; is that correct?

Mr. MOREHART. You have a very good source of information.

The current standards that are in effect now, are those referenced in the Life Safety Code.

This is based on the tunnel test, and we have for many years required appropriate compliance with that.

We are looking at a new standard, or new criteria, which is based on the radiant panel.

This is out for comment now.

One point that you made was that the pill test is inadequate, and I cannot agree; it is a very stringent test.

The pill test probably is responsible for saving many lives in this country, which we have no way of counting of course.

The new standard is based on the radiant panel, which should solve many of the problems.

Mr. HALAMANDARIS. I cannot disagree with you, Mr. Morehart.

If my mother was in a nursing home, with a carpet on the floor, and the only standard that the carpet passed was the pill test as you propose for patient rooms, I would be worried.

I would prefer the more stringent standard, the so-called Steiner Tunnel test which the Public Health Service now requires and has recognized for a number of years. I am wondering why all of a sudden there is a change to a pill test, and then to the radiant panel. I would like to know if the radiant panel test is supported by any recognized authorities such as Underwriters Laboratories?

Mr. MOREHART. The radiant panel test simulates what happens in a corridor situation during a fire from a flashed-over room feeding hot gas into the corridor.

The hot gas travels along the ceiling of the corridor, and heat radiates onto the carpeting in the corridor, which I can only characterize as similar to raising the flash point of fuel oil to a given level.

In an open room you would not have this potential for the concentrated radiation; therefore, the radiant panel test is not applicable to an open area.

As to your concern about the inadequacy of the pill test, the National Bureau of Standards has made a series of tests, where they have actually burned a large piece of furniture, or a large amount of wood in the corner of a room, and measured the difference in the flame spread travel between a mediocre carpet, such as the minimum of the pill test, and the best that we could get, and I believe the difference in flame spread is in the neighborhood of 20 inches.

We are really not buying any additional safety in this 20 inches by making a more stringent requirement on the carpet.

Mr. HALAMANDARIS. Let us talk about the carpeting and other products which were totally consumed by the fire even though they had a low rating.

Are you troubled by the fact that these products, particularly with burning plastics, release toxic gases?

Mr. MOREHART. First of all, concerning the carpeting in the Cermak fire as I recall, there was only a very small amount of scorching in front of the door of the room of fire origin.

There was absolutely no spreading of the fire down the corridor, and I think Mr. Best could probably bear this out.

As far as toxicity is concerned, it is something that was touched on two or three times this morning. A recent study in the State of Maryland has shown that people do not die from these exotic chemicals, they die as a result of carbon dioxide.

Over 80 percent of the fire deaths in the State of Maryland the last couple of years have borne this out, so it does not matter what we have, if it is comfortable, it is going to burn, and anything that will burn will give off carbon dioxide as a matter of course.

Mr. HALAMANDARIS. Do you favor the promulgation of smoke generation standards?

Mr. MOREHART. In our new standard, we have the criteria for smoke development. It is not based on the tunnel. It is based on the new NFPA standard on smoke generation of solid materials. It has just been officially adopted by the NFPA.

Mr. HALAMANDARIS. Will you tell me once again, what is the status of this regulation that you are considering? Is that about to be promulgated?

Mr. MOREHART. The standard is currently out for comment within the Department.

Mr. HALAMANDARIS. I would be very interested in receiving a copy of it if you could send us one.

I know the Senator would like to read it, and react to it formally.

Could you do that?

Mr. MOREHART. Yes, sir.

[The information received is reproduced in the appendix, pp. 296–325.]

Mr. HALAMANDARIS. Thank you very much.

That concludes the questions I have.

Mr. WEINER. I have no further questions. Thank you.

Dr. ABDELLAH. Thank you.

Mr. WEINER. Our next panel is made up of Mr. Ross Richardson, the Assistant Illinois State fire marshal, and we have only one further witness after Mr. Richardson, Mr. Richard L. Best, fire analysis specialist, National Fire Protection Association, he will have a very useful presentation, so I hope our visitors will be able to stay.

Mr. HOLTON. Excuse me, Mr. Weiner. As you know, Francis Murphy of the Chicago Fire Department was scheduled to be here today. He was to report to us on the Wincrest fire, and the findings of Mayor Daley's commission, which investigated the causes of that fire.

Due to illness in his family, he is not able to be a witness here today.[1] Since we do have a copy of the commission's official report, which was issued shortly after the Wincrest fire, we will submit that for the record in lieu of Mr. Murphy's not being here today.

Mr. WEINER. If there is no objection the report will be accepted for the record.

So ordered.

[Cover and pp. 3–13 are reproduced in the appendix, pp. 326–337. A copy of the complete report is retained in committee files.]

STATEMENT OF ROSS RICHARDSON, ASSISTANT ILLINOIS STATE FIRE MARSHAL

Mr. RICHARDSON. My name is Ross Richardson, assistant State fire marshal for the State of Illinois.

We are the State life safety survey for the Cermak House.

[1] Chief Murphy later testified in Chicago, Ill., on Aug. 12, 1976, before the Subcommittee on Retirement Income and Employment of the House Select Committee on Aging.

We also had responsibility for the investigation of the fire that occurred on February 24, 1976, in the early morning hours.

I have a fairly brief written statement, which I will read, and then turn it over to questions.

The intent of fire prevention officials is to eliminate or reduce hazards that cause fires, and to limit the spread of fire and its deadly products if one starts.

The fire official limits fires in buildings by detection, compartmentalization, and extinguishment.

The quicker the detection, the quicker the fire can be brought under control by firefighters.

Compartmentalization serves to contain and isolate a fire within an area or specific room of a building. Extinguishment, of course, provides an automatic system to put out a fire before it can become a threat to the entire building.

All fire safety codes are based on these three principles, including NFPA–101, the code HEW has in effect for all health-care facilities receiving medicare and medicaid moneys, and the minimum standards for long-term care facilities enforced by the State of Illinois.

Under these two codes, automatic sprinkler protection is required in all nursing homes except those deemed to meet fire resistive construction requirements or protected noncombustible construction requirements if a one-story building.

The homes in which the recent tragedies occurred, Wincrest Nursing Home of Chicago, and Cermak House of Cicero, were fire-resistive construction and did not require sprinkler systems under these codes.

Fire deaths and injuries are caused, in the overwhelming majority of cases, by inhalation of smoke and toxic gases.

No one was burned to death at Cermak House or Wincrest. All victims were claimed by smoke inhalation.

The fires were limited almost totally to the room of origin. The construction of the buildings prevented the fire from burning beyond this room. Yet none of those who died were occupants of these rooms. Victims were occupying other rooms, felled as deadly smoke spread throughout the floor.

This occurred because the final link in fire compartmentalization was broken. Although all patient rooms were provided with doors to withstand the spread of smoke and heat, doors were left open, and people within these rooms died. The doors to the rooms of fire origin were left open, failing to contain the fires within those rooms.

What is the single most important fire safety improvement that can be made in nursing homes?

The Illinois Division of Fire Prevention believes that automatic door closers, equipped with smoke detection devices to trigger the closing device at the first whiff of smoke, would significantly reduce these tragedies.

Such a device would automatically contain fire to one room, protecting residents in adjacent rooms while rescue and extinguishment operations swung into action.

If these devices had been installed in Wincrest and Cermak House, certainly the number of deaths would have been reduced.

Sprinkler systems are an effective method of fire control, and the wider their application, the more we will reduce fire losses.

But we believe they are not the ultimate panacea. Most sprinkler heads are set to flow when the temperature at the head reaches 160° F. This leaves the possibility of a smoky, smouldering fire burning without triggering the head.

At Wincrest, the fire started in a closet, which might have shielded the fire from the sprinkler, had one been present. A similar situation existed at Cermak House. Nursing home patients because of age and health are extremely susceptible to smoke, and even though sprinkler systems will control and extinguish a fire when operating properly, they may not adequately control smoke to prevent death and injury. The Division of Fire Prevention is in favor of sprinklers, but we believe that all available fire safety systems must be carefully evaluated before health-care dollars are invested in them.

Another major concern is the heavy loading of patient rooms with combustible furnishings. Modern synthetic materials have increased fire hazards by the speed and toxicity with which they burn. Much work remains to be done in proper testing and evaluation of these materials. These industries must redirect their efforts to provide safer, less combustible materials in furniture construction, not only for nursing homes, but for all building occupancies across the country. We hope the Congress will take action to encourage these industries in this effort.

In conclusion, the Illinois Division of Fire Prevention wishes to stress that although nursing homes are much safer now than in the past, much needs to be done to insure greater levels of safety. We feel door-closing devices on all doors is the most important single step that can be taken, but that the issue is complex and no single action will resolve the problem. As the public becomes more conscious and concerned about fire safety, and becomes willing to expend the effort and money to insure its reality, the tragic fire loss in this country will be reduced, and in time, perhaps eliminated.

Mr. HOLTON. I thank you very much for that fine statement.

Only one or two brief questions. First, do we understand your position to be that you prefer to see smoke detectors and door closers put in place rather than sprinklers?

Mr. RICHARDSON. Yes, and now I am referring to fire resistance and combustible homes that are not now required to have sprinkler systems.

Mr. HOLTON. As opposed to a frame construction.

Mr. RICHARDSON. All other forms of construction, where sprinklers are required, and have been installed.

Mr. HOLTON. Fine.

Thank you.

One final question. As a consequence of these two fires, do you expect the State of Illinois to promulgate any standards with respect to training personnel in nursing homes, or with respect to types of contents in rooms such as vinyl chlorides, etc.?

Mr. RICHARDSON. It is sort of a three- or four-part question. As far as the contents of the rooms, I really believe that is a problem that is centered on the national industries involved, and is not something a State on its own can do anything about.

There is a great deal of work that has to be done, but so far there has really been no impetus to do the job, and that I would hope would come from the national level here.

Mr. HOLTON. I think your point is very salient, especially with respect to the testimony we heard earlier from HEW officials, who wish to delegate their responsibility to the States. As I understand, you are telling us that States are not equipped to do the kind of testing and set the standards necessary that we are talking about today.

Mr. RICHARDSON. Right. As far as fire safety or training goes, I feel this is very important.

In the Cermak fire, the staff failed to take one correct action, which was to close the patients' doors, and many people died as a result, and they had an opportunity to close those doors early in the fire.

We are conducting programs of fire safety training across Illinois. It is somewhat limited, there are limited funds.

I understand HEW does have small amounts of money available for this, and I would like to say certainly, HEW will be able to distribute more money to the State to provide these programs.

Mr. HOLTON. As a licensed nursing home administrator myself, I remember the great emphasis placed by State officials and Federal inspectors regarding the posting of patient evacuation plans.

There were certain other training requirements, those were primarily centered around the use of firefighting devices that were handy in the homes such as fire extinguishers.

I recall very little emphasis being placed by State and city officials or Federal agents on the aspect of door closures.

Mr. RICHARDSON. Our training program is aimed very much at immediately notifying the fire department, letting the fire department handle the fire.

Ignoring the fire extinguishers, whatever else is in there, as much as possible, we go after the other first.

We have a four-part program, where we call it RACE, rescue the patient immediately in danger; sound the alarm, close the doors, and then worry about extinguishment, and at that point the fire department is practically there anyway, so they could do the job.

Mr. HOLTON. Do you feel that nursing home employees should be required to be trained and tested in fire procedures as a precondition of employment?

Mr. RICHARDSON. I do not think you could make any precondition, but I think you could certainly institute a training program within the first 2 weeks or first month to nursing home employees on the job.

You are talking about somebody who is making a minimum wage, and possibly lower, and one of the big problems is the turnover involved; one of the things we found that Cermak House was—almost all of the employees had been there no longer than 6 months, some as short as 1, 2, 3 months.

Mr. HOLTON. What you are saying is that there should be some kind of fire training within the first 2 or 3 weeks after a person is employed in the nursing home.

Mr. RICHARDSON. Yes, some sort of mandatory training program.

Mr. HOLTON. Did you make that recommendation to the appropriate State officials?

Mr. RICHARDSON. We are working on that.

Mr. HOLTON. I have no further questions at this time. Thank you.

Mr. WEINER. I have a couple of questions.

You said that smoke detection devices should be encouraged, those that trigger something at the first whiff of smoke.

Do you want to define that?

Mr. RICHARDSON. Smoke detection devices are not enough. You have to have innovative devices which will trigger when there is even no visible smoke at all. The device I am speaking of is one that has come out, that is a door closer, incorporated with the smoke detector in it, which can be set at any opening.

Now, nursing homes have a tremendous objection to this particular device. They say people had to keep their doors closed, they cannot push the dooor open, they get caught in the doors, but the state of the art has gotten to the point where the pounds of pressure to open the door are low, where the door can be set at any opening, small or wide.

Mr. WEINER. You said at Wincrest the fire started in a closet.

Would a smoke detector be placed in a closet?

Mr. RICHARDSON. No, the smoke detector would be placed in a room, or at the doorway.

Mr. WEINER. So regardless, the sprinker would put it out just as fast or faster.

Mr. RICHARDSON. Not necessarily.

Mr. WEINER. Will you explain why?

Mr. RICHARDSON. I did it in my statement, that certain fires are not going to trigger enough heat to quickly set a sprinkler system off, and because of the placement of heads, you may get a fire going in an area where the sprinkler cannot effectively combat it.

Now, it is going to control the fire, there is no doubt about that, but the question is how much smoke is going to generate while it is controlling the fire.

That is the big danger.

Mr. HOLTON. I might just say it looks like we have two issues, one emphasis for smoke control devices, and the other emphasis for sprinklers, as the means of keeping temperatures low, and to retard flash over from taking place.

After having seen a large number of related documents over the last several months, it appears that we would be making a desperate mistake to try to rely totally on a single system. What we do in fact need is a fail-safe system that will allow several kinds and levels of defense.

Mr. RICHARDSON. Now, my point is, taking the Cermak House, that is where I was most intimately involved with, if there had been a door closer on that door, or if the door had been shut by a staff member, the fire never would have burned beyond the room, it would not have threatened anyone else on the floor, and I am very certain that no deaths would have resulted.

On the other hand, Ohio has adopted the complete sprinkler bill, and what they are getting now is a lot of nursing homes being built to be protected, and then you have the problem of concealed spaces, combustibles in concealed spaces, and when you are an inspector looking at a home already constructed, it is difficult to determine whether there are fire hazards in those spaces.

Mr. WEINER. Can you compare the fires in nursing homes with sprinklers to ones without sprinklers, and will you speculate on the potential damage on fires where sprinklers are utilized?

Mr. RICHARDSON. I believe a fire can be caused by improper use of materials, and I know of this one fire that was caused by a mattress so that there would have been a clear shot in the mattress to the head, the head would be triggered, and it would have put that fire out.

The sprinklers are very effective. I do not mean to say that they are not, but the impetus in the health industry is saying we want sprinklers, we want sprinklers, but they want everybody to, you know, back off with the other requirements of the Life Safety Code, and I think you will get some protection, but there still will be enough smoke to kill people.

Mr. HALAMANDARIS. What you are saying is that sprinklers are not a panacea, that you cannot abandon the rest of the requirements of the Life Safety Code.

Mr. RICHARDSON. That is my personal opinion.

Mr. WEINER. From your investigation and also, from your opinions, both before and after the fires in Chicago, did you find the Wincrest and Cermak homes in compliance with Federal Safety Code requirements?

Mr. RICHARDSON. The Cermak was.

In my opinion, it was an outstanding building.

Mr. HALAMANDARIS. Thank you.

The other was not?

Mr. RICHARDSON. The Wincrest was not.

Mr. WEINER. Thank you very much.

Mr. RICHARDSON. Thank you.

Mr. WEINER. Our final witness is a real expert in the field.

Will Mr. Richard L. Best please come forward?

Mr. Richard Best is with the National Fire Protection Association.

We do thank you for coming, Mr. Best, and would you please introduce your associates.

STATEMENT OF RICHARD L. BEST, FIRE ANALYSIS SPECIALIST, NATIONAL FIRE PROTECTION ASSOCIATION, ACCOMPANIED BY MARTIN GRIMES, ASSISTANT VICE PRESIDENT, NFPA; AND JOHN SHARRY, LIFE SAFETY CODE SPECIALIST, NFPA

Mr. BEST. Thank you very much, Mr. Chairman.

On my right is Mr. Martin Grimes, assistant vice president, and on my left is Mr. John Sharry, who is our life safety code specialist at the NFPA.

Mr. SHARRY. Thank you very much.

Mr. Chairman, frequent references were made this morning to the Life Safety Code of the National Fire Protection Association.

I would like very, very briefly to indicate that these codes are developed on a consensus standard system, with a committee, which has a public review and comment period, and then which creates a total adoption.

The association has numerous activities. We produce some 225 codes related to fire protection, and we in addition have published many supplementary materials and are involved in research, and the

Life Safety Code, particularly, has been the result of many years of work that we have developed.

It is in fact a total system, and one that has been greatly needed.

Any one element is supplementary or complementary to the other element.

To take one item in isolation as the last witness clearly illustrated would be wrong, and it is very important to remember this, when one talks about the value of sprinklers, and the need for other devices, to consider everything as an interaction, right from the training aspect, right through to the mechanical automatic aspects of it.

Another function apart from standards of the NFPA is in their investigation in depth of fire significance.

These investigations are carried out as best by Mr. Best, will give information on fires, and they are carried out in depth, not just for the purpose of finding out what happened in that particular fire, but too in feeding the research to various people involved in research, and to assess the performance of the standards.

Bear in mind that these standards, the Life Safety Code in particular, has been applied to State and local ordinances for a longer period than used by Federal agencies.

In that time, there has been an evolvement of the standard, and it is a continuing dynamic process.

The standards used have been reviewed every 5 years, and the Life Safety Code is generally reviewed in 3 years.

The only other aspect is the NFPA codes are developed by the NFPA, they are proposed, and this has been available for adoption by Federal, State, or local officials, and then by industry.

Thank you.

Mr. HOLTON. We appreciate your comments.

Mr. BEST. Thank you.

Mr. Chairman, the National Fire Protection Association was organized in 1896 and has continuously addressed the problems of fire safety since its inception.

With a staff of 220, it serves not only a membership of 33,000 persons drawn from the many disciplines involved in fire protection, but also the public at large.

The activities of NFPA range over the entire spectrum of fire prevention and control. The two particular activities relevant to this testimony, however, are NFPA's standardsmaking process and the investigation and analysis of fire behavior and effect.

The 225 codes and standards related to fire are produced by utilizing a balanced representative committee procedure, with a public review and comment process. Standards are developed on the basis of engineering design, technical expertise, human susceptibility and reaction, and fire experience. The standards are dynamic in that they are continuously revised as need is determined and technology advances.

One of the standards is known as the Life Safety Code, which promulgates minimum standards for protection of life from fire and other emergencies. This standard is widely used by Federal, State, and local government by adoption by reference or by inclusion in regulations or ordinances.

The other relevant activity is the in-depth investigation of significant fires with a view to further analysis for both research purposes and also to determine the effectiveness of NFPA standards.

Many such investigations are carried on in association with the National Bureau of Standards and, more recently, the National Fire Prevention and Control Administration.

The NFPA Analysis Department, in cooperation with the National Bureau of Standards, conducted an investigation of two recent fires, the Wincrest Nursing Home in Chicago and the Cermak House in Cicero, Ill. Significant factors of both fires will be contained in detailed reports which will be published in the NFPA Fire Journal in the near future. The following is a summary of the significant factors of both fires.

The Wincrest Nursing Home is located in Chicago's north side. The four-story building is of fire-resistive construction with a protected noncombustible roof. The building has enclosed stairways. Heat detectors are provided in the chapel, stairways, and some closets, and one smoke detector in the corridor near the entrance to the chapel. Approximately 42 of the occupants of the building were in the chapel on the top floor on January 30, 1976, when a fire in 1 of the patient's rooms on that floor filled the corridor and chapel with heat and smoke. Reportedly, a staff member of the nursing home has been charged with setting the fire.

The fire started in the area of a wooden clothes wardrobe and ultimately involved the contents of the entire room. Two wardrobes were side by side constructed of plywood with hinged folding doors. Mattresses were innerspring units consisting of 69 percent cotton felt and 31 percent sisal pad. These combustible contents contributed to fire growth and development. In addition, the wallpaper on sleeping room walls consisted of vinyl wall covering, which may have contributed to the smoke production.

Fire damage was limited to the room of origin and the top portion of a closet door across the corridor. The corridor opposite the room of origin sustained heavy heat damage adjacent to and in both directions from the room of origin.

Thirty-five elderly residents were hospitalized as a result of the fire. Thirteen patients died initially, but others have died since the fire, and the total now is 24 dead. No fatalities occurred in the room of fire origin, which was unoccupied at the time of the fire. All residents who died—with the possible exception of two—were located in the chapel.

The Cermak House is located in Cicero, Ill., immediately west of Chicago. The Cermak House fire occurred on February 4, 1976, less than 1 week following the Wincrest Nursing Home fire. This modern nine-story intermediate care nursing home is of fire-resistive construction with automatic closing smoke barrier doors in the corridors and corridor smoke detection. On each floor smoke barriers divided the U-shaped building into a center section and an east and west wing. The west wing housed six patient rooms with four patients per room. A fire in a fourth floor room filled the west wing of that floor with smoke and heat and caused the deaths of eight residents on that floor.

The fire started in the area of a combustible clothes wardrobe in room 421 at approximately 6:30 a.m. At this time, the patients were being awakened and were beginning their daily routine. The cause of the fire has been attributed to a faulty electrical cord to the lamp on the nightstand between the bed and the wardrobe. Combustible material in the room contributing to the fire included mattresses containing 50 percent polyurethane foam plastic and chairs padded with urethane foam plastic.

No fatalities occurred in the room of fire origin. The three occupants of this room were removed by the nursing home staff. The fatalities were from rooms in the wing of origin, except one from the center section who apparently received exposure to smoke during evacuation. Reportedly, this person was suffering from respiratory illness. The corridor smoke doors worked as designed and contained most of the heat and smoke in the wing of origin. Fire damage was limited to the room of origin. Smoke and heat damage extended throughout the wing, with smoke damage in those rooms with doors open. The carpeting in the room of origin was consumed, but the carpeting in the corridor did not burn.

Reports of the Cook County Coroner's Office have been reviewed for 30 of the 32 victims of both fires, and they show that the victims died of smoke inhalation or smoke inhalation complicated by respiratory problems.

Thirteen of the Wincrest victims died on the day of the fire, and all 13 deaths were attributed to smoke inhalation by the coroner's physician. Most of the 11 other casualties died during the next 2 weeks from smoke inhalation complicated by respiratory problems—including pneumonia—or heart condition. The average age of these victims was 80 years old.

The coroner's report of the four Cermak victims who died on the day of the fire showed the deaths as smoke inhalation. The other four residents died later. In three cases, the cause of death was listed as smoke inhalation. In the fourth case, the victim died of smoke inhalation and extensive burns. The average age of the victims was 75 years old.

The multiple death fire problem:

The Wincrest and Cermak fires exhibit similar characteristics in their place of origin, contents involvement, rapid growth and development, smoke spread resulting in untenable conditions, and their tragic results.

Both the Wincrest Nursing Home and the Cermak House fires originated in a resident's sleeping room. The combustible contents of the sleeping rooms at both fires contributed to the severity of the fires and to the large quantities of toxic smoke produced.

Fire damage was essentially confined to the rooms of origin. The construction of the walls, floors, and ceilings was adequate to confine the fire to these rooms. The door openings between the rooms and corridors were the weak links, allowing the spread of smoke and toxic gas, resulting in the tragic multiple fatalities.

Some of the methods of reducing the risk of multiple death fires in fire-resistive nursing homes include: smoke detection, smoke control systems, reduction of combustible contents, door closers, sprinkler systems, and increased staff training. These are measures that can alleviate the multiple death fire problem in nursing homes.

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The NFPA Life Safety Code stresses the need for a written institutional firesafety plan, regularly conducted fire exit drills, and provisions for the isolation of fire by the closing of all doors adjacent to a fire. If the doors to the rooms where the fires started at Wincrest and Cermak had been closed and had remained closed until the occupants had been evacuated and the fire departments had responded, the unfortunate loss of life in the two fires might have been avoided.

Although door closers are a method of confining fire to the room of origin, they are not without their problems. Even with door closers installed, the sleeping rooms may be entered by staff or firefighters during emergencies to rescue occupants or to attack the fire, allowing the smoke and toxic gases to permeate the area.

Automatic sprinklers, which will both detect and control incipient fires as well as transmit the alarm signal to the fire department, must be considered. The record of automatic sprinkler performance is good. The NFPA records do not include any report of a multiple loss of life fire in a nursing home fully protected by automatic sprinklers. The NFPA Life Safety Code requires automatic fire extinguishing protection throughout all nursing homes with the exception of buildings of fire-resistive or one-story protected noncombustible construction. Although not required in these two types of construction, the code encourages the installation of sprinklers by offering design trade offs which recognize the increased safety to life provided. Life safety will be considerably enhanced by the installation of automatic sprinkler protection in any nursing home regardless of construction.

Amendments to the Social Security Act required that skilled nursing homes and intermediate care facilities that participate in medicaid benefits comply with the NFPA Life Safety Code 1967 edition. These two intermediate care facilities were required to meet the requirements of the 1967 Life Safety Code. An analysis of the conformance of the facilities with the code was made as part of the NFPA investigation. This analysis showed a few deficiencies with varying degrees of impact on the fire problem in these two cases.

In the Wincrest Nursing Home the lack of separation between the chapel and the corridor is considered a major contributing factor to the loss of life in the chapel.

The Life Safety Code requires self-closing fire doors to separate the chapel or assembly area from the rest of the nursing home. Other deficiencies noted included: a 37-foot deadend corridor between the chapel and the nearest stairway, which is in excess of the 30 feet permitted; and a section of exit access corridor 5 feet in width, which is less than the code-required 6-foot width.

In the Cermak House, the most serious discrepancy was a presignal arrangement of the alarm system that did not permit an automatic audible alarm throughout the building. The Life Safety Code specifically prohibits the use of presignal alarm system arrangements. Another discrepancy was a deadend corridor 34 feet long which is slightly in excess of the 30 feet permitted. The effect of the audible alarm arrangement is difficult to measure, but neither of these discrepancies is considered a major contributing factor to the loss of life.

The basic multiple-death fire safety problem in health care facilities as exemplified by these two fires is the failure to confine a fire's resultant heat and smoke to the room of origin.

Fast-developing fires as occurred in the two Chicago area nursing homes produced large quantities of smoke and other toxic gases that escaped from the rooms of origin and caused occupant deaths within the area directly exposed by the smoke and heat of the sleeping room fires—the third floor and chapel at Wincrest and the west wing of the fourth floor at the Cermak House.

The combustibility of the sleeping room contents intensified the problem, providing fuel for fast-developing and heavy toxic smoke producing fires. There was insufficient time for nursing home staff to safely evacuate the occupants from the area directly exposed by the smoke and heat of the sleeping room fires.

Time is of the essence. There is a need to slow the development of the fire or at least confine its effects, somehow; by reducing the amount of combustibles, by closing the door to the room of origin, by eliminating or controlling the smoke or by extinguishing the fire. These measures will buy the necessary time for staff to evacuate occupants to an area of safety.

In conclusion, the technology is available to prevent multiple-death fires from happening. Complete sprinkler protection in all nursing homes regardless of construction in conjunction with other protective features is one solution that would significantly reduce the risk of multiple-life loss.

Thank you for letting us provide the information.

Mr. WEINER. Thank you very much.

Unfortunately, we do not have a screen to see your slide. We had it until about a half hour ago. If you would be willing at some point the next time you are in Washington to provide the staff with a presentation, we would be very appreciative of that.

Mr. BEST. We would be happy to do that.

Mr. WEINER. Just let us know, and we would like to do that where the Senate and the House staffs could both be invited.

I have just a couple of questions. I would like to say you have done a real super A-one job on your investigation, and I think everyone is grateful to you for that.

According to your prepared statement, you seem to support the automatic sprinklers in all nursing homes.

Why then does the Life Safety Code exempt sprinklers?

Do you plan to change the code?

Mr. SHARRY. The Committee on Safety Life Code, the development of the Life Safety Code, felt in these two special superior types of construction, that they should be at a reasonable level of safety, and that could be achieved by offering two alternatives.

One is, of course, the complete compartmentalization, which is included with several other features, and an optional alternative to the automatic sprinklers.

The code is constantly under review, and the committee is currently taking a look at the possibility of requiring simply automatic sprinklers as a complete alternative, rather than complete compartmentalization.

However, since there are other factors involved, we are awaiting the results of a test underway in the National Bureau of Standards.

Mr. WEINER. How will sprinklers prevent death from smoke and toxic acids?

Mr. BEST. Sprinklers have an excellent record of extinguishing fires, controlling and extinguishing fires, although there can be smoke generated in the incipient stage of a fire, and additional smoke developed even though the fire is controlled by the sprinklers, the sprinklers will reduce the amount of smoke produced in a fire, as in Wincrest, there had been sprinkler protection in the room, even if it had not been completely extinguished, and the wardrobe, it would have prevented the burning of the rest of the contents in the room.

It would have reduced the overall amount of smoke.

Mr. WEINER. Does any other method of fire prevention that you are aware of have the same track record of avoiding multiple death situations, as the sprinkler does, either in combination or separately?

Mr. GRIMES. No; the sprinkler record, right from the origin of sprinklers of over a hundred years ago, is being one of preventing multiple life losses.

The only one where the sprinklers were installed, a multiple life loss, is where these sprinklers were rendered inoperative by some individual.

Could I refer to your question about smoke production, the sprinklers will in fact react when that critical temperature occurs, but that allows a sufficient time for a fire to begin to develop before it operates.

The sprinkler then operates over the fire, over the part affected, and it has the tendency, it may completely extinguish the fire, but if it is something like a mattress, or a chair or something, it might continue to smoke, it will not spread, but what it does do in effect of life safety, smoke will go through the building, and I suggest that where there had been a sprinkler, you would have had some smoke coming through to the chapel; however, it would have been cool smoke, because it had to pass through this spray of water, and, therefore, it would not have had the pressure, or the ability to travel so far, and probably not have the same effect.

It probably would irritate, but not have so much lethal gas.

Mr. HOLTON. That cool gas would not be capable of carrying as much particulate matter as well.

Mr. GRIMES. Yes.

Mr. HOLTON. I have several questions I would like to ask Mr. Best. In the course of your testimony, regarding the Wincrest situation, and reading from your text, you said the 37-foot corridor is in excess of 30 feet permitted by the code.

Is that the 1967 edition you are referring to, or is it the 1970?

Mr. BEST. The 1970 edition.

Mr. HOLTON. Mr. Best, you also commented, with regard for the need for separation of that area by some type of door.

Is that once again 1967?

Mr. BEST. The 1967 edition.

Mr. HOLTON. Do you feel that the absence of that door was a key factor in the loss of life?

Mr. BEST. We feel that the lack of doors was definitely a contributing factor.

Mr. HOLTON. In that sense, would you conclude that that facility was in violation of the life safety code?

Mr. BEST. By our interpretation of the code, yes; we feel it was in violation.

Mr. HOLTON. Thank you.

One or two brief questions. The corridor part of the code, which called for doors every so often, my recollection is that the length was about a hundred running feet.

Mr. BEST. 150 feet.

Mr. HOLTON. 150 maximum.

Mr. BEST. Yes.

Mr. HOLTON. Approximately how many patients' rooms could have access to a 150-foot long corridor?

Mr. BEST. A good reference is your Cermak floor plan.

You have each wing, it has a separate smoke compartment, and from the main body of the room is another compartment, and I will give you the exact count.

There were 23 patients in the wing, the west wing.

There were 26 patients in the east wing, and 25 patients in the main section of the building.

We are talking of six or more rooms.

Mr. HOLTON. The point is, based on your experience at the Wincrest fire, do you feel that the standard is adequate, or needs to be further tightened to reduce the number of running feet or open corridor?

Mr. BEST. Our life safety code in this type of occupancy, in this type of construction, is based on the plan, based on the reaction of staff, that the door to the room originally had been closed, and without the door of origin being closed, we have the smoke which is exiting the room of origin, and endangering others.

Mr. HOLTON. With respect to the Cermak fire, it has been alleged that the cause of that fire was an electrical short in a lamp cord.

Apparently the plug was such that when furniture was pushed to the wall, as in normal cleaning procedures, the cord was broken, allowing the short to take place.

Have you had similar experiences with other fires of this kind of origin where personnel pushed furniture against the wall, creating some kind of electrical short?

Mr. BEST. It has not been a major problem to my knowledge.

Mr. SHARRY. I had personal experience as a fire marshal, and I have seen this happen.

Mr. HOLTON. Do you feel the adoption of a plug of different design would protect against that?

Mr. SHARRY. That might be one way of stopping this type of thing. We are starting into an area of what people can do in a building after it is occupied.

It is very hard to control what is going on in the building after it is occupied.

Mr. HOLTON. Nevertheless, we are saying that building usage might tend to reduce the fire safety of the building overall, by changing it.

Mr. SHARRY. Yes.

Mr. HOLTON. One final question; in the Wincrest Home, on the fire floor, I noticed that there was an emergency lighting system

installed, the kind that is the wet cell type, tied into the electrical lines, and triggered to set off in the course of a powerline failure.

It is the kind that has the two-bulb light fixtures attached to it.

That fixture was located relatively near the ceiling, and they had plastic hoods which supported the lights.

It was rendered essentially useless because of the smoke in this location, close to the ceiling, where the smoke was the thickest.

Secondly, the hoods melted, turning the lights down, and making them useless.

Now, in this particular instance, since it was daylight hours, emergency lighting was not critical, and, in fact, I do not think the system was activated.

Would that particular unit based on your examination meet the NFPA standards?

Mr. BEST. Was that your question?

Mr. HOLTON. Yes.

What I am asking, is, does the particular unit and the Wincrest building meet the NFPA standards, and if it does, do you feel the performance was such that those standards should be reviewed?

Mr. BEST. I examined the emergency lighting in the chapel system specifically, and I did not note any plastic hood you referred to.

The units looked like they would be operable, as they were, the lens on the lamp were coated with a black residue, which may have diminished the amount of light, and, incidentally, one of the slides in the slide presentation shows this unit which would be of interest to you.

Mr. GRIMES. Regarding the position of the unit, there is a weakness with the emergency lighting, which is normally located at the ceiling.

The point of fire obscuration by smoke, and low-level lighting system would probably be more effective, and if you ever see a hospital night-lighting system, which is usually near the floor, you will realize it would show a path under the smoke, and there is no doubt that it was desirable for this to be considered, but as far as I know, the Life Safety Code Committee has not considered any change with relation to changing the position of the light.

Mr. SHARRY. It does not specify where it will be located as far as the lights, and on the other point, the Life Safety Code or any other standard, it does not spell out any product standard.

Mr. HOLTON. That I find is somewhat shocking.

I do not mean to be derogatory. I am just surprised.

Am I to understand that the code calls for emergency lighting systems, and then does not specify their characteristics or placement?

Mr. SHARRY. It would specify the performance as to how and when, but not specify the materials.

Mr. HOLTON. In the case of emergency lighting, who normally sets standards for their manufacture?

Mr. SHARRY. They are usually done by one of the nationally recognized testing laboratories.

Mr. HOLTON. Thank you. That answers my questions.

Mr. HALAMANDARIS. I have no questions.

Mr. WEINER. If there is no objection, we would like to submit for the record a summary and conclusions of the report on "Full Scale Fire Tests in a Nursing Home Patient Room," prepared for HEW.

Hearing no objection, so ordered.

[The material is printed in the appendix, pp. 338–339.]

Mr. WEINER. I want to thank you for coming here.

Mr. HALAMANDARIS. We have always enjoyed your good deal of information and help and assistance, and we would like to continue this very fine relationship in the future, and I thank all of you for taking time to sit through this hearing.

The hearing is adjourned.

[Whereupon, at 2:05 p.m., Thursday, June 3, 1976, the hearing was adjourned.]

APPENDIXES
APPENDIX I
ADDITIONAL LETTERS AND STATEMENTS SUBMITTED FOR THE RECORD

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S T A T E M E N T

of the

AMERICAN HEALTH CARE ASSOCIATION

JUNE 3, 1976

JOINT HEARING

Subcommittee on Long-Term Care
Special Committee on Aging
United States Senate

* * * * * *

Subcommittee on Health Maintenance
and Long-Term Care
Select Committee on Aging
U. S. House of Representatives

STATEMENT of the AMERICAN HEALTH CARE ASSOCIATION

The American Health Care Association appreciates this opportunity to contribute our comments to the record of this hearing. The AHCA is the nation's largest organization representing long-term health care facilities, with a membership composed of some 8,000 facilities, both proprietary and non-profit.

There is no area of concern which has attracted more of this organization's attention and activity than life safety from fire in nursing homes. Over the years, AHCA and its predecessor, the American Nursing Home Association, have been in the forefront of cooperative research and educational efforts on fire safety. This Association was also instrumental in supporting the adoption of the 1967 and, more recently, the 1973 NFPA Life Safety Code editions as the Federal standard for nursing homes participating in the Medicare and Medicaid programs.

An enormous improvement has been achieved in recent years in the quality and integrity of buildings in use as nursing homes in the United States.

By any statistical measurement, nursing homes are much safer places to live than any residential occupancy. Nevertheless, we cannot be satisfied with less than the safest possible environment which is practical to attain in our nursing homes consistent with maintaining a functional and pleasing atmosphere.

While it must be stated that we will never completely eliminate fires from breaking out in nursing homes, it is incumbent upon us to reduce the consequences of fires to lives and property in any way we can.

Need for Fact-Based Requirements

Despite the acknowledged improvements brought about since the adoption by the Federal government of the NFPA Life Safety Code, the time has come when various Code requirements must be subjected to rigid empirical analysis in order to determine their validity and cost-benefit. The Life Safety Code does not stem directly from factual analysis, but represents a consensus of a wide variety of "experts" and interest groups (including nursing home administrators - let it be fairly stated), all with their respective axes to grind. Not surprisingly, a decision to include any particular provision in the Code is as much the result of good old-fashioned lobbying as anything else. Demonstrably, the NFPA Life Safety Code, while extremely useful in many respects, is not a fact-based set of requirements.

Literal adherence to the LSC in existing buildings is rarely possible; hence the statutory provision for the granting of waivers. The waiver system has been fraught with unbelievable confusion and error, resulting alternately in non-enforcement of vital Code requirements, or the unnecessary expenditure of thousands of dollars and disruption of patient care in nursing homes due to erroneous application of requirements.

Research

In view of this dilemma, the American Health Care Association has turned its attention over the last three years to the conduct of research aimed at producing evidence on which conclusions might be drawn with respect to the most important fire protection considerations. The aim of this research, and its attendant educational efforts, is to give the nursing home administrator and staff the means by which to develop and put into effect an organized system of fire protection in which available technology can be combined with community fire services and staff response to achieve the best possible result. Additionally, it is our hope that Federal and State Code enforcement can be simplified and improved as results of various research efforts now underway become available.

As a part of this effort, AHCA conducted a series of full-scale fire tests in 1974 in an abandoned nursing home in Beverly Shores, Indiana under contract with DHEW. These tests showed fire and smoke development characteristics amazingly similar to the two recent fatal fires in Chicago and Cicero, Illinois. As part of this statement, we have attached reports prepared for AHCA by Gage-Babcock and Associates, Inc. on both the Wincrest and Cermak fires.

AHCA submitted the report "Fire Tests in a Nursing Home Patient Room" to HEW in August, 1975. Although both the conclusions and the report have been available to the Department for more than eight months, no action has been taken to implement the recommendations which were made as a result of the tests.

The ability of a fire to develop very rapidly with certain types of room furnishings was shown in these AHCA tests and clearly demonstrated in both the actual fires in Illinois. The actual fires were confined to one room, as were most of the fire tests, but lethal fire gases spread into other spaces on the same floor.

The tests also demonstrated the effectiveness of closed room doors and smoke barrier doors. In the actual fires, patients in rooms with the closed doors survived, as did patients beyond the smoke barrier doors in the Cermak House, Cicero.

The patient room test at the two Indiana test sites were conducted in buildings of protected wood frame construction. However, in the critical early stages, the fires in the two fire resistive nursing homes in Illinois showed nearly identical development.

The tests also demonstrated the effectiveness of automatic sprinklers when the building does not have all the many protective features which had been provided (but were ineffective) in the Wincrest Nursing Home and Cermak House. AHCA has long supported sprinkler protection in nursing homes as the most effective single means of preventing multiple death fires. Dr. Thomas G. Bell, Executive Vice-President of AHCA, made extensive reference to the value of sprinklers in testimony before the National Commission on Fire Prevention and Control in Los Angeles, California, in June, 1972. The Association continues to support sprinklers as an effective means of protection. However, AHCA objects to treating sprinklers as "add on" to a long list of expensive and superfluous fire protection features. Current Life Safety Code requirements are not working in the best interest of all concerned. It is time to reassess these requirements and develop meaningful standards. The knowledge and technology to do this is available now.

It is essential that greatly increased fire safety features do not impinge on the well-being of nursing home residents. The impact on existing nursing homes can be lessened by concentrating on automatic sprinklers, the one fire safety measure which years of experience have shown to be effective in controlling of fire while it is still small.

All the other fire safety measures now considered to be the primary line of defense by today's codes should take a back seat to sprinkler protection. Fire resistive construction, corridor partitions, floor to floor barriers, latching hardward, increased corridor and door width, smoke barriers, stairway enclosures, smoke and heat detectors, and all the other code requirements now forced on nursing homes together have been proven to be less effective than sprinklers alone.

However, as with every protective measure, full reliance should not be placed on any single device. The key is to create a fire-safe system for each nursing home in which all factors are coordinated to achieve a level of protection which is reasonable and proper for our patients and residents.

While HEW has been slow in implementing recommendations from these fire tests, several agencies within HEW continue to cooperate with nursing homes -- notably the Health Services Administration. HSA has worked with AHCA on several projects which are of material and direct safety benefit to nursing home residents. The agency sponsored the drafting of a fire safety manual for nursing homes which was published by AHCA. More than 10,000 copies have been distributed to date. In addition to the previously mentioned fire test, HSA is currently working with the Association to develop a manual on hazardous products due for distribution to health care facilities later this year. The manual will guide the purchasing of equipment and furnishings normally found in patient rooms. The recent fires in Illinois have underscored the need to more closely control contents of patient rooms.

RECOMMENDATIONS

I. *Enforcement of the Life Safety Code should emphasize essential fire protection features. AHCA believes that both new and existing buildings can achieve a satisfactory level of safety by adopting either of the protection packages described below:*

(A) Automatic sprinkler protection in buildings normally housing patients who are difficult to evacuate.

1) Installation should be based on "light-hazard" rules, and water supply should be capable of supplying 250 gallons a minute for not less than 20 minutes (5000 gallons). Wide-coverage sidewall sprinkler heads should be specifically allowed.

2) Small closets and toilets opening into sprinklered rooms in fire-resistive buildings should be allowed to be left unsprinklered.

3) Smoke detectors and heat detectors are redundant and are unnecessary in sprinklered areas.

(B) Control of Combustibles Plus Automatic Door Closers on patient sleeping rooms.

1) Certain types of mattresses are OK: those made of cotton without inner spring or box spring, laid on flat or coil springs, or cotton ticking inner spring mattress (a wood headboard appears to present somewhat of a hazard), or a polyurethane mattress with a heavy vinyl covering. Mattress box-spring combinations are not recommended.

2) Free-standing hardboard, plywood, or cardboard wardrobes are fast burning and dangerous in an unsprinklered room. No conclusions have been reached as to the relative hazard of closets or built-in wardrobes.

3) Overstuffed furniture (chairs and couches) is unacceptable.

4) Normal wooden furniture -- dressers, night stands, and lightly padded chairs -- is not likely to cause rapid fire development. Increasing use of plastics in furniture could be a problem.

5) Door closers on sleeping rooms should close automatically in case of fire in the room. Fusible link releases are suitable for this purpose, as has been shown by test, or the releases can be actuated by smoke detectors in the room, at the door, or from a central system which closes all the doors simultaneously. Closers which keep a door closed at all times should not be used because the door inevitably will be blocked open.

6) "Hazardous" areas, in which combustibles cannot be controlled, such as storerooms, janitor's closets, maintenance shops, etc. should be sprinklered. The fire-resistive enclosures permitted by the Life Safety Code in lieu of sprinklers are not as reliable.

II. *The Life Safety Code of the National Fire Protection ASsociation should be modified to delete requirements which cause high expenditures without significant life safety benefit or which are actually detrimental to good fire safety.*

(A) Allow construction in existing buildings up to 3 stories in height with approximately 20 minutes fire resistance (i.e. wood lath and plaster) with "protection package" (A) and one hour fire resistance with "protection package" (B)

(B) Delete the requirement for partitions between patient rooms and corridors to be carried up tight to the underside of the floor or roof above unless the patient room uses a lay-in acoustic panel ceiling.

(C) Return to the pre-1966 exiting basis: one person per 150 square feet gross floor area and 30 persons per 22 inch unit of stairway width (instead of 120 and 22, respectively).

(D) Eliminate the requirement for fire extinguishers in patient areas.

(E) Modify the requirement for counting the basement as a story if it has direct exterior exiting, thereby penalizing a much safer arrangement.

(F) A building should not be downgraded from "noncombustible" to "ordinary" on account of wood stud partitions sheathed with gypsum board.

III. *AHCA further endorses the recommendations listed on p. 531-532 of Supporting Paper No. 5 of the report of the Subcommittee on Long-Term Care entitled Nursing Home Care in the United States: Failure in Public Policy.* An exception would be recommendation #8, for which our recommendation I should be substituted. Also, item 16 - adoption of the 1973 edition of the Life Safety Code - has been enacted as part of P.L. 94-182, largely through the efforts of AHCA and the Maine Congressional delegation.

IV. *Federal Responsibility for Financing*

It has been 30 months since P.L. 93-204 was enacted by the Congress authorizing insured loans for the purchase and installation of fire safety features in nursing homes.

The program has been completely ineffective, largely because (1) there has been no particular need or motivation for lending institutions to issue loans (and suffer horrendous red tape) for this purpose when more favorable investments were available for the scarce money banks had available; (2) uncertainty about what items were actually required to achieve compliance hindered necessary cooperation among banks, providers, HEW, HUD and state health officials, and (3) a general wave of Medicaid cutbacks by the States has increased the risks attached to all nursing home loans.

Loan insurance through HUD is not the answer. Congress must seriously consider direct grants or loans in conjunction, for example, with any decision to implement new equipment requirements for nursing homes. A Federal decision of this type must be accompanied by a Federal commitment of full funding based on full advance knowledge of the costs.

Decisions such as these fall properly within the political realm (although they must be based on expert technical evidence and opinion). Why? Because a decision to spend more tax dollars (as well as to force the expenditures of more private dollars) is a decision to allocate resources for one objective - marginal improvements in fire safety for nursing home patients - rather than a host of other concerns of equal or greater value to patients in nursing homes. It is clear that even the protection packages we have suggested, which are designed to avoid redundant or ineffective features, could result in several hundred million dollars in new costs and offer only marginal additional protection*. The Congress and Executive Branch must weigh the benefits with the costs, and base its decision accordingly.

* Estimate based on AHCA 1975 membership survey and figures supplied by Gage-Babcock and Associates.

gage·babcock & associates, inc.
CHICAGO SAN FRANCISCO LOS ANGELES NEW YORK

Report No. 7255
March 1976

REPORT OF FIRE AT WINCREST NURSING HOME Chicago, Illinois Jan. 30, 1976

Prepared for

American Health Care Association
Washington, D.C.

Prepared by

Gage-Babcock & Associates, Inc.
135 Addison Avenue
Elmhurst, Illinois 60126

John A Campbell

John A. Campbell P.E.

Report of Fire at
Wincrest Nursing Home
Chicago, Illinois
Jan. 30, 1976

Introduction

At the request of the American Health Care Association, I investigated the circumstances surrounding a fire which occurred at the Wincrest Nursing Home, 6326 N. Winthrop, Chicago, Illinois on Jan. 30, 1976. I visited the home on Jan. 31, 1976 and talked with administrator Mrs. Cassidy and with some staff members and with Chicago City Officials. Although the home is not a member of the American Health Care Association, they were very cooperative as were the city officials.

The fire originated in a wardrobe in a third floor patient room shortly before noon on Friday, January 30, 1976. At the time of the fire approximately 40 patients were attending mass in a chapel down the hall from the room of origin. The blaze was essentially confined to the room of origin; however, there was severe smoke and heat damage to the corridor and moderate smoke and occasional heat damage to other rooms with open doors, including the chapel which had no doors. Thirteen persons were either dead on arrival or died shortly after arrival at local hospitals. Thirty one persons were injured, 10 of whom have since died. The current fatality count is 23. The fire was allegedly of incendiary origin.

The building was of fire-resistive construction and there were no deficiencies with respect to the 1967 Life Safety Code which contributed to the fire and loss. The code deficiencies that were noted were not of any significance in this fire. The fire development and spread in this fire-resistive building would have been the same if the building were of protected wood-frame construction. If the building had been of wood-frame construction with plaster-on-wood-lath interior finish and had been equipped with automatic sprinklers, I believe no loss of life would have occurred.

The Wincrest Nursing Home Fire was almost identical to full-scale fire tests numbers 5 and 7 conducted by the American Health Care Association and described in the report "Fire Tests in a Nursing Home Patient Room." All three fires were started in a wardrobe by a match. The fires developed rapidly and spread flame and smoke into the corridor and smoke filled rooms with open doors. The major difference was that there were 40 patients exposed to the fire at Wincrest.

General Description

The Wincrest Nursing Home is an 88 bed Intermediate Care Facility which had 83 patients at the time of the fire. The home was non-sectarian but Mrs. Cassidy stated most of the patients were Catholic. This accounts for the large percentage of the residents who were in the chapel on a weekday.

The building was about a 50 ft. by 125 ft., 4 level building of fire-resistive construction. The first level is partially below grade and the 2nd through 4th levels are referred to as 1st through 3rd floors.

The third floor contained 8 patient rooms, with a total of 27 beds, the chapel, a small sitting room, a nurses station and some small service rooms. The approximate configuration is sketched in Fig. 1. Patient rooms were furnished with dressers, night-stands, beds and, if there was no closet, with wooden or metal wardrobes. The beds had innerspring mattresses with a thin plastic moisture resistant covering. Ticking was cotton; there were no box springs. There was no evidence of a significant amount of polymeric materials in the rooms.

Two enclosed stairways with direct exterior exits and an elevator served all 4 levels. The chapel was approximately 800 sq.ft. with a single entrance. No doors separated the chapel from the corridor. The 1967 Life Safety Code did not require doors except on patient rooms and hazardous areas. Neither the 1967 nor 1973 Life Safety Codes require two exits from a room under 1000 sq.ft. The chapel would not be defined as a place of assembly under the Life Safety Code.

All patient rooms and storage rooms had solid core wood doors except for a very small closet which had a hollow core door. Stairways were equipped with self-closing fire-rated doors.

Dead end corridor limits were less than the 30 ft. permitted for new buildings by the Life Safety Code.

There were no smoke-stop barriers on the floor and none were required since there was less than 30 patients on a floor. Even if smoke-stop doors were installed, the logical location for them would have placed both the chapel and the fire room on the same side of the smoke stop.

The Wincrest nursing home had manual fire alarm pull stations located adjacent to each stairwell entrance and heat and smoke detectors in some locations but not in patient rooms. The building fire alarm system had an auxiliary connection to a city fire alarm box located outside the front door.

The normal first alarm response is 4 engines, 2 truck companies, a manpower squad, 2 battalion chiefs and a division marshal. The nearest fire station is less than 1 mile although it is not known if that company was available at that time. The initial report from the scene was that the 4th floor was totally involved and 40 persons were trapped.

A second alarm was sounded at 12:04 p.m. The total response would have included 8 engines, 4 truck companies, 1 elevating platform, 2 squad companies, 3 or 4 battalion chiefs, a division marshal, 2 deputy fire marshals and the chief fire marshal plus a number of fire department ambulances. Total fire department manpower would have been about 75 men without ambulance personnel.

The room of origin is located about 35 ft. down the corridor from the chapel where an estimated 40 persons were attending mass. The nearest stairway to the chapel was about two thirds the distance down the corridor towards the fire room door. There were initial attempts to fight the fire by staff personnel; their efforts were unsuccessful and they were forced to withdraw. The fire room door was left open. Nursing home personnel evacuated patients down the west stairwell until firemen arrived and ordered them to get out.

The fire was essentially confined to the room of origin. There was heavy heat and smoke damage in the corridor and moderately heavy smoke damage in rooms with open doors. The chapel had light heat damage to plastic light diffusers located in line with the entrance and had moderate smoke damage to the ceiling and upper walls. There were no noticeable smoke deposits in the chapel on the lower walls. Maximum ceiling temperature in the chapel in line with the entrance are estimated at under 250°F near the entrance and about 180°F in from the entrance. These estimates are based on the damage to the plastic light diffusers. Emergency lights on the west wall of the chapel had been exposed to enough heat to cause the plastic supports for the sealed beam bulbs to sag. However, the lights were still operative.

There were very heavy smoke deposits on the ceiling and walls of the west stairway indicating the self-closing door had been open much of the time. This would have been necessary for rescue and fire fighting. Rooms that had closed doors had no noticeable interior smoke damage. Some small traces of smoke deposits were noticed along the top of the doors.

The interior gypsum board walls and gypsum board and tile ceiling finish contained the fire very well. The tile in the fire room was down presumably pulled down by the fire department. The suspended ceiling grid showed no visible heat damage and the wooden form boards above were neither scorched nor sooted. Neither fire nor significant smoke had penetrated the ceiling. Parts of the interior layer of gypsum board in the fire room had been pulled

down. The unexposed side of the gypsum board on the other side of the steel studs was clean and undamaged. Wood furring strips and plywood that had been under gypsum board were also undamaged. The corridor walls and ceiling had only surface damage.

Heat and/or flames from the fire room had heavily damaged a solid core closet door in an alcove directly across from the fire room doorway. A hollow core door on a closet off this alcove had been penetrated on the top only and the door on the patient room directly across the hall was separated from its hinge strip. It appeared to me the door had been damaged by fire and then possibly by impact during fire fighting. That door had been open during the fire.

Much of the interior room furnishings had been destroyed in the fire or thrown out during fire department overhaul. However, a damaged dresser that remained was charred on the outside only; clothes in the drawers were not damaged. This indicated the fire had been of relatively short duration. A newspaper photographer I talked to stated he was on the scene in about 10-15 minutes after a working fire was reported and there was almost no sign of smoke remaining at that time.

The majority of the victims were in the chapel at the time of the fire. I was told that 2 survisors were in a third floor room behind a closed door; however, I could not confirm that.

The fire was classified as of incendiary origin, allegedly started in the wardrobe with a match. A female attendant has been formally charged with starting the fire.

Staff Actions

The nursing home staff appeared to have reacted to this emergency as would be expected. They directed their efforts at extinguishing the fire and evacuating patients. This is in accord with much published information and probably reflects typical training and is consistent with instructions contained in section 17-412, Procedure in Case of Fire in the 1967 Life Safety Code. Section 17-412 does not even suggest closing the door but emphasizes continuing extinguishment efforts even if unsuccessful. The increasing fire intensity forced the staff out of the room and by then they either could not close the room door or they did not think of it.

I was unable to obtain a clear description of the evacuation operations. However, the staff members engaged in rescue operations until they were ordered out by the fire department. At least 3 staff members were injured.

Patient Removal

Chicago has programmed disaster plans to mobilize emergency services in incidents involving many victims. Hospitals, private ambulances, police, fire and supporting services are all involved. Such a plan was activated at this incident. An estimated 25 fire department and private ambulances and police vans were used to remove victims to hospitals. (The police vans are essentially a small patrol wagon that carries a folding stretcher - emergency medical service authorities have previously strongly critized their use as an ambulance.)

Newspaper photographs and television news coverage of the removal of victims showed a few deficiencies in handling the victims. It is not know if these deficiencies were common or the exception. At the time these incidents occurred the fire was out and there were three habitable floors in the building below the fire floor. Three specific incidents documented by news coverage were:

1. An elderly woman was being carried outside in below freezing weather on a stretcher in her nightclothes only. She had no blanket or other covering over her.

2. A fireman was carrying an elderly person out over his shoulders.

3. Firemen were using their self-contained breathing apparatus to "administer" air to victims outside the building. This serves no useful purpose at best and indicates either a shortage or inadequate deployment of resuscitation equipment.

The above handling of victims is likely to have had a traumatic effect on these victims. At that time there was no imminent danger on the fire floor and there would have been ample personnel available for removing victims to ambulances.

Possible Benefits of Added Protectives

No single additional protective measure except an automatic sprinkler system would have definitely prevented this high loss of life. Other protective measures would have still depended on specific staff and fire department reactions. The existing protective measures would have been more than adequate to safeguard the occupants if the fire room had been promptly closed and kept closed until the occupants were removed to a safe location. Some of the other protective features which are being promoted or in one case required by the 1973 Life Safety Code are discussed below.

Early warning smoke detectors would not have provided any significant benefit since there was no evidence that delayed alarm

transmission contributed to the loss. Fire tests have shown that a wooden wardrobe fire can develop very rapidly and involve an entire room within a few minutes.

Automatic door closers would have quickly dampened the fire and provided time to evacuate occupants if the door to the fire room was kept closed. This would have required both the staff and the fire department to refrain from extinguishing the fire until all occupants were removed to a place of safety.

Doors on the chapel, which are required under the 1973 Life Safety Code, would have impeded smoke entrance. I believe the chapel would have remained tenable if these doors remained closed and some chapel windows were opened. However, if either the staff or the fire department attempted to "rescue" the occupants of the chapel it would negate the benefit of the doors. In addition, "rescue" efforts would have required moving the patients toward the fire area.

A second exit stairway from the chapel would have been of little benefit since most patients could not have used it. It would have probably reduced the loss of life somewhat since rescue would have been easier.

Response of City of Chicago

The City of Chicago appointed a special panel to investigate the fire and recommend corrective legislation. The panel consisted of the city building commissioner, the city health commissioner, an architect and the retired head of an insurance inspection and rating bureau. A city council committee has held hearings on a sprinkler ordinance for Chicago nursing homes.

During my investigation I talked to the commissioner of buildings and gave him a copy of the report on "Fire Tests in a Nursing Home Patient Room." I pointed out the almost identical similarities to the Wincrest Fire and the test fires.

Gage-Babcock was not invited to testify before the City Council Committee.

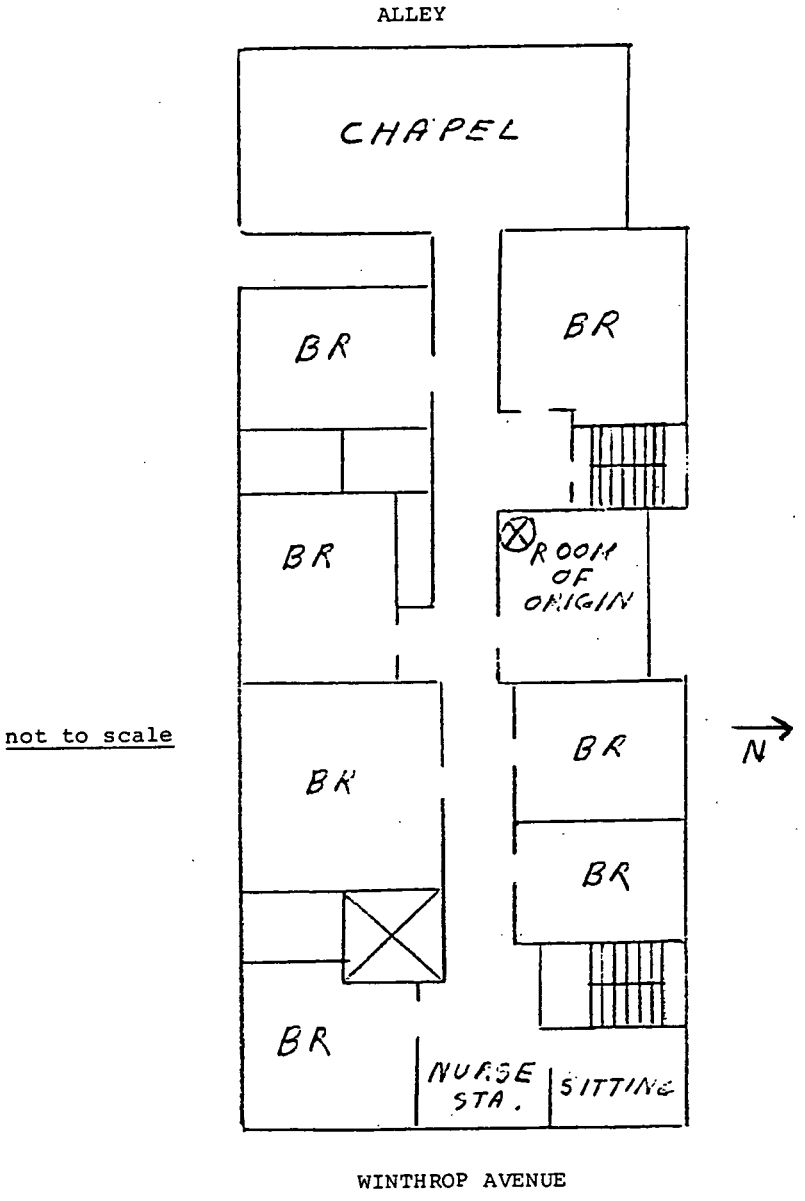

Fig. 1 APPROXIMATE ROOM ARRANGEMENT- WINCREST NURSING HOME

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REPORT ON FIRE AT CERMAK HOUSE NURSING HOME Cicero, Illinois Feb. 4, 1976

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Report on Fire at
Cermak House Nursing Home
Cicero, Illinois
Feb. 4, 1976

Introduction

In accordance with the request of the American Health Care Association, I investigated the fire which had occurred on the morning of February 4, 1976, at the Cermak House, a nursing home located in Cicero, Illinois. I visited the site on February 5, 1976 and discussed the fire with the assistant administrator and representatives of the State Fire Marshal's office.

The Cermak House was not a member of AHCA; the management was cooperative but they were very concerned about possible legal problems and publicity. Members of the news media had not been permitted to see the fire floor. The investigation was abbreviated when a group of attorneys arrived representing Cermak House's insurance carrier. The State Fire Marshal's office would not permit interior inspection of the room of origin, although with reluctance they gave permission to enter the room briefly to take photographs.

The fire occurred shortly before 7 a.m. on Wednesday, Feb. 4, 1976, in a 4th floor patient room. The fire was confined to the room of origin but heavy smoke spread throughout one wing of the hospital. Six victims were dead on arrival or shortly after arrival at local hospitals. Eighteen were reported injured. Two of these have since died. The State Fire Marshal's office stated the fire was of electrical origin.

Cermak House was of fire-resistive construction and there were no 1967 or 1973 Life Safety Code deficiencies noted that could be identified as contributing to the life loss. If the building had been of protected wood-frame construction the number of fatalities would have been the same. If the building were of wood-frame construction with plaster-on-wood lath interior but protected by automatic sprinklers, I believe there would have been no fatalities.

General Description

The Cermak House is a skilled and intermediate long term health care facility located at 5825 Cermak Road in Cicero, Illinois. Cicero is a town of about 67,000 population and has a full paid

fire department. Adjacent suburbs with full-paid fire departments and the City of Chicago are available for mutual aid although Chicago was not requested for this fire.

Cermak House is a 9 story, 160 ft. by 110 ft. U-shaped building of fire-resistive construction. Floors are poured concrete and interior partitions in the area of the fire were gypsum board on steel studs. Fiberglass batts with no vapor barrier were installed between the gypsum board in the partitions. Room and corridor partitions extended to the underside of the floor above; there was no suspended ceiling in the corridor or rooms in the fire area. Markings on the inside surface of the gypsum board did not indicate it was a fire-rated product. Interior wall and ceiling finish in the fire area was paint on concrete or gypsum board and carpeting on the floors.

Unit convectors under each window provided heating, cooling and fresh air. There were no HVAC ducts serving the patient rooms or corridors in the fire area. A typical patient floor contained 14 four-bed rooms, 10 one or two-bed patient rooms, two isolation rooms and living and dining area, Fig. 1. The floors were divided into 3 smoke zones by a pair of smoke-barrier doors located at each leg of the U. The smoke-stop barrier doors could be bypassed by going through the washroom. However, the washroom doors were self-closing so the barrier was effectively continuous. The center corridor between smoke doors was 115 ft. long and the length of each leg was about 63 ft. Dead end corridor lengths were approximately 30 ft. Three enclosed stairways served the upper floors, one of each being accessible from each smoke zone.

All patient rooms in the fire wing contained 4 beds. Furnishings included the beds, bed stands, table lamps, dressers and semi-built-in wooden wardrobes. The beds had a wooden headboard and an innerspring mattress with straw and cotton ticking. Mattresses had a thin plastic covering over the outside. There were no box springs. There was no sign of any significant amounts of polymeric materials in the furnishings.

The building had manual fire alarm pull stations by the stairways and smoke detectors in the corridor. The ground floor was protected by an automatic sprinkler system. The alarm system was directly connected to the Cicero Fire Department. In addition, the building was protected by a closed circuit television system which covered the corridors and exterior doors. The TV monitors were located at the switchboard operators station.

The Fire

The fire originated about 6:40 a.m. in room 421, a four-bed patient room containing 3 occupants. The staff was reportedly

alerted by a young blind female patient in the room. Flames were first observed around the base of a lamp on a nightstand. The fire was also reportedly sensed by a smoke detector which transmitted an alarm to the fire department.

The fire was confined to the room of origin. The combustible furnishings of the fire room were either destroyed by fire and/or thrown out during overhaul by the fire department. The 4 bed frames and springs, deeply charred wooden headboards on two of the beds, and the bottoms of a wooden wardrobe were the only identifiable furnishing items remaining. Gypsum board surfacing on parts of the walls had been pulled down, presumably during fire extinguishing operations.

The fire had been effectively confined by the walls of the room. There was no sign of heat or smoke damage on the interior surface of the gypsum board on the opposite face of the partitions except at one location where it appeared smoke and heat penetrated along a seam. However, there was no indication of impending penetration of the opposite face.

The corridor outside the fire room had heavy smoke and heat damage. One of the pair of smoke-stop doors, which were adjacent to the entrance of room 421 had heavy damage on both sides indicating it was open during part of the fire. The other door in the pair swung in the opposite direction so only one side would have been exposed to heat on one side regardless of whether it was in the open or closed position. There was light to moderate smoke damage and a slight amount of heat damage beyond the smoke doors and in line with the corridor leg. In the central corridor which runs at right angles to the leg, no smoke damage was noted.

On the fire side of the smoke-barrier doors, heavy smoke deposits covered the entire corridor ceiling and walls to within about 4 ft. of the floor. The carpeting appeared undamaged. Incandescent electrical light fixtures in the corridor ceiling, away from the fire room, were operating although the translucent enclosures were gone. The heat at the corridor ceiling had not been high enough to damage the wiring except near the room of origin.

Patient rooms in the fire wing that had open doors had moderately heavy smoke deposits on the ceilings, walls, bedding and furniture. Rooms which had closed doors were clean.

Fire had extended out of the fire room corridor and impinged on the wall and corridor of the room above. Although the window above the fire room was broken at the time of the investigation, I was informed it had not been penetrated by fire.

State Fire Marshal's office investigators stated they believed the fire was started as a result of an electrical fault in a

cord to a lamp on a nightstand. The cord was plugged in to a wall receptacle behind a bed. Repeated movements of the bed, such as during cleaning, bent the cord back over the plug damaging the insulation. The resultant electrical fault then ignited the insulation which burned rapidly spreading the fire up to the lamp.

I do not concur with this theory of ignition, although an electrical origin is possible. Electrical insulation burns very poorly, if at all, except when it has been preheated such as by excess current flow. An electrical fault at the plug would not cause excess current flow through the wires; however, a high resistance electrical fault in the lamp would.

I was surprised at the apparent rate that this fire developed. I would not have expected a fire involving these furnishings to involve the entire room in less than 15 minutes unless the wardrobe became involved early in the fire.

The three occupants of the room of origin were safety evacuated with only one receiving injuries. All the initial fatalities on the fifth floor were at the end of the hall about 60 ft. from the room of origin. Four died in room 425; the door had been left open and they had broken a window for fresh air which apparently drew smoke in through the open door. One victim was from room 424 which had a closed door and was very clean. I do not believe that a lethal level of smoke could have entered that room. In my opinion, the victim had to either have absorbed a lethal amount of smoke outside room 424 or that the trauma of the incident was a major contributor to the fatality. The sixth initial victim was on the 8th floor and it is assumed that death was caused by a heart attack. I have no information on the two victims that died of injuries.

There was no indication of any delay in discovery, fire department notification or fire department response. One Cicero town official was quoted in the newspapers as saying the fire department forgot to bring their aerial ladder truck with them. However, even if this were true, it would not have had any effect.

Discussion of Incident

The fire was very similar to the Wincrest Nursing Home Fire which occurred a few days earlier. Both buildings essentially conformed with Life Safety Code requirements; the fire was discovered promptly; there was no indication of delayed alarm; the staff concentrated on evacuation and extinguishment; the fire was confined to one room; victims were down the corridor from the fire room; and most of the occupants had to move toward the fire to evacuate. A major difference was that there were fewer people on the fire side of the smoke-barrier doors in the Cermak House than were in the chapel at Wincrest.

The smoke deposits in the distant corridor and in rooms with open doors were much heavier than those observed in the Wincrest fire. The furnishings were sufficiently similar so the difference would not have been caused by the materials that burned. This could have been the result of the efficiency of combustion or by more heat being vented out the larger window in the Cermak House.

The open smoke-barrier door or doors during part of the fire could have been the result of fire fighting actions or it could have been blocked open. There was no evidence that this contributed significantly to the fire loss since there was no noticeable smoke damage in the center corridor. I saw no sign of any hold-open device on the smoke doors, although one could have been destroyed by the fire or damaged and removed. However, the closed circuit TV camera locations suggested the possibility that the smoke doors were normally open.

Staff actions concentrated on evacuation of the patients and apparently extinguishing the fire. I was told the fire department found two empty extinguishers in the corridor. The fire room door was not closed after the patients were evacuated from it. Had it been closed and other patients secured in a safe location before any fire fighting was attempted, I believe there would have been no fire fatalities, although the trauma of the incident could have brought on heart attacks.

A nurses aid interviewed on television stated she was on the fifth floor in the wing above the fire room. They closed all patient room doors after the fire was discovered. When the fire department arrived they told them to evacuate all the patients to the center dining room.

The fire-resistive construction did not contain the fire any better than protected wood-frame construction would have. An automatic sprinkler system would have promptly suppressed this fire. Patient room door closers would have contained the fire and since all patients would have been in rooms behind closed doors, the life loss might have been prevented. This would have required that neither the staff nor the fire department would have evacuated patients until the fire was suppressed and the floor ventilated. In addition, the patient rooms near the fire room would have had to been ventilated to prevent buildup of smoke, which would come through the walls. There was time for all this to have been done by the staff instead of attempting evacuation. However, the universal tendency and training is, and probably will remain, to evacuate all occupants at least on the fire floor. As long as codes and training emphasize fire fighting and having ample fire extinguishers available, the staff will continue to attempt to extinguish fires rather than closing a fire room door.

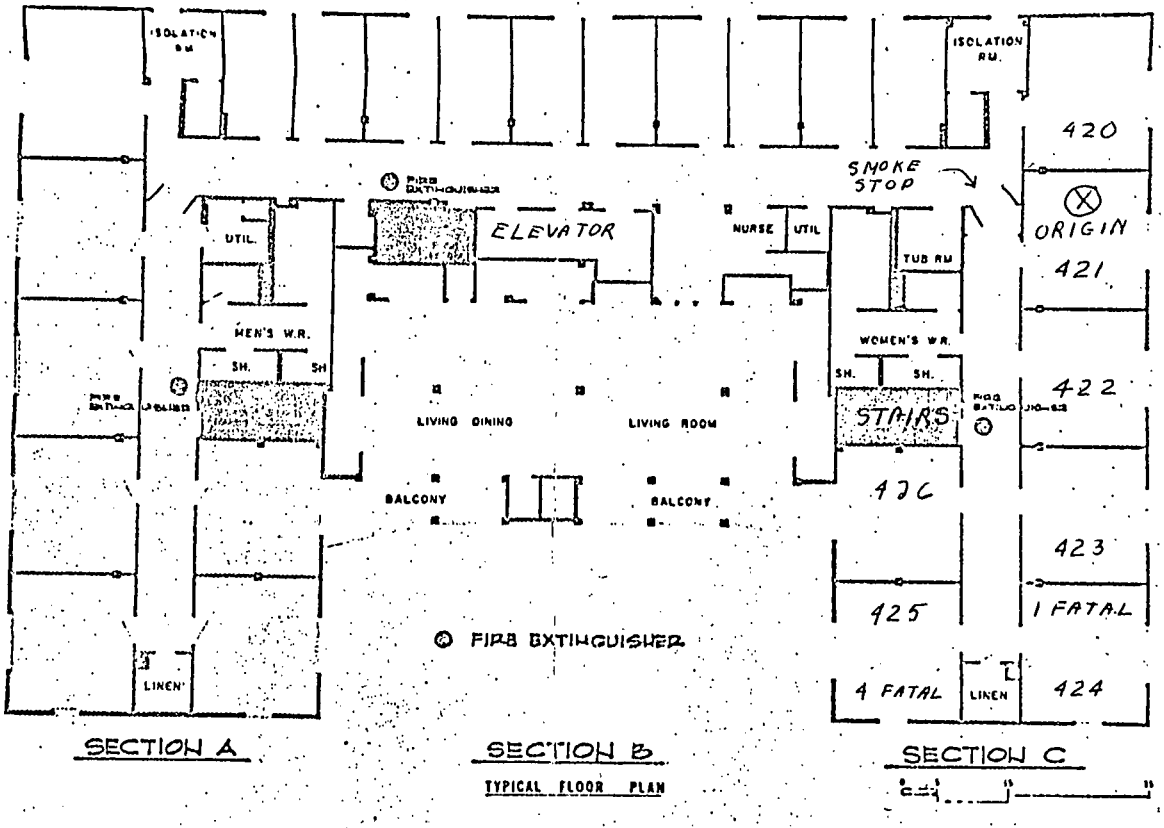

Fig. 1 Fourth Floor Plan of Cermak House Nursing Home

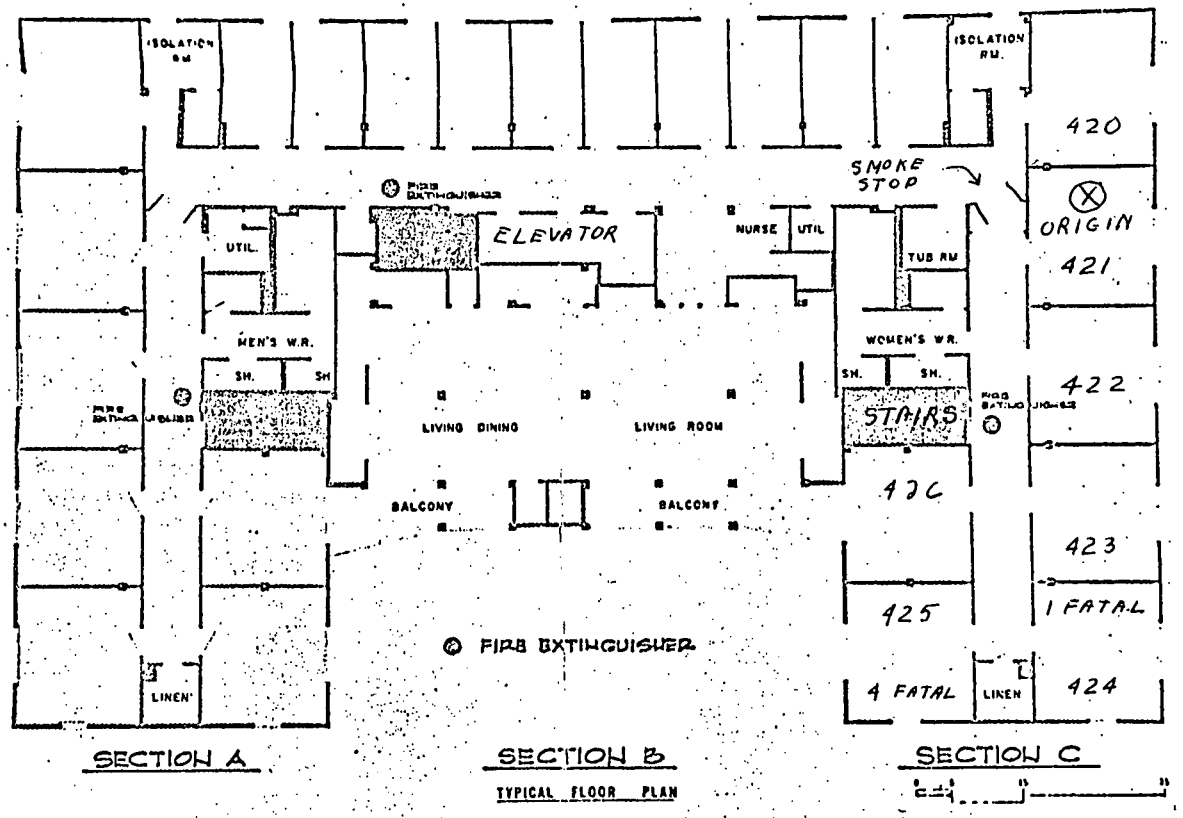

Fig. 1 Fourth Floor Plan of Cermak House Nursing Home

PREPARED STATEMENT OF HON. FRANK ANNUNZIO, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF ILLINOIS

Mr. Chairman: I very much appreciate the opportunity to testify before this subcommittee today.

In my own City of Chicago last January the Wincrest Nursing home fire killed 23 people, elderly or disabled patients whose lives were helplessly and horribly snuffed out. Within a week, another nursing home fire at Cermack House just outside Chicago claimed the lives of eight more people.

Naturally these holocausts were investigated as to the cause and possible remedies -- they still are continuing. But as a result of these two nursing facility fires this Subcommittee requested a thorough investigation from GAO, the conclusions of which have just been published. The explanations for the fires were researched as well as possible actions to avoid similar situations.

According to the reports of the investigations:

-- multiple deaths occurred in these fires even though the buildings were of fire resistant construction and were in substantial compliance with the Federal fire safety requirements.

-- Deaths were caused by smoke and products of combustion rather by flames because the flames were confined to the rooms of origin.

-- Neither facility was fully protected with an automatic sprinkler designed to activate an alarm and begin fighting the fire immediately.

-- Although local fire departments responded promptly to both alarms, the fire departments were unable to prevent the deaths which occurred.

-- Even though the fire departments responded quickly to the blazes, the fire generated intense heat and considerable damage.

The experts concluded that an automatic sprinkler system would have put both the Chicago fires out and saved the lives. And the GAO report makes a strong recommendation that the Congress enact legislation which will require that all nursing facilities be fully protected with an automatic sprinkler system. Moreover, the Congress should also require HEW to establish rigid standards which must be met by nursing facilities requesting a waiver from the automatic sprinkler requirement.

We remember that P.L. 93-204 authorized government-insured loans for installing fire safety equipment in nursing homes and intermediate care facilities. The GAO report discovered that the Federal insurance programs for fire safety equipment loans has not been successful in assisting nursing homes in installing automatic sprinkler systems. Out of 159 initial inquiries from the Chicago region for this program, HEW received only 10 applications. And because of the bureaucracy and long processing times, none of these facilities received financing through P.L. 93-204. According to HUD officials, there have not been any loans approved under this law:

These facts lead me to one inescapable conclusion: the application of existing safety standards must be re-evaluated with a view toward requiring all nursing homes to install sprinkler systems throughout their facilities. This is not the first time we have come to these conclusions. But it is time we did something definitive about it.

PREPARED STATEMENT OF HON. PETE V. DOMENICI, A U.S. SENATOR FROM THE STATE OF NEW MEXICO

Mr. Chairman: I very much appreciate the opportunity to address the Committee today.

For too long, the Congress has stood by and held proposed safety standards in nursing homes in abeyance. Especially in terms of fire safety, too little has been done for too long, and we must act as soon as possible to protest the lives of nursing home patients.

It is, however, not that the issue hasn't been broached before. Hearings have been held, words have been spoken, but action has been continually delayed.

In 1972, the Committee on Government Operations published "Saving Lives in Nursing Home Fires" -- 92-1321. The 93rd Congess also held a series of hearings dealing with fire safety in nursing homes, and in 1974, another report was issued by the Committee on Government Operations, 93-1672, entitled "Fire Safety Deficiencies in Nursing Homes." Once again, recommendations were issued, and further action was urged. The Special Senate Committee on Aging also issued a report entitled, "Nursing Home Care in the United States: Failure in Public Policy" -- subtitled, I might add, "The Continuing Chronicle of Nursing Home Fires."

Meanwhile, the patients continue to be killed in nursing home fires. Fires in Chicago claimed a total of 30 lives in two code-certified nursing homes earlier this year. Investigations now continue into the fires that killed 23 patients of the Wincrest Nursing Home in Chicago and seven more lives lost at the Cermak House in suburban Chicago.

P. L. 93-204 authorized government-insured loans for installing life safety equipment in SCF's and ICF's. But certain questions seem in order:

- Why is the law not being more fully implemented?
- Why are not State inspections procedures more uniform or complete?
- Are we positive about the qualifications of the inspectors?
- How do we measure the quality of training of the personnel who assist patients if, God forbid, a fire does occur in a nursing home?
- Has HEW been enforcing its life safety standards, and should they be stronger?

Should we, regardless of the expense, mandate that complete sprinkler systems are installed in all nursing homes? Perhaps the GAO report, to be released today, will address these questions. I certainly hope so.

Most experts agree that sprinklers would have put both the Chicago fires out and saved the lives. Unfortunately, the State of Illinois classified the facilities as being safe according to existing rules; the homes did not require sprinklers in order to be in technical compliance with the Life Safety Code.

There are other sad examples, Mr. Chairman, of many, many lost lives in nursing homes. In a great many instances, the patients are helpless, or mentally deficient. How can we hope that they will be able to help themselves?

It is obvious that the application of existing safety standards must be re-evaluated. We should seriously consider the possibility of requiring all nursing homes to install sprinkler systems throughout their facilities.

I am hoping we move with judicious speed. Our older citizens' lives are at stake.

First Ipswich Company
Leaders in Quality Health Care

July 30, 1976

The Honorable Claude Pepper, Chairman
United States House of Representatives
Select Committee on Aging
Subcommittee on Health and Long-term Care
715 House Office Building, Annex 1
Washington, D.C. 20515

Dear Representative Pepper:

I write you in connection with your bill, H.R. 14406.

Our nursing home group is comprised of some eight skilled nursing facilities, comprising nearly one thousand multi-level beds. All of the facilities are located in the state of Massachusetts.

I am in full support of the legislation you propose, being of the opinion that the installation of sprinkler systems are greatly reducing the threat of injury and death to our elderly residents in nursing homes. The Commonwealth requires automatic sprinkler systems in all such facilities, and each of our homes is in full compliance with the applicable statute.

However, I wish to bring to your attention what I believe to be a great misuse of Federal funds and an unjust burden upon nursing homes.

Our facilities have collectively been forced to expend funds in excess of $1,000,000.00 on safety improvements mandated by Life Safety Code Legislation. The improvements have been carried out under threat of loss of federal reimbursement under Titles XVIII and XIX of the Social Security Act. Many of these expensive improvements have been shown to be ineffective methods of protecting the elderly, as was tragically pointed out in the Chicago nursing home fires early this year.

Our attempts to finance these improvements through H.U.D. have not been fruitfull. We have to date, after three attempts, been unsuccessful in getting any useful information relative to loan applications. I understand this is due to the failure of H.U.D. to promulgate regulations to implement the legislation pursued some two years ago.

Fifty-One Summer Street Rowley, Massachusetts 01969 Telephone: (617) 948-7755

Our compliance with these mandated regulations has positioned our company in such a way that our viability as providers of quality health care has come into question.

It appears that the intent of Congress has been obstructed or at best impeded by the failure of the various Federal agencies to implement such legislation.

I therefore, ask your assistance in determining a worthwhile course of action to pursue in order to obtain much needed government assistance relative to these regulations.

I would be pleased to offer testimony and evidence, based on our experience, of the necessity of framing such legislation as you have proposed in H.R. 14406.

Thank you for the kind courtesies extended.

Yours truly,

FIRST IPSWICH COMPANY, INCORPORATED

Frank C. Romano, Jr.
President
/bs

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11 June 1976

Senator Frank E. Moss
United States Senate
Washington, D.C. 20510

Subject: Joint Hearing, June 3, 1976
United States Senate Subcommittee on Long Term Care- Special Committee on Ageing
U.S. House of Representatives Subcommittee on Health Maintenance and Long-Term Care- Select Committee on Ageing

Dear Senator Moss:

We respectfully request that this letter and supporting material be included as part of the official transcript of the subject Joint Hearing. This information is being submitted on behalf of the Smoke Control Association, a newly formed group specifically concerned with the current inappropriate reaction to smoke inhalation injuries and fatalities (Appendix I Articles of Incorporation).

Having read the entire Report to the Congress by the Comptroller General of the United States and Statement of the American Health Care Association(including engineering reports on both the Wincrest and Cermak fires), we can present our position concisely by reference to these two sources:

1. Both Cermak and Wincrest had fatal fires, Plaza did not.

2. Both Cermak and Wincrest lacked sprinklers, Plaza did not.
   - But this was not the critical point, careful reading of the reports of all three fires reveals the critical difference:

3. In both Cermak and Wincrest the door to the room of fire origin was left open, in Plaza it was closed.
   - The importance of this simple fact is further substantiated by the answer to the question "Since Cermak had a greater fire floor occupancy and denser smoke than Wincrest, why were there only one-third as many fatalitites? "

4. In Cermak there were corridor smoke doors which were closed during most of the fire (opened for evacuation) which confined all the fire and nearly all of the smoke to a portion of the fire floor.

Facts three and four above dramatize the tremendous effect of just partial smoke control in saving lives. It must be emphasized that all fatalities were from smoke inhalation (plus one coronary), none from fire or heat.

We agree that sprinklers constitute the best fire control system which can be provided in almost any building. However, the critical fact is that no degree of fire control yet available is responsive quickly enough to prevent multiple fatalities from smoke and toxic gases.

Consideration should be given to all of the following facts in formulating a bill to provide additional life safety in any sleeping occupancy, particularly one housing non ambulatory individuals:

I. Sprinklers

A. They are capable of confining the fire to the room of origin; however, the Chicago and Cicero Fire Departments also demonstrated their equal capability in this regard.

B. They are only thermally responsive, but no one died of excess heat in the subject fires. A closed bedroom fire will often be self extinguishing due to oxygen depletion without producing sufficient heat to open an ordinary temperature (160° F) sprinkler head. This was demonstrated at the "Heart of Atlanta" Fire Tests of Motel Bedrooms, 25 July, 1973 (Appendix II).

The Public has been grossly mislead into thinking that sprinklers respond immediately upon air temperatures reaching the sprinkler rating. This is not true. Sprinklers' activating elements are fusible links or similar devices, all of which are tested to Underwriters Laboratories Standard for Fusible Links (UL33). That Standard requires operation of the link (sprinkler) at ±5o F of the temperature rating when tested in liquid. However, the Operation Air Oven Test permits any sprinkler link with a rating of 135oF to 170oF to rise to 290oF before operation and still receiving "Listing by UL" ! Furthermore, while the test temperature applied reaches 165oF in 15 seconds, the sprinkler link need not operate until 6 minutes, 30 seconds-the point at which the test temperature reaches 290oF. (Appendix III)

In many smoldering fires- typically small areas like bedrooms with closed doors- the ceiling temperature never reaches 290oF. This occurred in the first Atlanta test with the room door closed. The test report states "The fire was characteristic of a smoldering low heat fire that generated large volumes of smoke that completely filled the room. To expedite burning within the room, the exterior door was opened and additional fuel was supplied 17 minutes after ignition. Thirty-five (35) minutes after ignition, the sprinkler head fused; the water coverage adequately covered the entire room and extinguished the fire. The following CO (Carbon Monoxide) readings were obtained: 2400 PPM (10 minutes) and 5000 PPM (13 minutes)".

As a result of this first test experience it was found necessary to open every test bedroom door as soon as the bedroom became smoke filled (about 3 minutes) in order to provide enough fresh air to feed the fire to build up the heat to fuse the sprinkler. In short, in order to assume sprinkler operation in a bedroom, the bedroom door must be opened to let in fresh air by releasing smoke into the corridor!

II. Compartmentation

A. Sometimes this prinicipal alone can control fire by oxygen starvation (Atlanta Motel Fire Tests).

B. This principal alone can substantially impede smoke flow and reduce the death rate (Cermak vs. Wincrest).

C. Compartmentation with pressurization can confine both smoke and fire to the room of origin (Carlyle Apartment Fire-Appendix IV).

III. Cost Effectiveness

A. More lives can be saved by confing smoke to the room of origin.

B. Compartmentation/Pressurization (Smoke Control) systems cost no more, often much less than sprinkler systems because the pre-existing doors and air conditoining/ventilating systems are utilized.

C. A smoke control system, backed up by a sprinkler system is ideal, but the economic feasibility is questionable for widespread application.

D. Particle-of-Combustion Detector operated sprinklers are under development,are most effective, most expensive, but constitute the only system capable of providing reasonable life safety within the room of origin and without resorting to evacuation. Such a device exists experimentally (Appendix V), but detector false alarms could cause some water damage and major inconvenience and shock to the bedroom occupants.

IV. Conclusion

No thermal response nor human response can be relied upon to prevent smoke inhalation fatalities, therefore early warning detectors must automatically initiate any system designed to prevent fatalities in a sleeping occupancy.

Such a system should:

1. Automatically call the fire department-direct wire, no human judgement involved.

2. Notify the appropriate staff to evacuate the immediate fire area.

3. *Automatically close all room doors.*

4. *Automatically pressurize the corridor outside the fire room to restrain any smoke from entering the corridor during evacuation and to act as a back up system to the bedroom door closers because some ambulatory patients will open their doors "to see what's happening".*

Since smoke control systems can restrain the passage of smoke and fire for a period long enough for immediate area evacuation and fire department response, such systems must be the first line of defense where life safety considerations are greater (such as nursing homes) than property values (such as warehouses). On the other hand, since smoke control systems can not be relied upon in most cases to extinguish the fire, sprinkler systems should be considered whenever the cost can be justified for them as a back-up.

A few final considerations:

1. *The normal response time of a modern fire department to a low rise facility (usually less then 5 minutes) coupled with an alarm sent by an early warning smoke detector is generally faster than the thermal initiation of the first sprinkler head installed in the room of fire origin. This will be the rule in smoldering fires (beds and clothing, doors closed) not so often the case in high fuel fires where wood clothes cabinets are permitted and doors are open.*

2. *All fire insurance deductions resulting from sprinkler installations are offset to some degree by the additional cost of water damage insurance.*

3. *If a smoke control system false alarms there will be no water damage, only minor inconvenience in manual resetting of the system.*

There are lives to be saved as a result of sound legislation. It will take millions of dollars of public money. It is essential that a bill be drafted to save the greatest number at the lowest cost.

Sincerely,

J. Brooks Semple, P.E.

JBS:dws

Enc: (5)

ARTICLES OF ORGANIZATION *APPENDIX I*

Article 1. Name. The name of this corporation is SMOKE CONTROL ASSOCIATION.

Article 2. Purposes. The purposes of the corporation (hereinafter referred to as the Association) shall be to substantially reduce fire fatalities, injuries and property loss due to smoke/toxic gas/ heat development from hazardous heat or fire by:

a. Compiling and maintaining a central library of:
   1) Information on smoke control technology
   2) Problems associated with building fires, including accounts of both successful and unsuccessful control.
   3) Records of fire deaths and injuries from smoke/toxic gas inhalation or induced panic problems due to loss of visibility.

b. Disseminating to concerned publics and media perinent information and reports concerning smoke control problems and hazards as occur in real fires and fire research testing.

c. Encouraging engineering systems development among its members to produce early responsive, effective, highly reliable smoke control systems which will:
   1) Assure a high degree of occupant safety for all those inside and outside the room of fire and smoke origin.
   2) Reduce smoke damage losses.
   3) Bring together individuals and businesses whose personal knowledge of smoke control techniques and expertise can be utilized as a source for other organizations.

d. Encouraging construction and contents standards development and code promulgation organizations to assure that smoke/toxic gas control systems are a design part of all building construction.

e. Coordinating and reporting critical research programs designed to develop better smoke control.

Article 3. Nature of Organization. The Association is a membership corporation not organized for the purposes of realizing pecuniary profit or gain to its members, but the Association may pay reasonable compensation for services rendered and may indemnify the directors, officers, employees and agents of the Association from certain unexpected consequences of their actions or omissions in the affairs of the Association, to the extent provided from time to time by action of the Board of Directors. Through membership no member is pledged to any course of action.

Article 4. The corporation is organized upon a nonstock basis.

Article 5. Membership. The membership of the Association shall consist of such class or classes with such qualifications, rights and obligations as shall be set forth in the Bylaws of the Association as the same may from time to time be amended.

Article 6. The term for which the corporation is to exist is perpetual.

KOPLON - "Heart of Atlanta" - Summary of Results *APPENDIX II*

Room		Carbon Monoxide Time	CO
#7 -	1 Viking sidewall - 160° F	10:00 min:sec	2400 ppm
	Fire smoldered - 190° - 220° max.	13:00	5000
	Door opened in 17 minutes to add oxygen		
	Sprinkler fused - 35 minutes		
#8	1 Viking pendant 160° F	0:20	450
	More paper fuel	1:00	700
	Smoky but hotter	5:00	3700
	Sprinkler fused 3 min., water off 6 - still smolders	15:00	5000
#6	1 Viking pendant 160° F with ETSR	0:20	250
	limited paper fuel	1:30	1000
	Bedspread just started	4:00	200
	Sprinkler fused at 1:25	5:00	0
	Immediate extinguishment		

#2 Grinnell Aquamatic (CO not measured)
Fire load similar to Room #7 - 2 minutes - smoke filled, 3 1/2 minutes sprinkler actuation (disk facing fire - ceiling temperature only 135° F -- radiant energy?), 4 1/2 minutes - extinguishment, but still smoldered, 6 1/2 minutes sprinkler OFF - reignition - 265° F recorded and 4 minutes for actuation - 2 minutes flow before OFF

#1 1 Viking pendant 160° F
Identical with room #2 except different sprinkler. 3 minutes - smoke filled, 4 minutes - 340° F - sprinkler activation

#3/T1 1/2" PVC pipe - reduced water supply effective with incipient detection? Viking 160° F with ETSR, 2 minutes - actuation when only a slight haze of smoke was evident. Limited water supply was sufficient.

#3/T2 1/2" PVC - Viking 160° F
Fire started in adjoining, unsprinklered closet - loaded with fuel, 4 minutes actuation from heat through open door, sprinkler controlled spread but did not reach fire source to extinguish.

Conclusion

1. Domestic water source can provide economical protection for bedrooms, giving an opportunity to designers to go "beyond the code" to improve life safety.
2. One inch supply should be minimum size.
3. Considerable smoke and toxic products of combustion are generated before actuation of conventional sprinklers; the ETSR in conjunction with a smoke detector optomizes the philosophy of early smoke warning with effective fire suppression.
4. A complete envelope of protection in sleeping occupancies can be provided using domestic water for sprinkler supply and using a smoke detector to activate both individual sprinklers and a corridor pressurization system.

Operation — Air Oven

23. Fusible links shall operate with sharp, positive action under a test load equal to the manufacturer's minimum design load, but not less than 1 pound, with complete release of all operating parts when exposed to air within the temperature and time limits shown in Table II.

24. The operating temperatures of a given model and type of fusible link of like temperature rating shall not vary more than 20° F.

25. A coating, if used, shall not melt, run, or otherwise accumulate on parts at temperatures at or below the operating temperature, in a manner likely to impair operation.

TIME-TEMPERATURE CURVES FOR OVEN TESTS

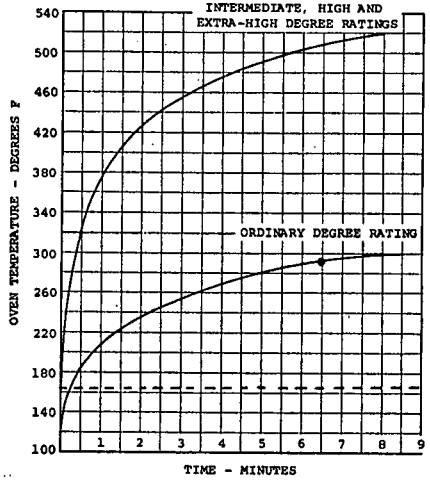


FIGURE 1

TABLE II

OPERATING TEMPERATURE RANGE

Temperature Ratings, Degrees F	Maximum Actual Operating Temperature, Degrees F	Maximum Actual Operating Time, Minutes : Seconds
125–130	245	2:30
135–170	290	6:30
175–225	445	2:30
250–300	475	4:00
325–375	505	6:30

26. At least ten samples of each size and temperature rating shall be subjected to this test.

27. An oven test is to provide for a means of subjecting samples to a rapidly rising air temperature environment where the temperature rise follows a prescribed time-temperature relationship; where the velocity and path of the air stream are controlled and are uniform in the vicinity of the sample; and where other factors influencing heat transfer, such as radiant walls, are maintained practically uniform in their effects.

28. The time-temperature relationships, as shown on the curves, such as those illustrated in Figure 1, are associated only with a particular oven design and method of test.

29. The ovens are made of copper and are provided with a water-circulating jacket. The body of each oven is cylindrical in shape with an internal diameter of 10 inches, an external diameter of 12 inches, and a height of 24 inches. Each oven is fitted with a movable lid which is 10 inches in diameter and 7½ inches in height. The natural-gas-fuel burners are manually controlled and are located at the bottom of the oven, which is open to allow air intake. Air is continuously released from the lid of the oven through a centrally located 3-inch-diameter hole. A 6½-inch-diameter baffle is located 5/8 inch above the air outlet hole to limit the air flow. The unshielded thermocouple used to record the temperature of the oven is made using No. 20 Awg wires, one chromel and one alumel, and is located centrally in the oven.

30. The fusible links are to be placed in the oven under the minimum design load, but not less than 1 pound. Starting from a prescribed ambient situation in the oven, the temperature of the oven is to be increased in the manner prescribed by the time-temperature curve applicable to the test.

31. Observations are to be made throughout the test for conformance with the requirements of paragraph 25. Coatings are to have been melted and run off or otherwise dissipated from the surfaces of operating parts at or below the operating temperature of the sample under test.

32. Observations are to be made and recorded of the time and temperature at which each sample operates and the manner in which the release of parts is accomplished.

THE CARLYLE APARTMENT FIRE: STUDY OF A PRESSURIZED CORRIDOR

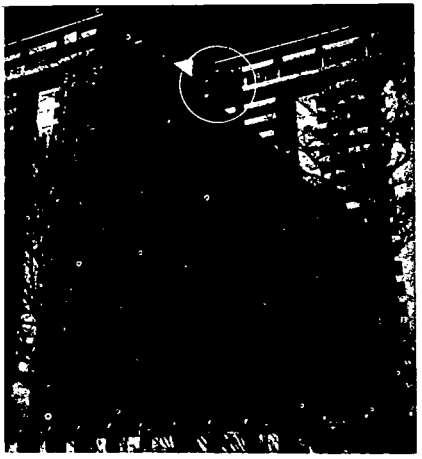


Fig. 1

With pressurization of stairwells and corridors, high-rise fires can be contained and controlled in compartmented buildings. Hopefully, such pressurization will be accepted by all concerned before another disaster occurs with old techniques. This paper was presented at the Symposium, Fire Technology Developments that affect the ASHRAE engineer, held during ASHRAE's 1975 Semiannual Meeting in Atlantic City, NJ. Other papers included: Evacuation and Other Fire Safety Measures in High-Rise Buildings, by Jacob L. Pauls, and Test Results of Duct Stairwell Pressurized System in a High-Rise Building, by Bayliss J. Erdelyi. The entire Symposium will be available on microfiche from ASHRAE Headquarters.

ROBERT E. TAYLOR
Affiliate ASHRAE

UNTIL recently, with few exceptions, if a fire department's ladders could reach the top floor of a building and the pumper could supply enough water for a deluge gun, that was all the pre-fire planning many cities thought necessary. Those life safety measures specified in NFPA 101 and learned through bitter experience were enforced by the building official when buildings were built, but seldom ever reviewed again until a fire occurred. Fire prevention was left to periodic cursory inspections. Then when a tragedy occurred, everybody pointed fingers and for awhile efforts at prevention were practiced.

R. E. Taylor is with Republic Steel Corp., Cleveland, OH.

However, in city after city, now that structures have grown in height far beyond the tallest ladder and in width so wide hose streams cannot span or are stopped by compartmentation, a cry of frustration by firefighters has risen. They ask: "How do we fight a working fire from inside a building and still move people out safely?" Some imply it can't be done.

The tendency is to reach back into the basket of time and pull out so-called tried and true methods of life safety protection such as sprinklers, hose cabinets, vented elevator shafts, and smoke-proof stair towers. Unfortunately, in many cases, practical reality indicates these approaches alone may not be an effective answer — or even a major part of the total answer. Expecially since toxic gases and smoke present an early evacuation life hazard, these methods have never controlled.

Building access, exterior and interior landscaping and design, interior contents, internal communications, available water pressure, fire department manning, automatic-detection — all play a role that needs careful assessment for every high-rise built. These basic points seldom concern themselves with how fast people can evacuate a building, or if evacuation is feasible or necessary. Furthermore, old approaches don't concern themselves with how quickly firemen can actually reach a fire above the 8th floor and still be in a physical condition to work — even under ideal conditions. What happens when people clog the stairs, when smoke and hot fire gases tear at the throat and obscure vision during an actual fire is yet another story.

Then, too, there is the current code tendency to lump all high-rise type of structures together — the apartment, hotel, office building, medical group — yet each is a separate and complex problem in itself. To lump them all under one heading isn't facing reality.

Use of a building's air system for fire fighting was virtually unheard of five years ago. Everyone knew that when a fire started you shut off the supply air and the exhaust. That would control the fire. However, the horrible record of major fires in this country has shown that this practice doesn't work. To give air to a fire was even more radical. You'd fan the flames. You'd see the fire.

Ask the veteran firefighter why he lost his battle in the big ones: Usually he's indicate he couldn't see the fire from the smoke — or couldn't find the fire because he couldn't get through the smoke and heat. He couldn't use the elevator because of "stack effect" rising heat and smoke. When he opened the stairway door (if he could) that was the end of the use of the stairway anywhere above as well.

Even if he could see the fire, he would still retort, "Well I'd like sprinklers up there — they'll handle it!" But he didn't reckon with many of today's materials which, unlike the wood age, often ignore water and go right on burning underneath and filling the air with smoke and very hazardous gases at a rate-of-smoke release far in excess of what wood and cellulosic materials give off.

What does it take to prove that air — working much as a cold front moves against a warm front — can perhaps be the best fire control measure ever designed into a building? Actual experience can. And that's what this fire report is about. A working fire that destroyed 80 percent of the interior of a luxury apartment on the 20th floor of a Lakewood, Ohio, condominium.

The fire occurred at approximately 4:30 a.m. the morning of March 7, 1974. When he discovered the fire, the occupant ran from his apartment with no clothes on and closed the door behind him. What he did for approximately 30 to 40 minutes* no one knows. But during that time, the wood door and wood door frame to the corridor burned off. He finally pounded on some doors and sounded the alarm. He was sitting on the window ledge in the corridor near the elevators when the firemen found him. Everyone

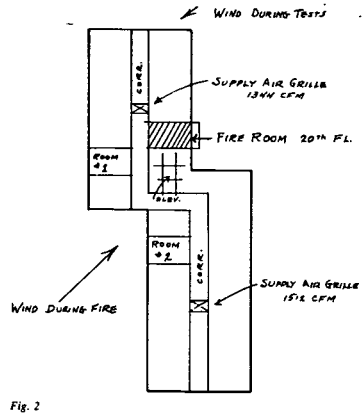


Fig. 2

evacuated safely. In fact, some people walked right by the fire room door and looked in "to see what was burning." Prior to the fire department's arrival, some even took elevators, even though they had been told not to do so in building fire procedure bulletins. Data developed after the fire shows that decision could have been fatal because the fire burned out the elevator control wiring, erroneously placed in his suite instead of the shaft.

A delayed alarm of as much as 40 minutes was involved. Lakewood firefighters had the fire under control 15 minutes after the alarm was sounded. Firemen were able to walk right up to the door of the apartment and attack the blaze using two 1½ inch fog lines.

Unusual was the tightness of the corridor and the almost complete burnout of the suite which occurred with almost no communication to the corridor.

THE FIRE

Let us review the site and see what the fire actually did. Then, we will look at the lessons we have learned from this fire. Fig. 1 shows the exterior view of the 20th floor fire location in the Carlyle. You are looking west.

Fig. 2 is a floor diagram showing the apartment of burnout in relation to the elevators and the other wing of the building. The pressure measurements taken the day after the fire were on the other side of the building in a comparable apartment location due to a 180° wind switch.

Fig. 3 is a close-up layout of the room of origin. Cause was never officially determined, although it was probably in the corner next to the elevator shaft.

Note how the wood door to the fire room burned off. The wood door frame was extensively burned. Wallpaper over the door in the corridor burned. There was almost no extension of fire or smoke into the plenum through the lay-in type ceiling tile fastened in place with hold-down clips (Fig. 4).

Escape of smoke into the corridor did little smoke damage.

* From nature of fire damage to the suite.

Note door width radiant heat marks on the wall across from fire room (Fig. 5).

Wallboard and studs against the elevator shaft in the kitchen were very heavily damaged. The EMT conduit and steel pipe were not damaged. Zinc couplings used with the EMT conduit disappeared (Fig. 6).

The living room alcove was extensively damaged (Fig. 7). Fire extended through the hole in ceiling corner to the suite above after the ceiling tile failed.

Fig. 8 shows that the insulated piping did not fail. The interior partition wall surrounding the pipe and separating the living room from the bedroom was 90 per cent destroyed. This wall was gypsum board on wood studs.

Glass fiber ductwork used with the kitchen fan failed even though glass fiber batting used for fire stopping around the vertical pipe stayed in place (Fig. 9).

The north corner of the balcony separation wall suffered severe concrete spalling. The aluminum window frames and glass virtually disappeared.

Our next step was to run static pressure tests on various floors under as comparable wind and temperature conditions as we could get to approximate conditions existing the night of the fire. Pressure differentials were taken in the fire room and at a comparable location in the next wing the day after the fire. There was a difference in measurements taken the day of the fire and several days later.

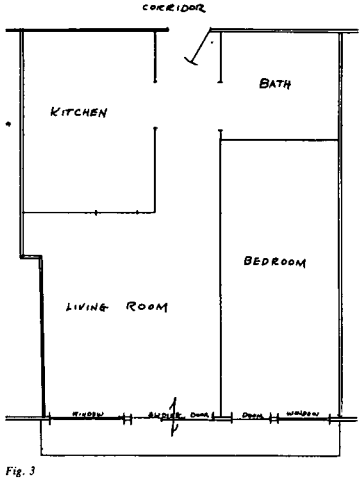


Fig. 3

Fig. 4

Fig. 5

Fig. 6

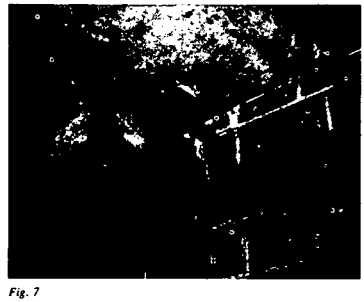


Fig. 7

On the day of the fire, air pressure differentials were taken at the former window ledge dividing the balcony from the living room. A pressure of 0.11 inches water column was developed with the fire room door open to the corridor and the plywood window coverings in place.

To approximate the volume of airflow through the fire room door the night of the fire, air velocity readings (in feet per minute) across the open doorway of an intact room in the other wing of the 20th floor were taken. The airflow was between 200 and 450 feet per minute measured at three heights with the window door to the suite open and the corridor door open.

Fig. 8

Fig. 9

THE LESSONS LEARNED

At a later date, pressures were taken on the 4th floor and 20th floor to confirm our findings. This is what we found:

- The 4th floor static pressure was .035" w.c. between the outside and the corridor, with the corridor being *low* pressure (negative).
- The 20th floor pressure was .030" w.c. between the corridor and the outside, with the corridor being *high* pressure (positive).
- The make-up air system on the 4th floor delivered 356 cfm with all doors closed. When one room was opened to the outside, the flow reversed and air flowing through the room from the outside was entrained into the make-up air system in the corridor.
- The make-up air system delivered 1329 cfm to the 20th floor with all doors closed. With one room open to the outside, the supply air increased to 1563 cfm.

This data tends to confirm work done by the Canadian Building Research Council and others. It shows:

- Fire on a lower floor below the neutral plane can be spread into a corridor by the airflow.
- Smoke from floors below the neutral plane can be spread to upper floors by entertainment into the supply air system if the system is not balanced to provide a positive supply to all floors under all conditions.
- Fire on upper floors can be contained in the fire room of origin by the airflow from a positively pressurized corridor.
- Smoke on upper floors will be forced outside.
- Comparison of later test data to data the day of the fire indicates that weather can have significant effect on the pressures in the building.

From this study it would appear that:

1. Positive pressurized corridors using a "make-up" air system can contain a fire within a suite if:
   - (a) The system is properly balanced, or
   - (b) The fire occured in a suite above the neutral plane.

The system should be designed to serve only a few floors at a time. Stacking 10, 20, or more floors on a common shaft probably would not be practical since effective balancing for both fire and non-fire conditions may be impossible to achieve.

2. With pressurized corridors the following are essential:
   - (a) Stairwells should be pressurized more than corridors to keep smoke and fire gases out of stairwells. Vents at the top of the elevator shafts should be closed.
   - (b) Noncombustible corridor construction, including doors, door frames, door hardware, acoustical ceilings, wall coverings and service conduit and pipe is critical since radiant heat is a factor despite pressurization.
   - (c) Corridor exhaust systems should be of a noncombustible material.
   - (d) Suite exhaust systems should be noncombustible if not going directly to the outside.
   - (e) All corridor doors should have automatic self-closers.
   - (f) Each fire compartment should have exterior windows or vents.

This study also indicated that sprinklers would be of dubious value in a properly pressurized corridor.

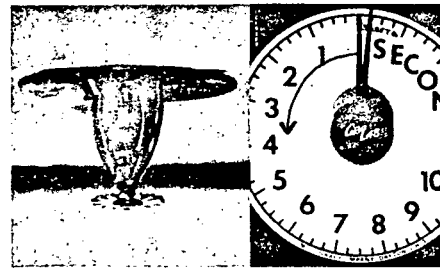
Positive air supply at approximately 0.10 inches of water pressure kept this fire out of the corridor even though the door had failed. It may be that requirements for 0.15 inches of water may be excessive in such buildings.

The best confirmation that corridor pressurization works comes from the firemen themselves. Lakewood firemen walked right up to this fire, watched it for a moment, then put it out. In a non-pressurized corridor, this fire could have spread to the entire 20th floor and to the several penthouses above.

Several months later in a fire at the apartment next door on the roof (or 31st floor), it took almost 30 self-contained breathing air packs for the firemen to get up the stairs to a fire in a storage room due to heavy smoke. They now know the difference that air — properly used — can make in controlling severe fires. They are now believers.

A great deal of further work needs to be done. But the day when turning off the air as a fire alarm goes off hopefully is near an end. With pressurization of stairwells and corridors, high-rise fires can be contained and controlled in compartmented buildings. Hopefully, such pressurization will be accepted by all concerned before another disaster occurs with old techniques. We have much of the answer — and a better answer from a life-safety standpoint. Isn't it time it is used more widely? □□

"HOT HEAD"

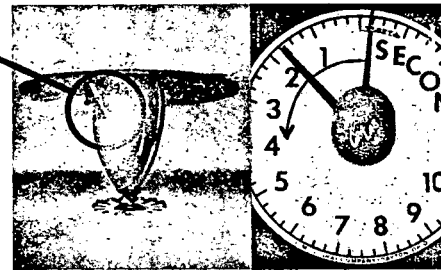


WHO?

All of you. All of us must be more concerned about life safety in buildings because of lethal gasses released from heating and burning contemporary furniture and building materials.

WHAT?

An electrically initiated chemical reactor to melt the sprinkler fusible element.

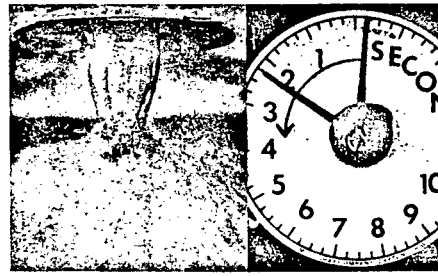


WHY?

To extinguish fires upon smoke detection, long before smoke kills and fire grows enough to fuse the sprinkler.

WHEN?

Within three seconds after the detector senses an incipient fire.



WHERE?

Wherever concern for life safety exceeds potential losses from water damage.

S•R products inc. p. o. box 308, mendenhall, pennsylvania 19357/(215) 388-7661

THE CHALLENGE

Report to the Safety to Life Committee (NFPA Std 101) by Sectional Committee on Institutional Occupancies
(Underlining by S R Products)

Selected Findings:

"We did find many instances of single fire death losses in all institutions whether they were in complete conformance with the code or whether they had a complete automatic sprinkler system or not."

"Smoke and toxic gasses, rather than burns, cause by far the greater majority of deaths in institutions."

"No building is fireproof. They can all burn, or at least their finishes, furnishings, decorations and other contents can, thereby affecting the life safety of occupants."

"Many fires result in loss of life because fires were not immediately detected, or because life saving measures and fire suppression were commenced too late."

"Evacuation cannot be relied upon in institutions as a satisfactory means of protecting life safety from fires."

A Few Conclusions:

"The majority of institutional occupants should be protected in their own rooms."

"Compartmentation is a highly effective means of preventing multiple loss of life due to fires."

"Complete automatic extinguishment systems are also highly effective in preventing multiple fire death losses."

"To require both strict compartmentation and complete automatic extinguishment would not only be redundant, but would lead to greatly increased costs. Trade-offs are, therefore, of great importance.

"Neither system will protect against the single fire death loss."

"A reasonable compromise would be to require a system of early warning detection which reacts to products of combustion, other than heat."

Implementation:

"The next chore of the Sectional Committee was to determine how much life safety would be enhanced by installation of a complete automatic extinguishing system in nursing homes and in other health care institutions. Its investigations gave clear evidence that smoky fires, as in mattresses or upholstery, have burned for periods on the order of an hour, producing lethal quantities of smoke with heavy proportions of carbon monoxide without enough heat development to actuate a sprinkler head. It concluded that one ideal solution would be a system that could detect products of combustion (other than heat) for the actuation of only the sprinkler head immediately over the smoldering source of smoke, without flooding other areas, a technically feasible but not economically nor industrially available product."

"Nevertheless, the Sectional Committee accepted the fact that ordinary automatic extinguishment is desirable when it can be made economically attractive. Therefore, with encouragement from the Committee on Safety to Lief, the Sectional Committee set out to find safe ways to maintain performance capabilities of required barriers to smoke and fire spread that would result in construction savings to help pay for a complete approved system of fire extinguishment. It concluded that its decision had to be based on the life protection integrity of the residual quality of compartmentation balanced against the calculated effectiveness of fire suppression by the extinguishment system supplied in lieu of the reduced compartmentation requirements."

THE RESPONSE

The Hot Head® was developed specifically to fill the need to economically protect against the single life loss, hitherto unprotectable. It is a high intensity jet arranged to activate standard sprinkler heads by the use of a smoke detector or any other electrical switching device. Electrical response to the signal is instantaneous, initiating a chemical reaction which melts the sprinkler's fusible element within three seconds. Any smoke, heat, rate of rise, ionization detector or any other switch may be used to control it.

The Hot Head is compatable with all major upright, pendant and sidewall sprinkler designs. The operating range is 6 to 30 volts AC or DC, one ampere trip current required, with a 2 millisecond (.002) response at 24 volts. It will operate sprinkler ranges from 135°F to 212°F (57°C to 100°C) yet, if there is no electrical signal, the sprinkler will operate in its normal, thermal manner with no interference from the Hot Head. It is installed "dry", after the sprinkler system is installed and pressure tested. The sprinkler system, new or existing, is always "on stream" during the installation of Hot Heads. The Hot Head has been tested to operate from −40°F to +175°F (−40°C to +80°C) and it meets Underwriters' Laboratories, Inc. Standard for Sprinklers (UL199) in respect to Operation, Distribution, Corrosion and Vibration.

S R products inc. p. o. box 308, mendenhall, pennsylvania 19357/(215) 388-7661 ETSR 474-5M

APPENDIX II

ADDITIONAL MATERIAL SUBMITTED FOR THE RECORD

REPORT TO THE CONGRESS

BY THE COMPTROLLER GENERAL OF THE UNITED STATES

Federal Fire Safety Requirements Do Not Insure Life Safety In Nursing Home Fires

Department of Health, Education, and Welfare

Two Chicago nursing home fires killed 31 people during early 1976. GAO was asked to investigate reasons for the severity of the fires and to suggest possible actions to avoid similar situations.

GAO reported that experts said automatic sprinkler systems would have extinguished the fires and saved lives. GAO recommends that the Congress enact legislation requiring all nursing homes to be fully protected with automatic sprinkler systems.

MWD-76-136

JUNE 3, 1976

COMPTROLLER GENERAL OF THE UNITED STATES
WASHINGTON, D.C. 20548

B-164031(3)

To the President of the Senate and the
Speaker of the House of Representatives

This report discusses Federal fire safety requirements for nursing homes participating in Medicare and Medicaid.

We made our review at the request of Claude Pepper, Chairman, Subcommittee on Health and Long-Term Care, House Select Committee on Aging. The Chairman's request was prompted by 2 nursing home fires in the Chicago area early in 1976 in which 31 patients died.

Two recommendations for legislative action are included in the report.

We are sending copies of this report to the Director, Office of Management and Budget; the Secretary of Health, Education, and Welfare; and the Secretary of the Department of Housing and Urban Development.

ACTING Comptroller General
of the United States

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ABBREVIATIONS

GAO	General Accounting Office
HEW	Department of Health, Education, and Welfare
HUD	Department of Housing and Urban Development
ICF	intermediate care facility
SNF	skilled nursing facility
SRS	Social and Rehabilitation Service

COMPTROLLER GENERAL'S REPORT TO THE CONGRESS

FEDERAL FIRE SAFETY REQUIREMENTS DO NOT INSURE LIFE SAFETY IN NURSING HOME FIRES

Social and Rehabilitation Service
Department of Health, Education, and Welfare

D I G E S T

As a result of two nursing facility fires that killed 31 people during early 1976, the Chairman, Subcommittee on Health and Long-Term Care, House Select Committee on Aging, asked GAO to investigate reasons for the severity of the fires and to suggest possible actions to avoid similar situations. (See app. I.)

According to reports of investigations:

--Multiple deaths occurred in these and several fires in prior years even though the buildings were of fire resistive construction and were in substantial compliance with the Federal fire safety requirements. (See p. 11 and app. III.)

--Deaths were caused by smoke and products of combustion rather than by flames because the flames were confined to the rooms of origin. (See p. 9.)

--Neither facility was fully protected with an automatic sprinkler system designed to activate an alarm and begin fighting the fire immediately. (See pp. 5, 6, and 7.)

--Although local fire departments responded promptly to both alarms, the fire departments were unable to prevent the deaths which occurred. (See pp. 6, 7, and 8.)

--Facility employees tried to evacuate residents and extinguish the fires, but in neither case were they successful in preventing death or extinguishing the fires. (See pp. 6 and 8.)

--Although a short period of time elapsed from the identification of the fires to

the arrival of the fire departments, the fires generated intense heat, resulting in considerable fire damage to the rooms in which the fires originated. (See pp. 7 and 9.)

--Experts said automatic sprinklers would have prevented the deaths in these homes. (See p. 12.)

Studies by congressional committees, a fire safety engineering firm, a special investigative committee, and others have pointed out the need for and the benefits of automatic sprinkler systems in nursing facilities. (See pp. 12, 15, 16, and 18.)

GAO determined that the cost of sprinkler system installations ranged from $393 to $625 a bed. The amortized cost of $625 over a 20-year period with a 9-1/4 percent interest rate is $5.57 a bed each month, or about 19¢ a bed each day. (See pp. 19 and 20.)

With the installation of a sprinkler system, savings on nursing facility fire insurance premiums are possible on both the building and its contents. Through reimbursement for depreciation and interest, Medicare and Medicaid will pay for part of the cost of sprinkler system installation. (See pp. 20, 21, and 22.)

The program which authorized the Department of Housing and Urban Development to provide Federal loan insurance for the installation of fire safety equipment has not been utilized. GAO believes that excessive processing time by HEW and the Department of Housing and Urban Development procedures, which prohibit loan insurance after work has begun, contribute to the problems facing nursing facilities applying for loan insurance. (See pp. 25 and 26.)

GAO recommends that the Secretary of HEW minimize the problem of excessive processing time by establishing procedures which make better use of existing survey and certification documents. (See p. 32.)

GAO recommends that the Secretary of Housing and Urban Development

--establish regulations to permit fire safety equipment loan insurance after work has begun (see p. 33) and

--publicize the availability of the fire safety equipment loan insurance program by revising the nursing home brochure dealing with nursing home mortgage insurance (see p. 33).

Because congressional hearings were scheduled, the chairman's office requested that GAO not delay the report to get formal comments from HEW and the Department of Housing and Urban Development. Informal comments from agency officials were considered where appropriate in this report. The National Fire Protection Association and the National Fire Prevention and Control Administration of the Department of Commerce agreed with GAO's recommendations to the Congress. (See apps. VI and VII.)

RECOMMENDATIONS TO THE CONGRESS

GAO believes that a strong case can be made for requiring that all nursing facilities be fully protected with automatic sprinkler systems. Therefore, in line with previous recommendations of congressional committees, we recommend that the Congress enact legislation which will require that all nursing facilities be fully protected with an automatic sprinkler system. The Congress should require HEW to establish rigid standards which must be met by nursing facilities requesting waiver from the automatic sprinkler requirement. (See pp. 22 and 23.)

CHAPTER 1

INTRODUCTION

In January 1976 a Chicago nursing home fire killed 23 people. Within a week, another nursing home fire just outside Chicago claimed the lives of eight people.

In his letter of February 20, 1976, the Chairman, Subcommittee on Health and Long-Term Care, House Select Committee on Aging, asked us to investigate reasons for the severity of the fires and to suggest possible actions to avoid similar situations. He also asked us to investigate:

--The fires and determine if automatic sprinkler systems would have put out the fires or lessened their severity in these facilities.

--The facilities in Chicago and determine if they met the Life Safety Code requirements for participation in federally financed health programs.

--The Department of Health, Education, and Welfare's (HEW's) enforcement of fire safety standards in Chicago and elsewhere.

--The State inspections of the Chicago facilities in question and HEW's validation of those inspections.

--The State inspection procedures including the qualifications of the inspectors.

--The quality of trained personnel assisting patients during the fires.

--The implementation of Public Law 93-204, approved December 28, 1973, which authorized federally insured loans to provide fire safety equipment for nursing homes and intermediate care facilities.

NURSING HOMES IN FEDERAL PROGRAMS

There are about 16,500 nursing homes, referred to as skilled nursing facilities (SNFs) or intermediate care facilities (ICFs), depending on the level of care provided, participating in the Medicare and Medicaid programs.

Medicaid--authorized by title XIX of the Social Security Act, as amended--is a grant-in-aid program in which the Federal Government pays part of the costs (50 to 78 percent) incurred by States in providing medical services to persons

who are unable to pay. At the Federal level the Medicaid program is administered by the Social and Rehabilitation Service (SRS) within HEW.

States have the primary responsibility for initiating and administering their Medicaid program under the Social Security Act. The act requires that State Medicaid programs provide SNF services. However, services in ICFs which provide care to patients that do not require skilled nursing services are an optional Medicaid service.

Medicare, authorized by title XVIII of the Social Security Act, is the Federal health insurance program for the aged and disabled. Part A of Medicare provides hospital insurance and also pays for all covered services in a SNF for the first 20 days after a hospital stay and all but a certain amount a day, up to 80 additional days, during a benefit period. ICFs do not participate in Medicare.

About 7,500 SNFs are participating in Medicaid, about 4,300 of which also participate in Medicare. In addition, about 9,000 ICFs participate in Medicaid. During fiscal year 1975, Federal and State Medicaid payments for SNF and ICF services were $4.6 billion, and Medicare payments for SNF services were $257 million.

CERTIFICATION PROCEDURES

Standards have been established by law and regulation which must be met by all nursing facilities participating in Medicare or Medicaid. The Federal requirements on fire safety have incorporated the Life Safety Code, established by the National Fire Protection Association.

HEW regulations require that each nursing facility certified for Medicare or Medicaid be inspected at least annually by State inspectors (employed by State agencies having contracts with the Federal Government) to determine whether the facility is in compliance with Federal requirements, including the Life Safety Code. Facilities not in full compliance with the fire safety standards may be certified for limited periods under both programs while corrections are being made.

Current HEW regulations for both Medicare and Medicaid provide for canceling a nursing facility's certification if deficiencies noted during the inspections have not been corrected within a specified time, including approved extensions.

THE LIFE SAFETY CODE

The Life Safety Code is established by the National Fire Protection Association. The primary function of the Association's Committee on Safety to Life has been to study and analyze the causes of fires involving loss of life. The code, which is based on established standards for various types of construction, is revised periodically. The latest edition was published in 1973.

The Social Security Amendments of 1967, effective January 1, 1970, require SNFs to comply with the 1967 edition of the Life Safety Code to participate in Medicaid. In October 1971 HEW extended that requirement to Medicare SNFs. Public Law 92-603, enacted October 30, 1972, incorporated in titles XVIII and XIX of the Social Security Act the requirement that Medicare and Medicaid SNFs comply with the 1967 Life Safety Code. Federal regulations requiring ICFs to meet this code became effective March 18, 1974. Nursing facilities entering the program on or after June 1, 1976, are required to meet the 1973 edition of the code, as provided in Public Law 94-182, enacted December 31, 1975.

The code requires automatic sprinkler protection throughout all nursing facilities, except those of 2-hour 1/ fire resistive construction or one story, 1-hour protected noncombustible construction. The fire resistance rating of building construction varies with the susceptibility to fire damage of the building materials used and the degree of fire protection provided for the structural members.

A building classified as 2-hour fire resistive construction is one in which the structural members, including walls, partitions, columns, floors, and roofs, are of materials having fire resistance ratings ranging from 1-1/2 to 4 hours as required by the National Fire Protection Association standards.

A building may be classified as 1-hour protected noncombustible if it is constructed of materials having a minimum fire resistance rating ranging from 1 to 2 hours.

1/The National Fire Protection Association defines the ratings of building materials in terms of hours. The ratings are the result of standard fire tests in which the materials are subjected to controlled fire conditions. The performance is based on the length of time the materials maintain their structural integrity and expressed as 2-hour, 6-hour, 1/2-hour, etc.

The requirements for these two classifications are directed toward limiting the spread of fire and maintaining the building structure to permit adequate time to safely evacuate nursing home patients.

The Social Security Amendments of 1967 permit a waiver, in accordance with regulations established by the Secretary of HEW, of specific Life Safety Code provisions, including the automatic sprinkler requirement. A waiver may be issued for specific Life Safety Code provisions which, if rigidly applied, would result in unreasonable hardship on a nursing home. Such a waiver, however, will be granted only if it will not adversely affect the health and safety of the patients.

SNF waivers under Medicare have always been issued by HEW. Initially, waivers of the Life Safety Code standards for Medicaid facilities were issued by State Medicaid agencies in accordance with HEW criteria. The Social Security Amendments of 1972, however, transferred this authority to HEW.

Under current procedures the States make recommendations for both Medicare and Medicaid SNF waivers relating to fire safety standards, but HEW regional directors make the final decisions. Waivers of Life Safety Code standards are issued by State agencies for ICFs.

Federal loan insurance for nursing home fire safety equipment

The Congress enacted Public Law 93-204 on December 28, 1973, which authorized the Secretary of the Department of Housing and Urban Development (HUD) to insure loans made to nursing facilities for purchasing and installing fire safety equipment, including automatic sprinkler systems.

SCOPE OF REVIEW

Our review included work at the regional offices of HEW and HUD in Chicago, Illinois; the Illinois State Fire Marshal's office; and the Illinois State Medicaid Agency. Work was also done at HEW and HUD headquarters in Washington, D.C.

In addition to the two nursing home fires in the Chicago area, we obtained information on other nursing home fires for comparison. We also obtained information from various other studies and reports on nursing home fires and fire safety.

CHAPTER 2

NURSING FACILITY FIRES

IN CHICAGO

On January 30, 1976, and February 4, 1976, fires occurred at the Wincrest and Cermak nursing facilities, respectively, which resulted in the deaths of 31 patients. Both institutions were intermediate care facilities participating in Medicaid. According to reports of investigations, these deaths occurred even though

--the nursing facilities substantially met Federal fire safety requirements,

--the fire departments responded promptly to the alarms, and

--the construction of the buildings adequately confined the flames to the rooms of origin.

The deaths were reported to be caused by smoke and toxic gases rather than by flames. No fatalities occurred in the rooms of fire origin. Investigators of these fires stated that sprinkler systems would have prevented deaths in these nursing facilities; however, both facilities were classified as fire resistive and, under the Life Safety Code, were exempt from the automatic sprinkler requirement.

WINCREST

The Wincrest Nursing Home fire occurred on the third floor of the facility during the morning of January 30, 1976. (See app. IV.) Wincrest, an ICF in Chicago, has 28 sleeping rooms which can accommodate 88 permanent residents. The residents included Medicaid patients.

At the time of the fire, Wincrest had the following fire safety devices (see app. IV):

--Three alarm systems: (1) pull box, (2) heat detectors (both of which activate alarms to the Chicago Fire Department and to the nursing home staff) and (3) smoke detectors which activate an alarm only to the nursing home staff. The three alarm systems were activated at approximately the same time.

--Three portable fire extinguishers.

--A public address system.

--A battery-operated emergency lighting system (not a significant factor because the fire occurred during daylight hours). The system reportedly would not have functioned properly because smoke residue covered and the heat had melted the plastic hoods on the lights.

--Solid core doors to residents' rooms--authorities considered these adequate to stop the fire, heat, and smoke if the doors were closed.

--Fire resistive floors, walls, and ceilings. These were not penetrated by the fire, although the wall coverings did burn.

At the time of the fire, 83 aged residents (many confined to wheelchairs) occupied the home. When the fire occurred, five nursing home attendents, a priest, and 40 residents were on the third floor of the home. Approximately 28 of the 40 residents were attending a religious service in the third floor lounge-chapel. The lounge-chapel did not have a door and was open to the corridor. (See app. IV.)

A nurse's aid discovered the fire in room 306, at the approximate center of the single corridor which serves the third floor (see app. IV), at about 11:40 a.m., summoned the priest, and activated a pull-box fire alarm. Initially the priest, and later two maintenance men and an administrator, attempted to put out the fire with fire extinguishers but could not contain the fire. Intense smoke and heat forced them to abandon the room after attempting to close the door to the corridor. The attendants and others began concentrating on evacuating residents from the lounge-chapel and the third floor.

The Chicago Fire Department arrived at about 11:46 a.m., approximately 3 minutes and 40 seconds after it received the alarm. In response to the first alarm, the fire department dispatched 39 firemen with 7 trucks (4 pumpers, 2 hook and ladders, and 1 snorkel). Upon arrival of the fire department, intense smoke on the third floor was already affecting elderly residents (some residents were gasping or unconscious). In response to a special call, 18 more firemen arrived at 12:01 p.m. with special equipment including another snorkel truck. In response to a second alarm, 44 firemen arrived at 12:04 p.m. with 1 helicopter, 1 communication van, and 8 trucks (4 pumpers, 2 hook and ladders, and 2 water cannon turrets).

In response to special calls, the fire and police departments and private organizations dispatched 10 ambulances to the home. The ambulances and four fire department automobiles transported the injured to hospitals.

As of February 20, 1976, 23 nursing home residents had died from smoke inhalation. The majority of which were in the lounge-chapel area at the time of the fire.

The fire destroyed room 306 and caused significant damage in the corridor. Moderate fire and intense smoke and heat damaged the corridor, the lounge-chapel (which did not have doors) and sleeping rooms in which the doors were open during the fire. Sleeping rooms in which the doors were closed during the fire did not incur smoke or heat damage.

CERMAK HOUSE

The Cermak House Nursing Home fire occurred in room 421 on the fourth floor early in the morning of February 4, 1976. (See app. V.) Cermak House is an ICF in Cicero, Illinois, adjacent to Chicago, and can accommodate 618 residents. The residents included Medicaid patients.

At the time of the fire, Cermak House had fire safety devices which included (see app. V):

--Two alarm systems: (1) pull-box and (2) smoke detectors (both of which were wired to activate alarms to the Cicero Fire Department). The smoke detectors automatically closed hall smoke doors.

--Fire extinguishers and fire hoses on each floor. Because of operator error, the fire hose on the fourth floor did not operate.

--A public address system which was used to notify nursing home staff of the fire and its location.

--Solid core doors to residents' rooms--authorities considered these adequate to stop the fire, heat, and smoke if the doors were closed.

--A sprinkler system on the first floor, with vertical pipes to the other eight floors. According to a Cermak House official, horizontal pipes and sprinkler heads of the upper floors had not been installed because of financial consideration.

According to a patient census the previous night, 460 persons occupied the nursing facility; 24 persons could have been accommodated in the fourth floor west wing in which room 421 was located.

At about 6:30 a.m. a nurse and a nurse's aide heard screams and discovered the fire in room 421. While the aide activated the pull-box alarm, the nurse evacuated two of the residents from the room. The third occupant was not in the room at the time of the fire. A security guard who responded to the alarm attempted to extinguish the fire--first with a fire extinguisher and second with a hose which he did not operate properly--but abandoned the attempt when he was overcome by smoke. Two maintenance employees directed water on the fire from a hose operated through a fifth floor window but they could not extinguish the blaze.

The Cicero Fire Department arrived promptly at 6:44 a.m. to the alarm activated by smoke detectors on the fourth floor.

The smoke detectors automatically closed smoke doors at the entrance to the corridor and contained the heat and smoke in the west wing of the nursing home. Although room 421 was adjacent to the smoke doors, residents did not sustain injuries nor did damage occur outside the smoke barrier on the west wing. Eight residents died from smoke inhalation in west wing sleeping rooms where doors to the rooms were open at the time of the fire. Smoke and heat damage also occurred in these rooms and in the corridor. In another west wing sleeping room where the door was closed during the fire, residents did not sustain injuries and little property was damaged.

Officials of the Illinois Fire Marshal's office initially attributed the fire to a faulty electric cord on a nightstand lamp and, at the time of our fieldwork, were continuing to investigate other possible causes.

SEVERITY OF THE FIRES

An official of the Illinois Fire Marshal's office attributed the severity of the fires at Wincrest and Cermak to (1) steadily burning fires, (2) combustion of gases trapped by the upper walls and ceilings in the fire rooms (flashovers), and (3) ejection of flames and lethal smoke from burning plastic and vinyl in the rooms where the fires originated.

At both Wincrest and Cermak, steadily burning fires in freestanding wood wardrobes generated intense heat, resulting in considerable fire damage to the rooms in which the

fires originated. Heavy smoke damaged the corridors, lounge-chapel at Wincrest, and resident rooms with open doors.

At Wincrest most of the fatalities occurred in the lounge-chapel area which did not have a door and into which lethal smoke traveled. The lounge-chapel was not damaged by flames; however, the plastic covers on the ceiling light fixtures were melted by heat.

At Cermak, the fatalities and damage occurred in resident rooms with doors open to the corridor.

The fires at both facilities burned material which generated toxic smoke. At Wincrest, the fire burned vinyl chloride wall and mattress covers. Combustion of vinyl covers generated hydrogen chloride gas, which sears lung tissue. At Cermak, the fire burned polyurethane foam (foam rubber) mattresses. Combustion of foam rubber generates hydrogen cyanide gas. According to experts of the National Fire Prevention and Control Administration of the Department of Commerce, all common combustible materials can generate lethal quantities of carbon monoxide when subjected to fire. Medical evidence was not available to us which could identify the specific products of combustion that were primarily responsible for the deaths.

According to a study made by a nursing home association and an engineering firm under contract to the Department of Health, Education, and Welfare, wood wardrobe fires in simulated nursing facility rooms can cause flashovers within 5 minutes after ignition. The nursing home association and engineering firm based this conclusion on an experiment which they conducted for HEW to test the 1967 Life Safety Code.

COMPLIANCE WITH FIRE SAFETY STANDARDS

In Illinois, the State Fire Marshal's office surveys skilled nursing facilities and the Department of Public Health surveys ICFs for fire safety.

The Illinois Fire Marshal's office has a staff of 44 inspectors to survey SNFs. The inspectors have fire-related backgrounds, such as work experience as firemen or a degree in fire technology. New inspectors receive classroom and on-the-job training, including training in the Life Safety Code, before making inspections. All inspectors receive fire safety training each month.

Inspectors normally spend 1 to 1-1/2 days annually inspecting SNFs for compliance with the Life Safety Code and

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State laws. Inspectors followup on deficiencies at 30-day intervals until they have been corrected.

The Illinois Department of Public Health inspectors make annual health and safety surveys of ICFs. The Department's architectural section has 14 registered architects and 2 engineers who make fire safety surveys. The Department trains its inspectors, using the Life Safety Code, and gives them on-the-job training before placing them in charge of inspections.

While we did not evaluate the quality of the State inspections or the adequacy of training provided to inspectors, we believe that these areas are critical in the enforcement of fire safety requirements in nursing homes, as pointed out in our report, "Many Medicare and Medicaid Nursing Homes Do Not Meet Federal Fire Safety Requirements," MWD-75-46, dated March 18, 1975.

Inspectors usually inspect a facility in 1 day and revisit facilities within a specified period to verify correction of serious deficiencies. Inspectors followup on minor deficiencies by correspondence or during the next annual inspection.

The HEW regional office conducts validation reviews, which are surveys of facilities to insure the adequacy of the State inspections. These validation reviews are made in facilities selected at random. The HEW regional office has one team which surveys, on a random basis, selected facilities from the 3,600 SNFs and ICFs in the region.

The regional office team did not survey either Wincrest or Cermak House because neither home had been included in the survey sample.

In addition, the City of Chicago makes fire safety inspections of SNFs and ICFs. The Chicago Fire Department, Bureau of Fire Prevention, is responsible for inspecting the 129 SNFs, ICFs (including Wincrest), and other types of nursing homes in Chicago. The department uses the Chicago Municipal Code for fire prevention rather than the Life Safety Code. Within the Bureau a specially trained department captain and 11 lieutenants are responsible for inspecting institutional facilities, such as hospitals and nursing homes. The fire department requires lieutenants who are assigned to the Bureau of Fire Prevention to attend a fire safety course at the Chicago Fire Academy.

The results of recent State inspections at Wincrest and Cermak House indicated that both facilities were in substantial compliance with existing fire safety standards.

Wincrest

The Illinois Department of Public Health noted two deficiencies at the Wincrest ICF in its December 1974 fire safety survey. According to Department documents, Wincrest corrected both of the deficiencies in April 1975. Department officials told us in February 1976 that Wincrest had substantially complied with the Life Safety Code at the time of the fire.

The Chicago Fire Department's Bureau of Fire Prevention inspected Wincrest six times in 1975, noted two deficiencies which were corrected in October 1975, and did not note any further fire safety violations in the October, November, and December inspections. According to Bureau officials, Wincrest had no known deficiencies at the time of the fire. The Mayor of Chicago's special investigation committee concluded that Wincrest had complied with exising regulations.

Nurses, nurse's aides, the administrator, two maintenance men, and a priest assisted Wincrest residents during the fire. According to an Illinois Department of Public Health report, Wincrest holds a minimum of 12 fire drills annually, including simulated fire conditions and transmission of fire alarms. According to Chicago Fire Department officials, Wincrest employees responded properly to a simulated fire emergency situation during the December 1975 inspection.

Cermak House

The Illinois Department of Public Health noted 10 deficiencies at Cermak House in its December 1975 fire safety survey. On February 7, 1976, 3 days after the fire, the Illinois Fire Marshal officials, in a special investigation of Cermak House, noted 5 deficiencies under the Life Safety Code and 27 conditions which needed to be corrected under Illinois rules and regulations.

According to Illinois Department of Public Health and Fire Marshal officials, the deficiencies noted in the inspections before and after the fire did not contribute to the ignition or the severity of the fire.

A nurse and nurse's aide, two maintenance men and others assisted residents during the fire.

According to the Illinois Department of Public Health and the Fire Marshal's surveys, Cermak House nolds a minimum of 12 fire drills annually, including simulations of emergency fire conditions and transmission of fire alarms.

INVESTIGATION FINDINGS ON SPRINKLER SYSTEMS AND OTHER FIRE SAFETY MEASURES

Sprinkler systems

According to officials of the Illinois Fire Marshal's office, sprinkler systems prevent flashovers because they prevent the accumulation of excessive heat on the upper walls and ceiling. In the opinion of Chicago Fire Department officials, sprinkler systems provide the best fire protection because they signal the fire location and immediately spray 22 gallons of water a minute on fires which activate the system. Fire department officials believe sprinkler systems would have extinguished the fires at Wincrest and Cermak and prevented deaths.

After its investigation of the Wincrest fire, a special panel appointed by the Mayor of Chicago recommended that new requirements immediately be made part of the Building and Fire Ordinance of the City. One requirement was that sprinkler systems be installed in all new and existing nursing homes and be electrically interconnected with the fire alarm system.

On February 4, 1976, the Mayor of Chicago asked the City Council to require all nursing homes to have automatic sprinkler systems. The ordinance was introduced only a few hours after the Cermak fire. On April 7, 1976, this ordinance was approved by the City Council. It requires all Chicago nursing homes to install sprinkler systems by February 1977.

According to an HEW engineer's report on the Wincrest fire, "the only alternative to a well trained staff is a complete sprinkler system, smoke compartments, and smoke detectors." Of the two Chicago area fires, another HEW report stated:

> "The facilities in each case were of fire resistive construction, but failed to provide reasonable protection. There is a need for several fire safety measures which exceed current regulations."

Furnishings

According to a report by an official of the Illinois Fire Marshal's office which was presented at hearings in Illinois, "the Wincrest and Cermak House fires demonstrate that ignition of coverings and furnishings can turn nursing facilities into gas chambers." Other Illinois officials indicated that Federal standards are needed to regulate furnishings used in nursing facilities.

Fire emergency training

Illinois and local (Chicago) municipal officials emphasized the importance of fire emergency training of nursing facility employees. The committee, appointed by the Mayor of Chicago, recommended that nursing facility employees, in addition to existing training programs, be required to participate in formal fire department emergency training every 6 months.

CONCLUSIONS

--Both nursing homes substantially met the Federal fire safety requirements and were classified as fire resistive, but people still died as a result of the fires.

--The building construction adequately confined the flames to the rooms of origin.

--The deaths were caused by smoke and other products of combustion rather than flames.

--The fire departments, which responded promptly to the alarms, were unable to prevent the nursing home deaths.

--Efforts by nursing home staffs to extinguish the fires and prevent the loss of lives were unsuccessful.

--The fires created a lethal environment in a very short time.

--Experts investigating the tragedies said that automatic sprinkler systems would have saved lives in these fires.

CHAPTER 3

AUTOMATIC SPRINKLER SYSTEMS PUT OUT FIRES AND SAVE LIVES

Many studies and reports have concluded that automatic sprinkler systems are effective in putting out fires and saving lives. About one-half of the nursing homes participating in Medicare and Medicaid are not required, because of construction classification, to be protected with automatic sprinkler systems. Historically, nursing home fires resulting in multiple deaths have had two conditions similar to the Wincrest and Cermak House fires--the primary causes of death were smoke and other gaseous products of combustion, and the facilities did not have complete automatic sprinkler systems. Since 1972 several congressional committee reports have recommended that all nursing facilities be fully protected with automatic sprinkler systems. We believe that a strong case can be made for adopting such a proposal.

The cost of installing automatic sprinkler systems will vary with factors such as building size, type of construction, method of installation, and whether installation is in existing buildings or those under construction. In several installations during 1975, the cost ranged from $393 to $625 a bed. The monthly cost of amortizing $625 a bed over a 20-year period at a 9-1/4 percent interest rate is $5.57 a bed each month, or about 19¢ a bed each day.

By installing an automatic sprinkler system, some savings are possible on fire insurance for both the building and its contents. In the Washington, D.C., area, estimates on these savings are up to 30 percent on building coverage and 50 percent on contents insurance, depending on type of construction. In addition, Medicare and Medicaid will bear a share of the cost of sprinkler systems through payments on behalf of program beneficiaries.

CURRENT FEDERAL STANDARDS AND AUTOMATIC SPRINKLERS

The Life Safety Code requires, with some exceptions, that all nursing facilities be fully protected by automatic sprinkler systems. Those nursing facilities classified as 2-hour fire resistive construction or one-story, 1-hour protected noncombustible construction are exempt of the sprinkler requirements. As a result, only about half of the nursing facilities are required by the Life Safety Code to have automatic sprinklers. As pointed out in the previous chapter, both the Wincrest and Cermak House nursing facilities

were classified as having fire resistive construction and, therefore, were exempt from the automatic sprinkler requirements.

As of March 1976, the Department of Health, Education, and Welfare estimated that of the 16,500 nursing facilities participating in either Medicare or Medicaid, about 8,580 were not required to be fully protected with automatic sprinkler systems because of their construction classification, although some facilities might have installed them.

In addition to the exemptions, HEW also has the authority under the Social Security Act to waive the automatic sprinkler requirement in any nursing facility regardless of construction type.

The Office of Nursing Home Affairs could not tell us how many facilities were waived from the automatic sprinkler requirement as of April 1976 because information on such waivers is maintained at the regional offices.

Our report entitled "Many Medicare and Medicaid Nursing Homes Do Not Meet Federal Fire Safety Requirements," (MWD-75-46) dated March 18, 1975, pointed out many problems associated with the waiver procedures. We reported that, of our sample of nursing homes inspected, over 79 percent of the nursing homes granted waivers from the automatic sprinkler requirement did not meet the HEW standards for such a waiver.

We reported that the HEW waiver standards, designed to insure a level of safety equivalent to that provided by automatic sprinklers, have not been established for any type of nursing home, except those of one-story protected wood frame construction. We recommended that HEW establish waiver standards for all types of nursing homes to insure, as required by the Social Security Act, that waivers from the automatic sprinkler requirement would not adversely affect patient safety. HEW did not accept this recommendation on the basis that the propriety of a waiver should be left to the discretion of the State with the approval of the HEW regional office.

STUDIES AND COMMENTS ON THE VALUE OF SPRINKLERS

The National Safety Council and American Nursing Home Association's "Safety Manual for Nursing Homes and Homes for the Aged" states that:

> "Automatic sprinkler systems provide the greatest 'safety to life' feature available in the fire protection field. Not only can they

automatically sound an alarm, but they will immediately start fighting the fire when activated. Automatic sprinklers are by far the most reliable and effective means of fire extinguishment. Other forms of protective equipment, as well as automatic alarms, have their special place, but none can ever be an effective substitute for automatic sprinkler systems."

According to the National Fire Protection Association, there is no record of a multiple death fire in any nursing home fully protected with an automatic sprinkler system.

During the summer of 1974, the American Health Care Association (formerly the American Nursing Home Association), under contract to HEW, made a series of monitored fire tests, some of which were carried out in an abandoned nursing home near Gary, Indiana. The tests were conducted by a fire safety engineering firm. The purpose of the contract, according to an HEW official, was to validate specific fire protection requirements contained in the 1967 edition of the Life Safety Code applicable to nursing homes.

According to an HEW official, the tests were also intended to provide the basis for policy modifications regarding fire safety standards, for making recommendations for action by HEW, and for suggesting legislative amendments.

During one of the fire tests, with fire department personnel stationed throughout the building, a fire started in a wooden wardrobe burned out of control and destroyed the building. According to the project engineer for the fire safety engineering firm, as the fire developed it traveled into the concealed spaces near the roof, and the fire department could not contain it. It gradually spread through the concealed spaces, then down to the second floor, and eventually worked its way completely through the building. The engineer pointed out that fire in concealed spaces can be very difficult to reach. He said buildings have been lost this way many times throughout the country.

The HEW officials noted that automatic fire sprinklers were not in use for the specific test which resulted in destroying the building. The project engineer pointed out a number of conclusions from the various tests, including:

--Smoke barrier doors were effective.

--Many of the ordinary doors, such as might be found in typical nursing homes, do a good job of containing fires for a short time.

--Automatic sprinklers generally did a good job of controlling and containing the fires. Even where it was arranged so the water from sprinklers could not hit the fires directly, the sprinklers still contained them.

--The fires did not last long enough to be affected even by combustible wall paneling and ceiling tiles when automatic sprinklers were used.

Fire in another Illinois nursing home with sprinklers did not result in deaths

The Plaza Nursing Home fire occurred on February 18, 1976. The Plaza Nursing Home, a skilled nursing facility in Niles, Illinois, can accommodate 300 residents. At the time of the fire, 224 residents, including both Medicare and Medicaid patients, occupied the home.

A nurse's aide noted smoke and a burning mattress in room 421 (no one was in the bed) and, with a nurse's assistance, evacuated the three occupants of the room. The nurse activated a pull-box alarm and closed the room door. The fire activated one of two sprinklers in the room which sprayed water on the fire. The sprinkler extinguished the fire before the firemen arrived, which was shortly after the alarm.

The fire did not cause any deaths or injuries to residents at the Plaza Nursing Home. Fire damage was confined to the mattress and little, if any, heat or smoke damage occurred.

The Fire Chief attributed the absence of injuries and the prompt control of the fire to the sprinkler system and the quick employee response. Because the fire was promptly controlled, it did not generate sufficient heat (160 degrees Fahrenheit) to activate the second sprinkler in the room.

An official of the Illinois Fire Marshal's office attributed the cause of the fire to the careless use of smoking materials by a resident.

FIRE RESISTIVE NURSING HOMES DO NOT INSURE LIFE SAFETY

The two nursing home fires in the Chicago area demonstrate that deaths do occur because of fire, even in fire resistive buildings. Moreover, there are other examples of fire resistive nursing homes which have had fires resulting in multiple deaths. Congressional committees have investigated these fires and used this information as the basis for

their recommendations for automatic sprinklers. (See apps. II and III.)

Causes of death in nursing home fires

The causes of death in the Wincrest and Cermak House fires were the same as other fires involving multiple deaths--smoke and toxic gases. There were similarities between these two fires and four other nursing facility fires in Marietta, Ohio; Buechel, Kentucky; Madison, Wisconsin; and Wayne, Pennsylvania, studied by the Senate Subcommittee on Long-Term Care. (See app. III.) All of these facilities were classified as fire resistive and smoke and other products of combustion, rather than flames, caused multiple deaths.

In 1972, after its investigation of multiple death nursing facility fires, the House Committee on Government Operations reported in House Report 92-1321 that most fire deaths in nursing homes were caused by asphyxiation resulting from toxic gases, rather than actual burns. In 1975 the Senate Special Committee on Aging reported in Senate Report 94-00 that nursing home patients present a particular problem because of their reduced tolerance to heat, smoke, and gases and that many patients are under sedation or bound with restraints. The Senate Committee reported that despite the importance of smoke as the major cause of fire deaths in the United States, there are no national standards governing the smoke generation properties of furnishings, including carpets and floor coverings. (See app. II.)

Following the January 1970 Marietta fire, the following quote was included in the "Fire Journal": "Had the building been equipped with an automatic sprinkler system, all the victims could have been saved." After the Buechel fire, the publication stated: "If the entire building (not just the rubbish and laundry chutes) had been protected with an automatic sprinkler system, the fire could have been confined to the room of origin, with very little smoke or fire damage."

CONGRESSIONAL COMMITTEES HAVE RECOMMENDED SPRINKLERS IN NURSING HOMES SINCE 1972

The matter of the safety of elderly and disabled patients in nursing facilities has been a subject of considerable congressional concern for many years. Congressional committees studying this problem have historically advocated a requirement that all long-term care facilities be fully protected with automatic sprinkler systems. (See app. II.)

In its report of August 9, 1972 (House Report 92-1321), the House Committee on Government Operations concluded that the best means of avoiding multiple death fires is to construct complete automatic sprinkler systems which will also transmit an alarm to the nearest fire service.

Based on its investigation and conclusions, the Committee recommended legislation requiring all nursing facilities, as a condition for eligibility under Medicare and Medicaid, to be equipped with an automatic sprinkler system.

Upon completion of additional studies of nursing home fire safety, the House Committee on Government Operations issued a second report (House Report 93-1627) on December 18, 1974, which reiterated its earlier recommendation that all nursing homes, regardless of the type of construction, be equipped with automatic sprinklers.

The Senate Special Committee on Aging issued a report (Senate Report 94-00) on nursing home fires in August 1975. The report recommended that all States should enact legislation requiring automatic sprinkler systems in each of their long-term care facilities.

THE COST OF AUTOMATIC SPRINKLER SYSTEMS

The cost of installing an automatic sprinkler system will vary with the size and type of facility and depend on whether it is of new or existing construction. However, to examine the impact of requiring all nursing homes to install sprinkler systems, we are presenting general data obtained regarding the cost of sprinklers. In February 1976 we discussed the cost of installing a complete sprinkler system with a representative of the National Automatic Sprinkler and Fire Control Association. According to the representative, the installation of a complete sprinkler system, including pumps, valves, piping, and alarms, would cost from 75¢ to $1.25 a square foot while constructing a building. Installation in an existing building would cost from $1 to $1.50 a square foot. Variables include whether the pipes were to be concealed or exposed, whether the sprinkler heads were to be recessed, and the availability of a water supply (that is, is a reservoir necessary), etc. In April 1976 we obtained data from seven sprinkler installation companies in the Washington-Baltimore area. According to their estimates, a sprinkler system might cost between 50¢ and $1.75 a square foot in an existing facility. Actual installations during 1975 in four existing nursing facilities, three in Ohio, and one in Minnesota, showed costs ranging from $393 to $625 a bed, as follows:

Facility	Number of beds	Square feet	Total HEW approved cost of sprinkler system	Cost per bed	Cost per square foot
1	30	12,100	$18,744	$625	$1.55
2	34	16,481	20,070	590	1.22
3	100	35,484	42,850	429	1.21
4	150	48,040	58,917	393	1.23

Sprinkler systems may cost about $5.57 a bed each month

Using the highest actual cost per bed, the monthly cost of amortizing $625 a bed over a 20-year period with a 9-1/4 percent interest rate is $5.57 a bed each month, or about 19¢ a bed each day.

According to the National Fire Protection Association, automatic sprinkler heads need replacement at the end of 50 years. However, financing sprinkler system installation over a period of more than 20 years does not seem likely. Consequently, our computation shows the monthly payment expected over the term of a 20-year loan.

Savings for nursing facilities with sprinkler systems

Although fire insurance rates vary among States, savings are possible on both building coverage and contents insurance when nursing facilities are protected by automatic sprinkler systems. We obtained information on the general rates in Maryland and Washington, D.C., and found that savings of about 30 percent are possible on building coverage and 50 percent on contents insurance.

According to a representative of the Insurance Services Office of Maryland, a rating bureau under the jurisdiction of the State Insurance Commission, fire insurance premiums would be less because of the installation of automatic sprinklers in nursing facilities. With regard to fire insurance on the building, he said the rate per $100 of insurance is about 8¢ without sprinklers in ordinary construction and about 6¢ with sprinklers, for a reduction of about 25 percent. In protected wood frame construction, he said the fire insurance rate per $100 of insurance is about 16¢ without sprinklers and about 11¢ with sprinklers, for a savings of about 30 percent.

According to a representative of the Insurance Rating Bureau of Washington, D.C., building contents insurance

premiums could be reduced by as much as 50 percent by installing automatic sprinkler systems. He quoted rates for nursing facilities of frame, ordinary, and fire resistive construction. He stated that in buildings of frame construction, the building contents insurance rate per $100 of insurance is about 71¢ without sprinklers and 45¢ with sprinklers, for a reduction of about 37 percent. In ordinary construction, he said the building contents rate per $100 of insurance is about 50¢ without sprinklers in contrast to about 30¢ with sprinklers, for a savings of about 40 percent. For fire resistive construction, he quoted a building contents insurance rate per $100 of insurance of about 20¢ without sprinklers and 10¢ with sprinklers, for a reduction of about 50 percent.

To illustrate the annual savings on fire insurance premiums due to the installation of an automatic sprinkler system, consider a hypothetical example of a protected wood frame facility insured for $500,000 on the building and $100,000 on the contents. Without a sprinkler system the facility would pay about $800 for building insurance at 16¢ per $100 of coverage and about $710 for contents insurance at 71¢ per $100 of coverage, for a total annual cost of about $1,510. With a sprinkler system the facility would pay about $550 for building insurance at 11¢ per $100 of coverage and about $450 for contents insurance at 45¢ per $100 of coverage, for a total annual cost of about $1,000. In this hypothetical example, the installation of an automatic sprinkler system would result in annual savings for fire insurance in excess of $500.

Medicare and Medicaid will help pay for automatic sprinklers

Nursing facilities participating in either Medicare or Medicaid will be reimbursed for part of the cost of automatic sprinkler systems through interest and depreciation.

Medicare facilities receive reimbursement for all allowable costs associated with the use of the facilities by Medicare patients. Medicare regulations (20 CFR 405.415) provide that an appropriate allowance for depreciation on building and equipment is an allowable cost. Consequently, Medicare will reimburse facilities for the cost of automatic sprinkler systems over a period of time, suggested as 25 years, based on the number of Medicare patients. In addition, Medicare regulations (20 CFR 405.419) provide that interest on both current and capital indebtedness is an allowable cost. As a result, part of the interest paid each year on sprinkler system loans can be reimbursed under Medicare.

Medicaid is required to reimburse facilities on a cost-related basis as of July 1, 1976. Under HEW proposed regulations, dated April 7, 1976, to implement this requirement, depreciation and interest may be included in the determination of costs, based on Medicaid patient utilization of the facility.

Over the long run, since depreciation and interest are allowable costs under both Medicare and Medicaid, part of the costs of installing automatic sprinkler systems in nursing facilities will be paid by Medicare and Medicaid. Medicare is all federally funded and Medicaid is funded by Federal, State, and local governments.

The actual amounts to be paid by Medicare and Medicaid will vary among facilities depending on the number of residents covered by the programs. However, according to a report from the Social Security Administration, Medicare and Medicaid paid over 55 percent of the national health expenditures for nursing home care during fiscal year 1975.

These expenditures include services in SNFs, ICFs, and all other homes providing nursing care.

CONCLUSIONS AND RECOMMENDATIONS TO THE CONGRESS

As a result of the investigations of multiple death nursing facility fires, a strong case can be made for a requirement that all nursing facilities, regardless of construction type, be fully protected with an automatic sprinkler system. Therefore, we recommend that the Congress enact legislation which will require that all nursing facilities be fully protected with an automatic sprinkler system.

From a practical perspective, however, we recognize that in some cases, such a requirement could result in unreasonable hardships, and some facilities may be unable to comply with a requirement for automatic sprinklers. Since such factors may exist, the waiver provision of the Social Security Act should be applied only in specific cases and only when approved by personnel qualified in fire protection engineering. HEW policy should be to make every effort to avoid waivers and to assure installation of complete sprinkler protection in all nursing homes.

The waiver provision of the Social Security Act allows a waiver if the enforcement of the fire safety requirement would result in an unreasonable hardship, but only if the waiver would not adversely affect patient health and safety.

Because of HEW's improper treatment of its existing waiver authority, as discussed in our 1975 report, and its lack of acceptance of the need for waiver standards for all types of construction, the Congress should require that HEW establish waiver standards which must be rigidly enforced before a waiver may be granted to any facility, regardless of construction type. This should help insure that the waiver will not adversely affect patient health and safety and will be applied in a uniform manner throughout the country.

CHAPTER 4

LITTLE USE MADE OF FEDERAL LOAN INSURANCE PROGRAM FOR NURSING HOME FIRE SAFETY EQUIPMENT

There are a number of ways nursing home owners can finance the cost of installing automatic sprinkler systems, including equity capital of the owner, commercial borrowing, mortgage financing, and federally insured loans. While we do not know why the federally insured loan program has not been successful, we believe that the Department of Health, Education, and Welfare's long processing time and the Department of Housing and Urban Development's position of not insuring loans for projects which have already started contribute to the problems facing nursing facilities applying for Federal loan insurance.

FEDERAL LOAN INSURANCE PROGRAM HAS NOT BEEN UTILIZED

In its August 9, 1972, report (House Report 92-1321), the House Committee on Government Operations concluded that, unless the Federal Government provided a mechanism for insuring loans for automatic sprinkler systems, not all facilities would be able to finance such systems. The Committee recommended that the appropriate congressional committees consider legislation to provide insurance for long-term loans made for installations of sprinkler systems as a means of assisting facilities in obtaining such financing.

As a result, on December 28, 1973, Public Law 93-204 was enacted, which authorized the Secretary of HUD to insure loans made to nursing facilities for the purchase and installation of fire safety equipment. This law amended section 232 of the National Housing Act which is designed to provide mortgage insurance for nursing homes.

In October 1974, 10 months after the law was approved, the Secretary of HUD and the Acting Secretary of HEW entered into an agreement for administering this section of the National Housing Act. HUD and HEW agreed to the allocation of functions, as well as policies, procedures, and joint working arrangements, for administering the loan insurance program. Applications for insurance would be processed as follows:

--HEW would furnish HUD a copy of the approved architectural exhibits and a determination that, with the installation of the equipment, the facility would meet the Life Safety Code or any other code required for Medicare or Medicaid certifications.

--HEW would advise HUD that the proposed cost of the installation of the fire safety equipment was reasonable.

--HUD would process the applications and issue a commitment and insure the loan on the basis of the analysis of the HUD underwriting staff.

--HEW would inspect the installation and notify HUD that the improvements had been satisfactorily completed.

--HUD would reimburse HEW for the services rendered under the agreement.

According to HUD, the following terms had been established for insuring such loans:

--$10,000 minimum loan.

--Annual interest rate not in excess of 9-1/4 percent.

--Annual loan insurance premium of 1 percent.

--Maturities of 5, 10, or 15 years. On loans of $50,000 or more, a maturity period of 20 years.

In a March 12, 1975, letter to all approved lenders, HUD pointed out that "it is crucial that this program be implemented quickly." The letter said "the program needs the support of the financial community to make the important goals of this new law a reality. Processing of these loans by our field offices will be given prompt attention."

According to HUD officials, there have not been any loans approved under Public Law 93-204. As of late April 1976, only one application had been sent to HUD and this was disapproved because the facility did not meet HUD financial requirements (relating to loan repayment).

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Little interest in the loan insurance program

According to HEW officials, there has been relatively little interest in the Federal loan insurance program for fire safety equipment. The following table reflects the low interest level and shows a concentration of inquiries in the Chicago region. This region includes Ohio which, on December 30, 1972, enacted a State law requiring nursing homes to install automatic sprinkler systems by January 1, 1975 (later extended to Janaury 1, 1976). This data, as of April 1976 (except for the Chicago regional office which was September 1975), was provided by HEW for 5 of its 10 regions. Information on the other regions was not available.

	HEW Regions				
	Boston	Philadelphia	Atlanta	Chicago	San Francisco
Number of inquiries to HEW	5	2	9	159	27
Number of applications received by HEW	0	0	2	10	11
Number of applications sent to HUD	0	0	1	a/4	0
Number of applications not approved by HEW	0	0	b/1	b/6	b/11
Number ot applications disapproved by HUD	0	0	1	0	0

a/In each of these cases the applicant withdrew before the application had been processed through the lender. HUD does not begin its processing until it receives an application from an approved lending institution.

b/These applications were not approved by HEW because work had begun and HUD would not insure loans for such projects.

HEW officials told us that the only application HUD acted on resulted in a disapproval because the facility did not meet HUD financial requirements relating to the ability of the nursing facility to repay the loan. Applications received by HEW and not forwarded to HUD were applicants who withdrew. The reason for the withdrawal was that they had begun work and HUD would not provide loan insurance for projects already begun.

According to HEW officials, nursing facilities did not apply, or withdrew their applications, because the program offered no advantage over conventional loans and involved much more paperwork and time. These officials said the insured loan program came too late to be helpful because most nursing facilities had already begun to make the necessary corrections as a result of the HEW and State enforcement efforts. They pointed out that HEW had been insisting on the correction of serious fire safety deficiencies before the enactment of the loan insurance program.

These officials said that because the interest rate on these loans was no better than could be obtained without the HUD guarantee, nursing facilities obtained needed financing through conventional means.

The HEW officials told us that it is unlikely that many nursing facilities will use the program in the future unless there are clear advantages, such as low interest rates. If the program is used in the future, they said it could be improved by simplifying the process of obtaining HEW and HUD approval.

HEW processing time

According to the Associate Director of the HEW Office of Nursing Home Affairs, it takes HEW more than 3 months to process applications for insured loans. This, he said, is too long for the nursing home operators to wait to begin loan negotiations with lending institutions. The official said the time period was long because HEW engineers needed to obtain all necessary information, to review and approve architectural plans, and to evaluate cost estimates. He pointed out that each regional office has a limited number of engineers and much demand for their services; the regional offices are simply overloaded with other work. Accordingly, the regional office staffs have been slow in processing applications for insured loans.

He also pointed out that the number of applications to HEW for such insured loans has been limited. Although a

number of inquiries have been received, very few result in actual applications for the program.

We examined the number of applications received in the Chicago regional office of HEW. Of approximately 159 inquiries, as of September 1975, in the program, HEW received only 10 applications. In six of the cases, HEW refused to process the applications because the nursing home owners had already started to correct their fire safety deficiencies.

According to a January 28, 1975, HUD memorandum to the Director of the HEW Office of Nursing Home Affairs, HUD would not insure a loan after work had started on installing the fire safety equipment or in making repairs.

The remaining four cases all resulted in the installation of sprinkler systems, but not with HUD-insured loans. In two cases, the owners told us that they became so frustrated because of the time HEW was taking to process the applications that they went ahead and obtained commercial financing. In another case, the owner told us that he could not find a lending institution willing to make the insured loan because the insured loan interest rate was too low at the time, and the banks were reluctant to make such loans to a nursing home. The owner then obtained an adjustment to his existing mortgage to finance the sprinkler system. In the fourth case, the owner said HUD wanted him to make extensive repairs to the roof which were not required by HEW. According to HUD officials, the repairs were suggested rather than required, and they were willing to begin processing the loan guarantee without such repairs. However, the owner withdrew his application and obtained financing elsewhere.

In all four cases the processing time by the HEW Chicago regional office took from 6 to 8 months as shown on the following page.

Long processing time can be a problem

HEW regulations provide that a nursing facility's certification will be automatically canceled no later than 60 days after the date established for the correction of health or safety deficiencies unless all deficiencies are corrected or substantial progress has been made in correcting the deficiencies. HEW guidelines define "substantial progress" to mean that corrections are well underway and that there is tangible and visible evidence of progress made. If the only progress by the facility has been a loan application,

according to the guidelines, this would not be substantial progress sufficient to prevent the automatic cancellation.

Facility	Date of application	Date of HEW approval	Approximate processing time
Nursing Facility A (30 bed ICF) Felicity, Ohio	1-13-75	7-21-75	6 months
Nursing Facility B (100 bed SNF) East Cleveland, Ohio	12-09-74	7-31-75	8 months
Nursing Facility C (150 bed SNF/ICF) Cincinanti, Ohio	2-04-75	8-15-75	7 months
Nursing Facility D (34 bed ICF/MR) Minneapolis, Minnesota	2-03-75	8-20-75	7 months

According to the HUD procedures, a loan cannot be insured under the program after work has started. An official said HUD believes that the law establishing the loan insurance program does not authorize insurance for loans for previously purchased fire safety equipment. He said that if work had begun, the purchase was considered to have been made and the loan would be for a retroactive project.

An illustration of the problems facing nursing facilities is the actual case of nursing facility D in Minneapolis. In January 1975 the facility was cited by the State survey agency as requiring an automatic sprinkler system to be in compliance with Federal fire safety requirements. At that time, an automatic cancellation date was established as September 1975, which was 60 days after the planned correction date. In February 1975 the facility applied through HEW for a federally insured loan to pay for the sprinkler installation. HEW approval of the loan insurance application was not received until mid-August 1975. Very little time remained for the facility to locate a lending institution, negotiate a loan, process the HUD application, obtain a sprinkler contractor, and begin work before the certification of the facility would be automatically canceled in September. Because of the long processing time, the facility obtained financing through other means during September 1975.

Causes of delays in HEW processing

The Deputy Director, HEW Chicago regional Office of Long-Term Care said the office believes that it is necessary for HEW engineers to physically inspect the facilities before the loan insurance applications can be processed to certify to HUD that the facility will meet Federal fire safety requirements. She said that because of past experience with the quality of State inspections in Ohio and Minnesota, HEW engineers were reluctant to rely on the State Life Safety Code surveyors. She pointed out that neither Ohio nor Minnesota use engineers or architects to make fire safety inspections. In the cases of the four facilities approved by HEW for HUD-insured loans, deficiencies were found at each facility by HEW engineers which were not identified by the State inspectors. At nursing facilities B and C, the State inspectors identified no fire safety deficiencies, although the HEW engineers noted several deficiencies in meeting the fire safety requirements. At facilities A and D, the State inspectors cited some fire safety deficiencies; the HEW engineers found several additional deficiencies.

She said also that the processing time by HEW includes the onsite inspection by HEW engineers and evaluation of architectural drawings and exhibits. In addition, HEW evaluates cost estimates from sprinkler contractors. These documents must be obtained from the facilities. In the four cases reviewed by the Chicago office, several letters were sent to the facilities requesting this information, which delayed the final approval of the applications.

HUD did not publicize the loan program

In April 1975 HUD published a brochure entitled, "Nursing Home Mortgage Insurance," which explains that the program under section 232 of the National Housing Act is designed to foster the construction of new nursing homes and the rehabilitation of existing ones. The brochure did not mention the availability of loan insurance for the purchase and installation of fire safety equipment as provided in section 232(i) of the act. The brochure did not publicize the loan insurance program or explain the eligibility requirements, the amounts available, the conditions, fees and charges, special requirements, and application instructions.

We believe that the brochure should have included a section explaining the availability of insurance for loans for fire safety equipment.

HOW TO IMPROVE THE
LOAN INSURANCE PROGRAM

The HUD loan insurance program could be a viable source of assistance to nursing facility owners in obtaining financing for automatic sprinkler systems. We believe the problems encountered in the loan insurance program for fire safety equipment rests both with HEW's processing procedures and HUD's position of not insuring loans on projects which have already been started.

To alleviate the difficulties encountered by HEW, we believe that both HEW and HUD should evaluate the loan application processing procedures to reduce the need for HEW's detailed review and inspection.

Currently, HEW receives copies of the State inspection reports which indicate nursing facility deficiencies in the fire safety requirements. In addition, HEW receives copies of the plans for correction, which, when completed, should bring the facility into compliance with Federal fire safety requirements. Consequently, it seems that these documents could satisfy the need to certify that correction of the fire safety deficiencies should result in compliance with Federal fire safety requirements because Medicare and Medicaid certification is contingent upon the approved correction of such deficiencies. With regard to the certification of reasonable cost estimates by HEW, it seems that this function could be more efficiently accomplished by HUD personnel, since they deal with estimating costs in other types of construction projects. The certification of reasonable cost could be made part of the HUD underwriting procedures and thereby reduce HEW's processing time.

To solve the problem experienced by nursing facilities denied loan insurance applications because work has previously started, we believe HUD should reconsider its position of not insuring loans for ongoing work. Nursing facilities can be under strict time constraints to correct fire safety deficiencies or be faced with the possibility of having their certification canceled. It would seem to be in the interest of patient safety to have the corrections made as soon as possible. In some cases work could be started while the loan insurance application is being processed.

The Chairman of the House Committee on Banking and Currency pointed out in a letter that the Housing and Community Development Act of 1974 (Public Law 93-383) provided additional statutory authority to HUD to assist in the

financing of fire safety equipment. He stated that in his opinion, the authority contained in section 309 of the 1974 Act could be used to assist in the financing of fire safety equipment which has been, or is in the process of being, installed. A HUD attorney told us that the provision cited by the Chairman was not operational because implementing regulations have not been published.

Title I, section 2 of the National Housing Act authorizes the Secretary of HUD to insure loans made by approved lending institutions for financing alterations, repairs, and improvements on or in existing structures. The Housing and Community Development Act of 1974, section 309, added fire safety equipment to eligible improvements. This section further specifies fire safety equipment in nursing facilities. Based on our review of this section, we believe that it permits the Secretary to insure loans already in existence for work which has begun or been completed.

CONCLUSIONS

The Federal insurance program for fire safety equipment loans has not been successful in assisting nursing homes in installing automatic sprinkler systems. The program could be more effective if HEW and HUD establish procedures to minimize loan insurance eligibility processing time and encourage lenders to make fire safety equipment loans. HEW and HUD should publicize the Federal loan insurance program.

RECOMMENDATIONS

We recommend that the Secretary of HEW:

--Review the current loan application processing procedures with HUD and establish procedures for HEW to provide HUD with:

  (1) Copies of State inspection reports to substantiate the violations of Federal fire safety requirements and the need for correction.

  (2) Copies of the approved plans for correction, which should indicate that correction of the cited deficiencies should bring the facility into compliance with Federal fire safety requirements.

--Eliminate the need for HEW to certify the reasonableness of the cost estimate for the installation of fire safety equipment.

We recommend that the Secretary of HUD:

--Establish regulations to permit fire safety equipment loan insurance after the work has begun.

--Publicize the availability of the fire safety equipment loan insurance program by revising the nursing home brochure dealing with nursing home mortgage insurance.

AGENCY COMMENTS

Because congressional hearings were scheduled, the Chairman's office requested that we not delay the report to get formal comments from HEW and HUD. However, we did give both agencies an opportunity to review our findings, conclusions, and recommendations. Informal comments from agency officials were considered where appropriate in this report.

In addition, we discussed the contents of the report with representatives of the National Fire Protection Association and the Department of Commerce's National Fire Prevention and Control Administration who agreed with our recommendations to the Congress. Their comments are included in appendixes VI and VII.

U.S. House of Representatives
SELECT COMMITTEE ON AGING
SUBCOMMITTEE ON HEALTH AND LONG-TERM CARE
715 HOUSE OFFICE BUILDING ANNEX 1
Washington, D.C. 20515
(202) 225-2381

February 20, 1976

Mr. Elmer B. Staats
Comptroller General
General Accounting Office
441 G Street
Washington, D. C. 20548

Dear Mr. Staats:

Our Subcommittee and the Senate Subcommittee on Long-Term Care intend to hold a hearing in Chicago on the recent tragic nursing home fires in that city killing approximately 20 persons. Your recent reports on the subject of nursing home fires and your staff's expertise in this area are well known to me.

I would greatly appreciate your assistance in investigating the reasons for the severity of the fires and your suggestions as to possible curative actions to avoid future similar situations. In addition, please investigate:

--- whether a sprinkler system throughout the facilities would have put out the fires or lessened the severity;

--- whether the facilities in Chicago meet the life safety code requirements for participation in the Medicare program;

--- H.E.W.'s enforcement of fire safety standards in Chicago and elsewhere;

--- the accuracy of state inspections of the Chicago facilities in question and of H.E.W.'s validation;

--- the state inspection procedure, including the qualifications of the inspectors;

--- the quality of trained personnel assisting patients during the fires;

--- H.U.D.'s implementation of P.L. 93-204, authorizing insured loans to provide fire safety equipment for nursing homes and intermediate care facilities, both in Chicago and elsewhere;

APPENDIX I

Mr. Elmer B. Staats
Page 2
February 20, 1976

--- finally, any additional matters which, in your judgement, would assist our Subcommittee in its assessment of the fires and possible action.

Kindest regards, and

Believe me,

Always sincerely,

Claude Pepper
Chairman
Subcommittee on Health and Long-Term Care

CP:ke

SUMMARY OF PERTINENT CONGRESSIONAL COMMITTEE REPORTS ON FIRE SAFETY IN NURSING HOMES

HOUSE COMMITTEE ON GOVERNMENT OPERATIONS--1972

House Report 92-1321, "Saving Lives in Nursing Home Fires," published August 9, 1972, by the House Committee on Government Operations was a part of the study on the problems of the aging begun in the latter part of 1971 by the Special Studies Subcommittee. The findings reported by the Committee included:

--In the 20 years from 1951 through 1970 a total of 496 deaths in nursing home fires were reported where multiple deaths occurred, for an annual average of 25 deaths. In 1971 there were 38 such deaths and for the first half of 1972, 30 deaths had occurred.

--The combination of a sparse night staff and aged residents, of whom 50 percent are disoriented and 40 percent are partially or totally nonambulatory, renders infeasible the successful evacuation of residents in case of a fire at night.

--The use of a fire detection alarm system connected to the nearest fire department may serve to avoid a total loss of life, but it still does not prevent, as recent fires had shown, a large number of deaths occurring, notwithstanding an extremely prompt response by the alerted fire department.

--Even fire resistive or protected noncombustible construction does not prevent contents fires in such structures. In fact, if such construction is not carefully executed, or if at the time of a fire, doors are not closed, then such construction will not stop a fire from spreading, as demonstrated by the nursing home fires in Marietta, Ohio, in 1970 and in Buechel, Kentucky, in 1971.

--Since most fire deaths in homes for the aged are caused by asphyxiation resulting from toxic gases rather than being caused by actual burns, the increased use of fire retardant materials and substances, which basically result in incomplete combustion produce toxic gases, may in the opinion of one

expert, increase the hazard of death in fires rather than reducing it.

--According to the National Safety Council and the American Nursing Home Association, automatic sprinkler systems installed throughout a facility, not only in hazardous areas, provide the greatest "safety to life" factor available in the fire protection field, because they can automatically sound an alarm and immediately start fighting the fire when activated. When activated, they are the most reliable and effective means of fire extinguishment. Other forms of protective equipment, including automatic alarms, are not effective substitutes for automatic sprinkler systems.

--This is basically the position of the National Fire Protection Association, which has voted to require early warning detection and automatic sprinklers in all new and existing nursing homes, regardless of the type of construction.

--The Fire Marshals Association of North America, which has within its membership all of the State Fire Marshals as well as those serving local government, adopted a resolution in its 1965 convention endorsing the principle of complete automatic sprinkler systems for all institutions and homes caring for the aged, regardless of construction type, detection systems, or other protection.

--The Joint Commission on Accreditation of Hospitals, in its standards of accreditation for nursing care and resident care facilities, agrees with this view and recommends that every facility be provided with a complete automatic sprinkler system.

--The best means of avoiding multiple death fires is the construction of complete automatic sprinkler systems which will also transmit an alarm to the nearest fire service.

--The cost of installing an automatic sprinkler system in an existing structure will necessarily be more than the cost of including it in new construction. The Committee has, from figures received by it, concluded that the average installation cost will be about $800 a bed for existing construction. Amortization of such installation costs on a 20-year basis, at 8 percent, comes to an annual charge of approximately $80.

--Unless the Federal Government provides a mechanism for insuring such loans, not all facilities will be able to finance sprinkler system installation costs.

Recommendations

The House Committee on Government Operations made specific recommendations in its August 9, 1972, report (House Report 92-1321) including:

--The appropriate congressional committees should consider legislation requiring that, as a condition for eligibility under Medicare or Medicaid or for housing the aged receiving old age assistance payments, each institutional facility for the aged (no matter what its name and even if not licensed under State law as a nursing home or related health care facility of some type) must have a complete automatic sprinkler system which will also transmit an alarm to the nearest fire service. No facility should be deprived of its existing Medicare or Medicaid eligibility unless it fails to comply within a reasonable period of time.

--The appropriate congressional committees should consider legislation to provide insurance for long-term loans made for installations of such sprinkler systems as a means of assisting facilities in obtaining such financing. (This legislation was enacted as Public Law 93-204, approved Dec. 28, 1973.)

HOUSE COMMITTEE ON GOVERNMENT OPERATIONS--1974

House Report 93-1627, "Fire Safety Deficiencies in Nursing Homes," published December 18, 1974, by the House Committee on Government Operations, was a continuing part of the study of problems of the aging by the Special Studies Subcommittee. The findings reported by the Committee included:

--A staff survey of Medicare facilities disclosed that half of the "unsprinklered" protected ordinary construction nursing homes housed above the street level floor, contrary to HEW regulations, blind nonambulatory or physically disabled patients. It also showed that two-thirds of the unsprinklered protected noncombustible homes also housed such patients above the street level floor.

--Under its authority to grant waivers of certain requirements under the Life Safety Code, HEW had adopted a system that had resulted in nursing facilities

receiving Federal funds, even though they had not met statutory safety requirements.

--HEW prescribed sprinkler equivalency standards in 1972 for only one class of construction--protected wood frame--leaving the granting of a waiver a matter of discretion for other types of construction. Protected ordinary construction alone accounts for almost one-third of the unsprinklered Medicare homes on HEW's Bureau of Health Insurance records.

--A sampling of homes operating under a waiver of the sprinkler requirement disclosed that 85 percent did not meet the four equivalency standards prescribed in HEW regulations.

--The same survey found that homes were granted waivers on the basis of plans to meet the HEW requirements, even though HEW policy is to grant waivers only when the four equivalency requirements are satisfied.

Recommendations

The House Committee on Government Operations made specific recommendations in its December 18, 1974, report (House Report 93-1627) including:

--The Committee reiterates its earlier recommendation that all nursing homes, regardless of the type of construction, be equipped with automatic sprinklers.

--Pending sprinklering of all such facilities, HEW should act to insure that homes presently permitted to operate without sprinklers because of construction type actually meet the Life Safety Code requirements for such construction type.

--Likewise, nonambulatory, blind, or physically disabled patients should not be housed above the first floor of any non-fire resistive structure which does not have an automatic sprinkler system.

--Waivers permitting homes to operate without sprinkler systems should not be granted to any facility, regardless of construction type, that does not meet the HEW equivalency standards.

SENATE SUBCOMMITTEE ON
LONG-TERM CARE--1975

Senate Report 94-00, "Nursing Home Care in the United States: Failure in Public Policy, Supporting Paper No. 5, the Continuing Chronicle of Nursing Home Fires," published in August 1975 by the Subcommittee on Long-Term Care, Senate Special Committee on Aging, stated:

--Older Americans make up 10 percent of the population but 30 percent of the deaths by fire. They are involved in 59 percent of all clothing fires, having a 73 percent mortality rate in such fires, as compared to 23 percent for younger persons.

--Nursing home patients present a particular problem because of several factors: (1) their advanced age (average 82), (2) their failing health (average four disabilities), (3) their mental disabilities (55 percent are mentally impaired), (4) their reduced mobility (less than half can walk), (5) their sensory impairment (loss of hearing, vision, or smell), (6) their reduced tolerance to heat, smoke, and gases, and (7) their greater susceptibility to shock.

--Despite much progress in recent years, nursing homes and related facilities still rank number one on the list of unsafe places to be in case of a fire.

--In 1973 there were 6,400 nursing home fires (17.5 each day of the year), causing $3.6 million in damage. An estimated 500 persons lost their lives in single death institutional fires. Fifty-one persons lost their lives in multiple death fires (those killing three or more). These figures represent sharp increases from 1971, when there were 4,800 fires and 31 persons killed in multiple death fires.

--Because nursing home patients often cannot take action to protect themselves in case of fire, they must rely upon the help of others. In most cases such help has not been available. There are few nursing personnel available (particularly at night), and most are untrained in rescue and firefighting techniques. Compounding the problem, many patients are under sedation or bound with restraints.

--Because the elderly cannot protect themselves and because nursing home personnel often prove incapable of taking action to save them in case of fire, automatic

detection, alarm, and extinguishment equipment are recommended. Sprinkler systems, while far from a panacea, are, by and large, the difference between life and death.

--Greater emphasis must be placed on the installation of fire-retardant furnishings. Too often fire resistive buildings are constructed only to be filled with flammable carpets, curtains, vinyl upholstery, and the like. There is no emphasis on the hazard of smoke production or on the effect of toxic gases on humans. Recent research demonstrates that deadly gases such as phosgene and cyanide are released when various plastics, acrylics, and nylons are burned. Many such products are found in nursing homes.

--Over the years, 33 percent of all nursing home fires have been caused by smoking or matches; heating or electrical problems followed next with 18 and 15 percent, respectively. Eight percent were labeled "suspicious"--a suggestion that arson was the fire's cause. Fires most frequently begin in patient rooms (35 percent) and most often take place from midnight to 6 a.m. (42 percent). About 35 percent of all nursing home fires occur in wood frame buildings; only 3 percent occur in fire resistive buildings.

Recommendations

In its August 1975 report, (Senate Report 94-00) the Senate Special Committee on Aging made several recommendations, including:

--Nursing home providers and State and Federal Government officials must work together to create an all-out effort to eliminate serious fire loss in nursing homes and related facilities. This coordinated attack must proceed on every level, encompassing the latest technology with respect to fire prevention, detection and alarm, and confinement and control.

--HEW needs to insure that States follow its procedures in recommending waivers.

--All States should enact legislation requiring automatic sprinkler systems in each of their long-term care facilities.

--Legislation should be enacted to help nursing homes repair and renovate to meet Federal minimum standards.

--State and Federal fire safety officials should place greater emphasis on the flammability of nursing home furnishings.

--A greater research effort is needed with respect to the adequacy and appropriateness of current fire safety protection for nursing home patients. Smoke production standards should be created. State and Federal policymakers should place much greater emphasis on the toxicological effects of fire on humans.

DETAILS OF OTHER FIRE RESISTIVE NURSING FACILITY FIRES INVOLVING MULTIPLE DEATHS

The 1975 report (Senate Report 94-00) by the Senate Special Committee on Aging included the following examples of fires which resulted in multiple deaths even though the nursing homes were classified as fire resistive.

Marietta, Onio--January 9, 1970

The Harmer House Convalescent Home was an unlikely site for a tragic nursing home fire. This relatively new (built in 1966), noncombustible structure boasted the most advanced technology, design, and building materials. The latter included solid core doors, brick veneer, gypsum-board walls, roof of plywood on steel stresses, concrete floor covered with noncombustible tile and/or nylon carpet with sponge-rubber backing. This home also had rate-of-rise and fixed-temperature heat detectors connected to an internal alarm system with manual pull stops. There were no sprinklers or smoke detectors, and the alarm system was not tied in to the fire department. Of the 46 residents, 32 died of smoke inhalation, even though there were 4 regular employees and 2 private-duty nurses in the home when the fire broke out at 9:57 p.m. The probable cause of the fire was a cigarette thrown into a trash-filled plastic wastebasket which, in turn, ignited the sponge-rubber carpet backing, causing considerable smoke throughout the building. The fire department's relatively late arrival (10:15) was due, in part, to the fact that the employees tried to fight the fire and evacuate residents before calling for assistance.

Buechel, Kentucky--January 14, 1971

Westminster Terrace Presbyterian Home for Senior Citizens was a modern, four-story, fire resistive building. It was made of 8-inch concrete block with 4-inch brick veneer and equipped with rate-of-rise and fixed-temparature heat detection devices and automatic smoke-stop partitions. Sprinklers were installed in laundry and rubbish areas. There was a manual alarm but no direct tie to the fire department. Two nurses were on duty at 2:23 p.m. when the fire began, and the fire department responded in less than 3 minutes. Some 13 firetrucks, 150 firefighters, and 46 emergency vehicles responded to the blaze. In spite of these efforts, 10 of the 94 residents perished. The cause of the fire is not known but experts have labeled the fire "suspicious"--indicating that arson is suspected. This fire demonstrates the folly of constructing fireproof buildings and filling them with flammable

furnishings and combustible interior finishes. The House Committee on Government Operations reported that a postfire investigation revealed that on the first floor the smokestop partitions extended only to the suspended ceiling, and utility piping pierced the concrete floor slabs so that openings were left through which smoke could travel from floor to floor. Smoke apparently traveled to the rest of the building through these gaps in the fire resistive construction and, to a lesser extent, through the building's ventilation system.

Madison, Wisconsin--January 8, 1973

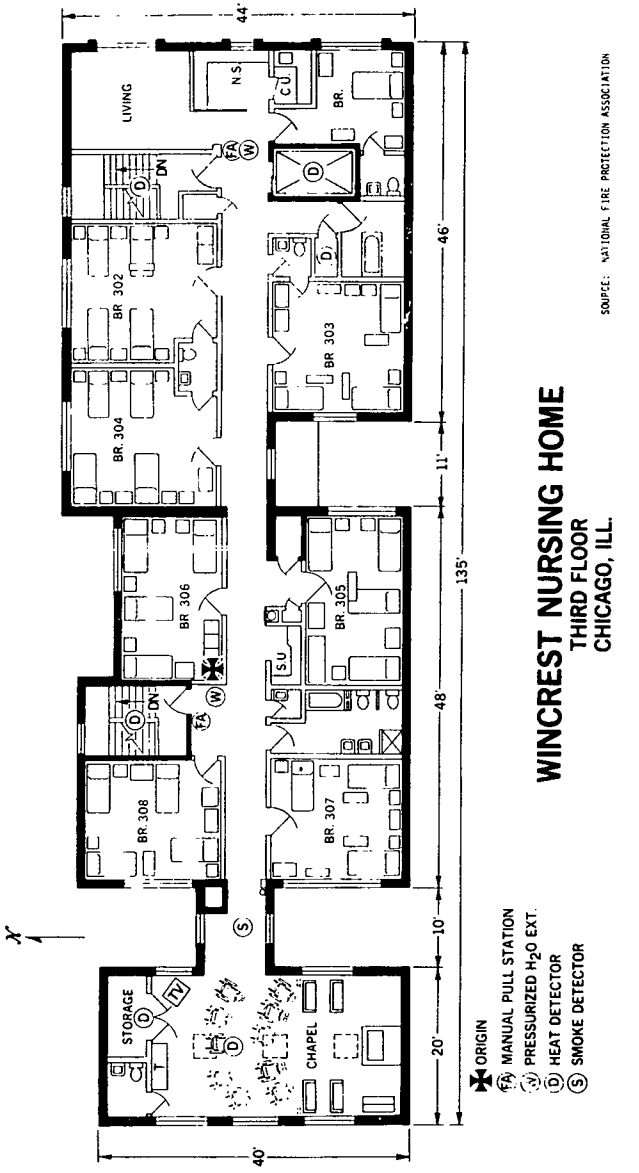
Three of the 75 residents in this comparatively new ten-story (10 year old) fire resistive apartment house with residential care facilities died in the fire. The cause of the fire was smoking in bed. In fact, 3 months before, the same occupant had been blamed for a mattress fire which caused $100 damage. The building was equipped with fire extinguishers, a manual alarm system, a public address system, posted evacuation plans, and sprinklers in stairways of the 1st-2d and 10th story levels. A switchboard operator alerted a new part-time employee that one of the residents had complained of fire. The student went to investigate; consequently there was delay in reporting. The fire department did not reach the fire which began at 9:58 until 10:15 p.m.

Wayne, Pennsylvania--December 4, 1973

On July 12 an inspection by the Pennsylvania Department of Labor and Industry revealed 13 violations of the Life Safety Code in the Caley Nursing and Rehabilitation Center which was given 6 months to comply to the code. The fire that began at 8:57 a.m. in a clothes closet killed 15 people. The fire department responded within 4 minutes. Several employees were on duty, including a physician who pulled the manual alarm to report the fire. The facility was also equipped with heat detectors. The building was a three-story, converted attic mansion of cut stone with wood frame interior walls. It had been used as a nursing home since 1951. An addition was added in 1966, largely of noncombustible material such as concrete floors and a steel-deck roof. The critical defect was the lack of sprinklers. The facility was classified as fire resistive; however, during an investigation by the Special Studies Subcommittee, House Government Operations, it was found to be improperly classified. According to a National Fire Protection Association specialist, one of the fire safety code violations noted was a lack of fire doors in the communicating openings between the new and old sections of the building. This single violation

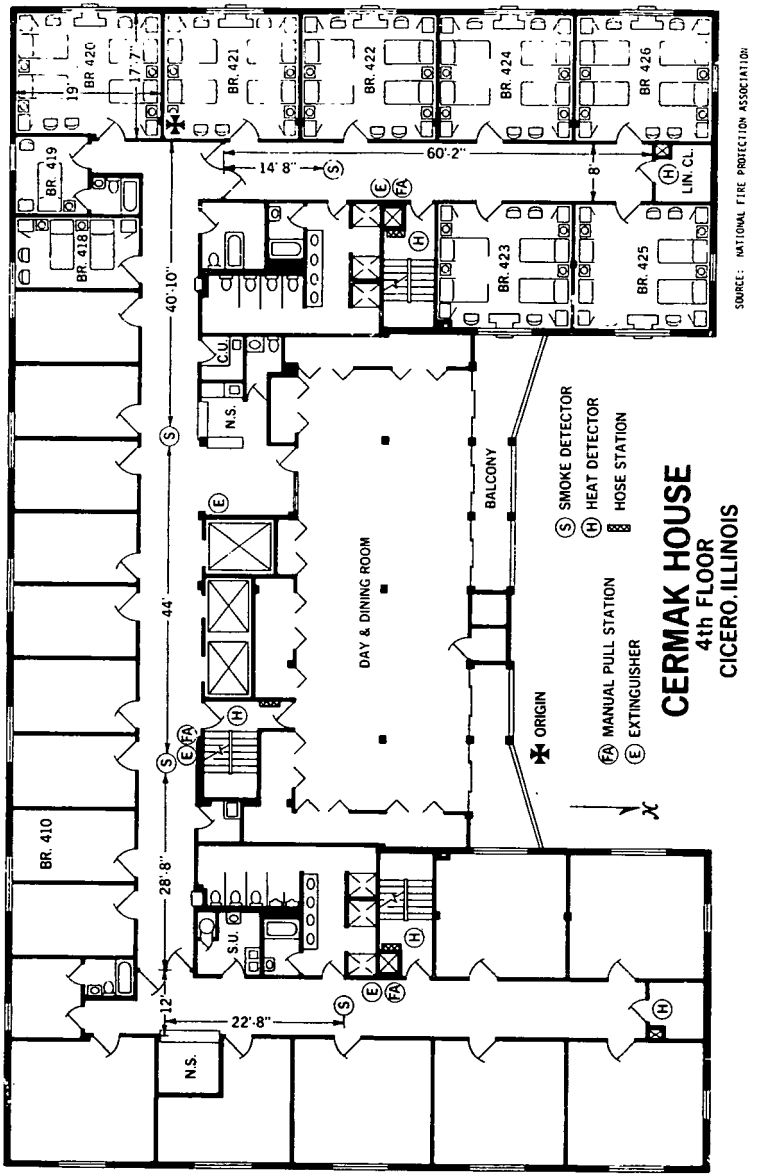
appeared to have been most critical, since smoke movement through the new section of the second floor was significant. Of the 15 fatalities, 8 were in the new section. Had the doors been provided, the degree of smoke migration would have been significantly reduced, and the possibility of fatalities would have been proportionally reduced. Important too was the lack of automatic sprinklers, which probably would have controlled the fire early, preventing loss of life.

APPENDIX IV


WINCREST NURSING HOME
THIRD FLOOR
CHICAGO, ILL.
SOURCE: NATIONAL FIRE PROTECTION ASSOCIATION
ORIGIN
MANUAL PULL STATION
PRESSURIZED H2O EXT.
HEAT DETECTOR
SMOKE DETECTOR
LIVING
N.S.
BR.
BR 302
BR 303
BR 304
BR 305
BR 306
BR 307
BR 308
STORAGE
CHAPEL
44'
46'
11'
135'
48'
10'
20'
40'

APPENDIX V

APPENDIX V



APPENDIX VI

APPENDIX VI

NATIONAL
FIRE PROTECTION
ASSOCIATION
INTERNATIONAL

May 24, 1976

Mr. Alan S. Zipp
General Accounting Office
330 C Street, S.W. Room 1126
Washington, D.C. 20201

Dear Mr. Zipp:

Thank you for permitting us to review and comment on the draft report of the Controller General to Congress on Federal Fire Safety Requirements for Nursing Homes, as produced by the Department of Health, Education and Welfare. We are glad to have the opportunity to comment on the proposals for automatic sprinkler protection of nursing homes.

The Life Safety Code developed and recommended by this Association, which, as you know, is widely enforced throughout the country, calls for the installation of automatic sprinkler systems in all nursing homes of other than "fire resistive" and one-story "protected non-combustible" construction. Further, the Life Safety Code encourages the installation of such systems in nursing homes of fire resistive and non-combustible construction by offering design trade-offs which recognize the increased safety to life provided by automatic sprinklers.

There can be no question that life safety will be considerably enhanced by the installation of complete automatic sprinkler protection in any nursing home of whatever construction and thus, on purely humanitarian grounds, deserves every encouragement. The economic assistance being made available to proprietors through HEW programs should overcome many obstacles to full automatic sprinkler protection and your recommendations for a progressive yet practical approach to this matter are to be commended.

Very truly yours,

Charles S. Morgan
President

APPENDIX VII

UNITED STATES DEPARTMENT OF COMMERCE
National Fire Prevention and Control Administration
Washington, D.C. 20230

May 26, 1976

Mr. Alan S. Zipp, CPA
Supervisory Auditor
U. S. General Accounting Office
Room 1126
330 C Street, S.W.
Washington, D. C. 20201

Dear Mr. Zipp:

We appreciate the opportunity to comment on the subject of fire safety in nursing homes as it relates to the GAO studies of Federal fire safety requirements for these facilities under the Medicare and Medicaid programs.

We strongly advocate that all nursing homes should be provided with automatic sprinkler systems throughout in accordance with the national consensus standard for sprinkler systems of the National Fire Protection Association (NFPA No. 13). We also urge that "trade-offs" in building construction and equipment be encouraged when automatic sprinklers are provided as specified in the Life Safety Code also produced by the National Fire Protection Association (NFPA No. 101).

The GAO is to be congratulated for its efforts.

Sincerely,

Howard D. Tipton
Administrator

OTHER NURSING HOME-RELATED REPORTS

ISSUED BY GAO SINCE 1972

Report title	Number	Date issued
Improvements Needed in the Managing and Monitoring of Patients' Funds Maintained by Skilled Nursing Facilities and Intermediate Care Facilities	MWD-76-102	3-18-76
VA Community Nursing Home Program	MWD-76-97	3-08-76
Error in Veterans Administration's Calculation of Community Nursing Home Rates in Medical District 5	MWD-76-50	10-24-75
Increased Compliance Needed with Nursing Home Health and Sanitary Standards	MWD-76-8	8-18-75
Many Medicare and Medicaid Nursing Homes Do Not Meet Federal Fire Safety Requirements	MWD-75-46	3-18-75
Need to More Consistently Reimburse Health Facilities Under Medicare and Medicaid	B-164031(4)	8-16-74
Better Use of Outpatient Services and Nursing Care Bed Facilities Could Improve Health Care Delivery to Veterans	B-167656	4-11-73
Problems in Providing Guidance to States in Establishing Rates of Payment for Nursing Home Care Under the Medicaid Program	B-164031(3)	4-19-72
Summary of Reviews of Planning, Construction, and Use of Medical Facilities at Selected Locations	B-167966	3-07-72
Drugs Provided to Elderly Persons in Nursing Homes Under the Medicaid Program	B-164031(3)	1-05-72

APPENDIX IX

PRINCIPAL HEW AND HUD OFFICIALS RESPONSIBLE FOR THE ADMINISTRATION OF ACTIVITIES DISCUSSED IN THIS REPORT

	Tenure of office	
	From	To
DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE		
SECRETARY OF HEALTH, EDUCATION, AND WELFARE:		
F. David Mathews	Aug. 1975	Present
Caspar W. Weinberger	Feb. 1973	Aug. 1975
Frank C. Carlucci (acting)	Jan. 1973	Feb. 1973
Elliot L. Richardson	June 1970	Jan. 1973
Robert H. Finch	Jan. 1969	June 1970
Wilbur J. Cohen	Mar. 1968	Jan. 1969
John W. Gardner	Aug. 1965	Mar. 1968
DIRECTOR, OFFICE OF NURSING HOME AFFAIRS:		
Dr. Faye G. Abdellah	Nov. 1973	Present
Ernest Michelson (acting)	Sept. 1973	Oct. 1973
SPECIAL ASSISTANT FOR NURSING HOME AFFAIRS:		
Marie Callender	Nov. 1971	Aug. 1973
ADMINISTRATOR, SOCIAL AND REHABILITATION SERVICE:		
Don I. Wortman (acting)	Jan. 1976	Present
John A. Svahn (acting)	June 1975	Jan. 1976
James S. Dwight, Jr.	June 1973	June 1975
Francis D. DeGeorge (acting)	May 1973	June 1973
Philip J. Rutledge (acting)	Feb. 1973	May 1973
John D. Twiname	Mar. 1970	Feb. 1973
Mary E. Switzer	Aug. 1967	Mar. 1970
COMMISSIONER, MEDICAL SERVICES ADMINISTRATION:		
Dr. Keith Weikel	July 1974	Present
Howard N. Newman	Feb. 1970	July 1974
Thomas Laughlin, Jr. (acting)	Aug. 1969	Feb. 1970
Dr. Francis L. Land	Nov. 1966	Aug. 1969

APPENDIX IX

	Tenure of office	
	From	To
DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE (con't.)		
COMMISSIONER, SOCIAL SECURITY ADMINISTRATION:		
James B. Cardwell	Sept. 1973	Present
Arthur E. Hess (acting)	Mar. 1973	Sept. 1973
Robert M. Ball	Apr. 1962	Mar. 1973
DIRECTOR, BUREAU OF HEALTH INSURANCE:		
Thomas M. Tierney	Apr. 1967	Present
Arthur E. Hess	July 1965	Apr. 1967
DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT		
SECRETARY, HOUSING AND URBAN DEVELOPMENT:		
Carla A. Hills	Mar. 1975	Present
James T. Lynn	Feb. 1973	Feb. 1975
ASSISTANT SECRETARY FOR HOUSING PRODUCTION AND MORTGAGE CREDIT AND FEDERAL HOUSING ADMINISTRATION COMMISSIONER:		
David S. Cook	Aug. 1975	Present
David DeWilde (acting)	Nov. 1974	Aug. 1975
Sheldon B. Lubar	July 1973	Nov. 1974

BUREAU OF STANDARDS LETTER TO HEW ON PROPOSED CHANGES TO NURSING HOME REQUIREMENTS

UNITED STATES DEPARTMENT OF COMMERCE
National Bureau of Standards
Washington, D.C. 20234

March 25, 1976

Mr. Donald Brooks
Office of Facility Engineering
and Property Management
Department of Health, Education & Welfare
7th and D Street, S.W.
Washington, DC

Dear Mr. Brooks:

This is in response to your memorandum of March 9, 1976 requesting comments relative to the proposed changes to nursing home requirements resulting from the recent fires in Chicago.

An analysis of the memorandum attached to your correspondence indicates that the various recommendations and comments can be readily discussed in approximately 5 categories. These are: 1) Compartmentation to confine fire or smoke; 2) Fire and smoke detection; 3) Automatic extinguishment; 4) Fuel control, and 5) Staff capabilities.

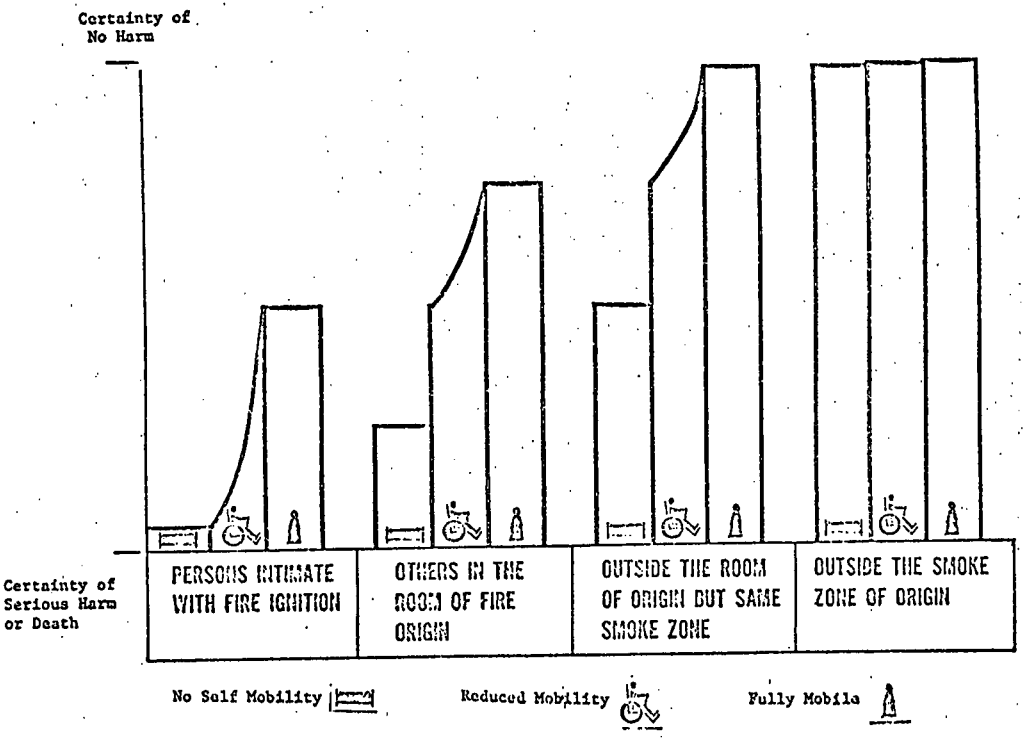
Background Statement

Every set of codes, criteria or other requirements result in some level of protection from harm. No set of documents provides complete protection. It is our belief that a health care facility conforming with the requirements of the Life Safety Code, 1973 edition, would result in protection in case of fire to the approximate degrees shown in Figure 1. (See Appendix A for a discussion of the elements and considerations in Figure 1). Throughout the rest of the discussion, we will use the comparison to the Life Safety Code (i.e., Figure 1) as the base line for discussion of the merit and impact of the fire safety recommendations and considerations being presented.

Compartmentation

The points raised on compartmentation logically divide into two areas: those related to proposals to upgrade the hardware (closers) on patient room doors to increase the security of the existing bedroom as a safe compartment; and those relating to the provision of additional compartmentation in the form of smoke barriers and cut off doors for day room activities.

FIGURE 1. APPARENT LIFE SAFETY OBJECTIVES OF THE LIFE SAFETY CODE (NFPA 101 - 1973)



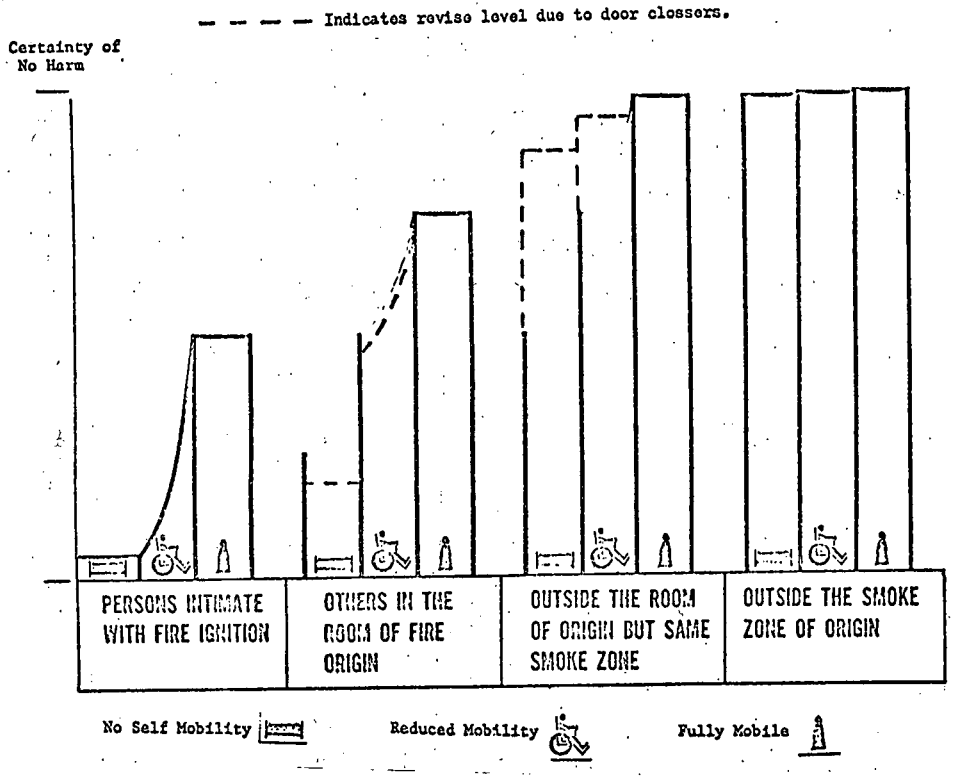
A. Provision of smoke operated door closers on patient room doors. Figure 2 demonstrates the manner in which the provision of smoke operated door closers on every patient room door could affect the overall safety of occupants in nursing homes. The result would produce no measured safety for the person intimate with the fire ignition. There may be some reduction in the safety of immobile occupants in the room of origin due to the potential interference with rescue operations should the door automatically close before the patients are removed. The protection of persons outside the room of origin but inside the same smoke zone would increase significantly, particularly the protection of the immobile persons who are dependent upon rescue or protection in their beds. There would of course be no measurable change in safety outside the smoke zone of origin. The help in confining the fire to the room of origin would of course potentially reduce the risk to the entire building. The level of protection devices specified by the Life Safety Code and the amount of redundancy in the code, however, provide such a high level of protection outside the smoke zone of origin that this would not show any increase in safety.

In considering these devices there are several items that are of important note. First in regard to the fire in the Wincrest and Cermack house our information is slightly different than that upon which Mr. Fisher and Mr. Hitt apparently based their proposals. In both cases, the door to the room of fire origin was originally closed. At the Wincrest house it was closed early in the fire by a nurse's aid. In the Cermack house it appears that it was closed at the time of fire ignitiation. In each case the door was opened. In the Wincrest house to attack the fire with fire extinguishers; and in the Cermack house to rescue the two patients that were still in the room. In each case the staff apparently knew that it was important to close the door after they had failed to extinguish the fire or had completed rescuing the patients. In each case, however, they claim they were unable to do it because of the ferocity of the fire. In line with Mssrs. Fisher and Hitt, however, the staff apparently never attempted to close any other doors. Detectors on the doors to the occupied rooms particularly at the Cermack house might have well closed the doors prior to the entry of lethal smoke.

Our estimate on costs suggests that the figure quoted by Mr. Hitt would be proper only if the door closers were designed in a new construction project. The estimates we have suggest $400 to $500 per door for a retrofit job in an existing building: more if the devices on all doors are interconnected so as to either sound an alarm or so that all doors will operate if one detects smoke.

We also do not have any reliable data on either the long term reliability or maintenance problems associated with these somewhat complex door closers. They represent a new technology and in all probability

FIGURE 2. PROVISION OF SMOKE OPERATED DOOR CLOSSERS ON PATIENT ROOM DOORS



there will be some problems. The type of devices being proposed have been on the market in modest numbers for five to ten years and the limited experience has been quite variable. If HEW were to mandate such door closers, it should be expected that there would be reliability and use problems in the first five to ten years.

At this time we also do not have any data regarding the capability of the door closer on the room of origin if the door should be opened during the fire sequence in attempts to rescue or fight the fire. Warping the door or bending of the hinges however would be expected to be a significant factor on reclosing the door.

The statements in some of the letters regarding the use of self closing doors in the codes are not quite correct. For example, any new building built in communities following the Uniform Building Code requires that patient room doors have either smoke operated door closers or self closing doors. Self closing doors may for all intents and purposes be impracticable and its doubtful if any facility could live with doors that close as soon as the person passing through them lets loose of the door or its handle.

B. Increasing the amount of compartmentation. Two recommendations are included in the proposals of Mssrs. Fisher and Hitt: first to require that every floor have at least one smoke division regardless of the number of patients on that floor; and second to require that day rooms or other assembly areas have doors. The adoption of these proposals would not change the levels of protection as depicted in Figure 1; but, would change the amount or number of persons in each group. In the Wincrest home, the provision of a smoke barrier would have probably had little impact on the outcome. The logical place to establish a smoke area would have been the point where the building narrowed between rooms 303 and 305. The effect of this would have been to have four bedrooms on each side of the smoke barrier. Bedroom 306 (the room of fire origin) and the chapel would still have been on the same side of the smoke barrier. This does not decrease the worth of Mr. Fisher's recommendation. It only points out that the provision of smoke barriers in small buildings tends to reduce the number of people in immediate danger but not eliminate the danger. Some of the codes, by the way, say that if there are more than 5 occupants per floor the smoke barrier should be used.

The point on providing doors for chapels or other day rooms is very pertinent and appropriate. In the Life Safety Code (1973) such doors are required on all day rooms over 250 square feet in new buildings. They are not, however, required in existing buildings. The extension of this to existing buildings, would in many cases, be quite practical as it would have been at the Wincrest installation. There are undoubtedly, however, numerous floor plans in which such enclosures

may be difficult. In such cases other alternate schemes of protection (total sprinklers, wide-scale use of detectors, may reasonably be considered instead). The protection of such areas, however, is a very important consideration as was emphasized in the Wincrest disaster. There are periods of time in which considerable numbers of patients are collected together in recreation, eating, religous, or other gatherings. This would appear to be more attuned to long term care installations than critical medical hospitals. In these situations, large groups are subjective to a common tradegy. We would strongly endorse this recommendation.

Fire and Smoke Detection

Three points are considered. These include smoke detectors in the corridor as specified for new buildings in the Life Safety Code, 1973, smoke detectors in every room, and heat detectors. Figure 3 plots the estimated increase in safety that would result from these three approaches. These conclusions are more tentative than some of the others; and are based on the assumption that proper response will be made after the detector alarms. The series of full scale burns to be run at the NBS site during the next 12 months are specifically aimed at getting better answers on the degree of safety lead time provided by various types of detectors in various locations. It is expected that the initial series of tests will give relatively quick data on detectors in the room of origin. It is expected that more extensive and possibly some follow up testing will be needed before firmer statements can be made on the value of detectors in the corridor.

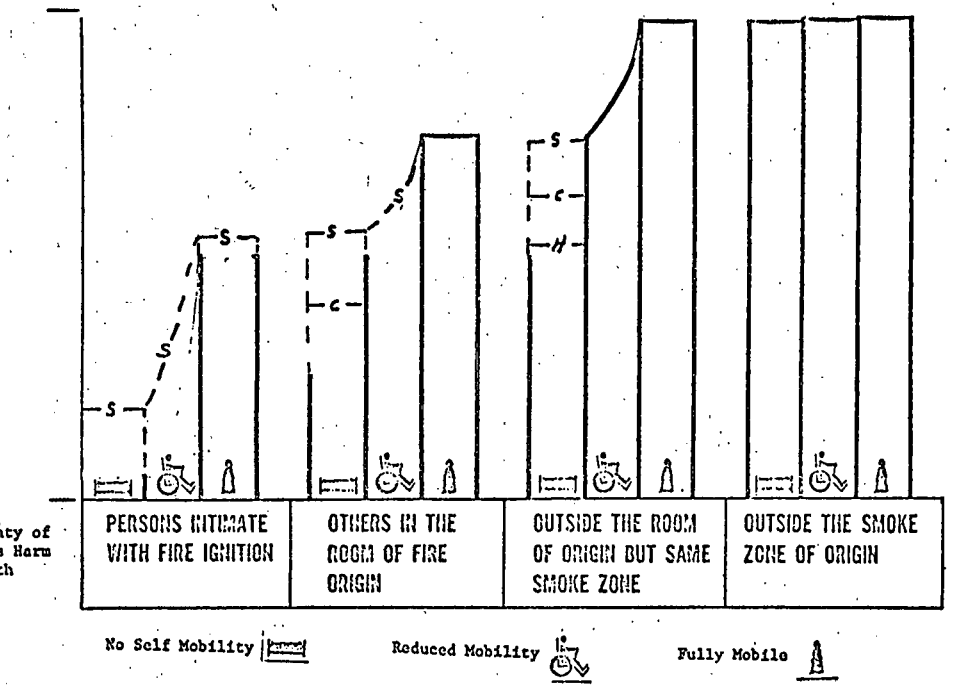
The provision of smoke detectors in every room would increase possibly by a factor of two or three the level of safety for immobile person intimate with fire ignition. The safety here would primarily be that for a smouldering fire. In such case a smoke detector in a room has a good possibility of detecting the fire before serious harm is done to the patient. If the fire is an open flaming fire, however, the possibility of reaching an invalid patient before he or she has received serious harm is low. Corridor smoke detectors and to a greater extent a smoke detector in each room would, of course, increase the level of safety for others than those in the room of fire origin; and they would be most effective at night. Where corridor smoke detectors are involved, the aerodynamics of the air handling systems in the building would be of extreme importance in determining their location and effectiveness. The main point of concern is the lead time which these type of detectors would provide for the responding nursing staff. They fall short of total protection because some fires, particularly those which rapidly develop in an open flaming mode, would progress with such speed that the lead time between the operation of the detector and the development of lethal conditions would be too short to effect any positive actions. The heat detector has no value because the lead time it can provide is so little as to be of virtually no use to increase safety for those in the same room of the fire.

FIGURE 3. PROVISION OF SMOKE OR HEAT DETECTORS

— S — Indicates revised level due to smoke detectors in each room.

— C — Indicates revised level due to smoke detectors in corridor.

— H — Indicates revised level due to heat detectors in each room.



Protection provided outside the room of origin but in the same smoke zone has a similar distribution of increased protection over the basic NFPA 101, 1973 level. An increase in safety with corridor detectors is shown above the basic level shown in Figure 1, since for the existing building situation no corridor detectors are required. Heat detectors in each room shows a small positive value, to indicate the worth of such protection in the specific condition where the door to the room of origin is closed. For this situation, heat detection would provide information on a concealed fire that might otherwise go undetected. The value of a heat detector in a room with the door open is considered to be negligible. At the more extensive levels of exposure, the value of the detectors decreases because the inherent capabilities of the basic fire protection system function well in these areas and the impact of the detectors is redundant to the other protection systems.

Automatic Extinguishment

Consistently the question of sprinkler protection arises. Sprinkler protection can be either total (covering every room, closet, toilet, passage, etc.) or partial. Figure 4 gives the estimated level of protection provided at each degree of exposure to the fire by several approaches to increased automatic sprinkler protection. The three approaches considered are 1) total sprinkler protection; 2) the provision of a sprinkler head in the corridor outside of each patient room, and the location of at least one sprinkler head in each patient room; and 3) the provision of a sprinkler head in the corridor outside each patient room without any sprinklers in the individual patient rooms.

Again there are some unanswered questions regarding the type of product gases that can be produced during sprinkler operation particularly if the fire involved is being controlled by the sprinklers rather than extinguished. Sprinkler installations are also limited by the reliability of the sprinkler. This, of course, is true for detectors, door closers, and essentially all of the mechanical protection devices available to increase the level of safety above that inherently provided by the rigid building structure. The patient room burn tests which will be run at NBS are being carefully instrumented to provide measurements of the gases emitted from patient room doors with and without sprinkler protection, to increase the knowledge in this area. Until that data is developed, the question on the effluent during sprinkler operation will remain unanswered. Sprinkler operation from any of the three approaches covered can be expected to mitigate the overall fire situation and control the fire to where it is possible for the staff to close the door on the room of fire origin.

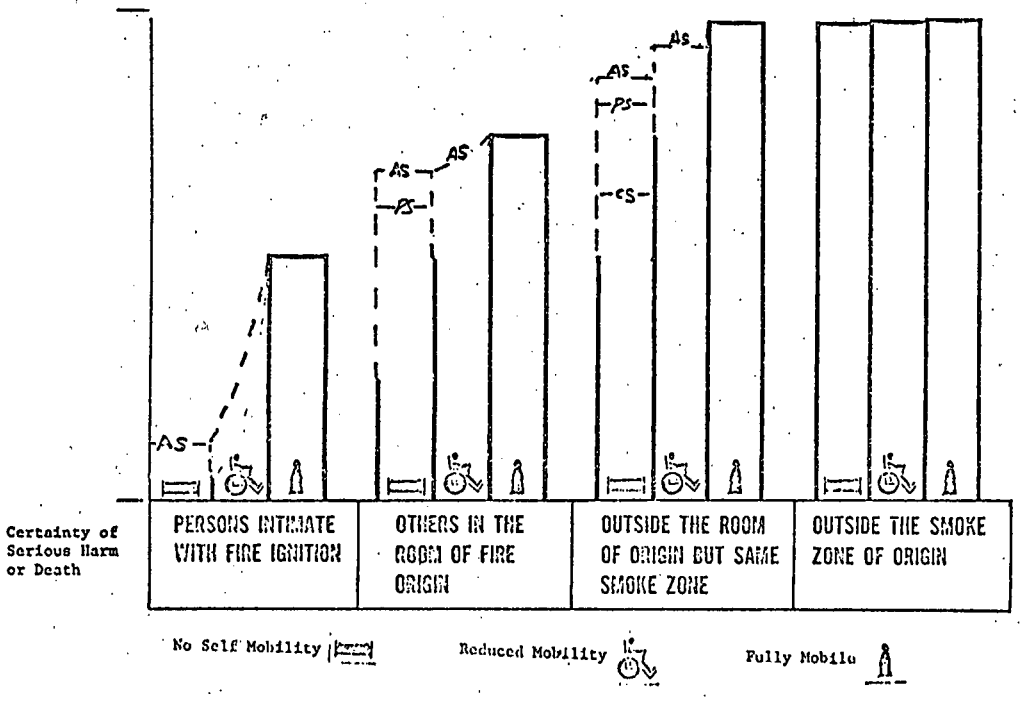
The installation of sprinkler protection retrofit situation can be quite expensive. The principle economy factors are choice of system

FIGURE 4. PROVISION OF TOTAL AUTOMATIC SPRINKLER PROTECTION

— AS — Indicates revised level due to total sprinkler protection

— PS — Indicates level due to sprinklers in rooms and corridors.

— CS — Indicates level due to sprinklers in corridors at patient room doors.



(i.e. total or partial) and the level of decor. If the sprinkler system is run exposed under the existing ceiling, the cost is greatly reduced. If the decor demands that the sprinklers be concealed above the ceiling space, a major increase of costs in the order of two to three times will occur due to the cost of removing portions of the ceiling to insert the sprinkler piping and then replacing it. If an exposed system is acceptable in a building, the cost of installing the sprinkler system could well be the same order of magnitude as the cost of installing detector operated self closers on each door. The comparison in this case, of course, is dependent on the number of doors versus the total size of the patient rooms. A principle value of total sprinkler protection, not readily apparent in Figure 4, is their capabilities of controlling the overall energy within the fire zone, and thereby protecting areas outside the smoke zone of origin. This is not an important need if a building currently meeting all of the stringent structural requirements prescribed in the Life Safety Code in either the 1967 or 1973 editions; but will provide a backup if some of the requirements are not adequately met. In considering alternatives to building deficiencies, it is common to allow total sprinkler protection to compensate for some degree of structural shortcomings in nonconforming buildings. In larger buildings where smoke control systems beyond simple doors become important the provisions of sprinklers will also reduce the requirements on the smoke control system and increase the probability of its effective operation.

The mention of sprinkler protection other than complete coverage is a break with tradition. The rationale for raising the potential of such systems is based on the success of such partial systems in extensive tests conducted at NBS over the past two years and the substantial cost difference between total systems and either of the other approaches. The type of partial sprinkler protection systems discussed here must include specifically engineered positioning of sprinkler heads on the basis of discharge patterns in line with the NBS research results. While the less than total approaches provide somewhat less safety, they do, as shown in Figure 4, result in significant safety increases over the present requirements. This is particularly true in terms of protecting those outside the room of fire origin but in the same smoke zone.

Fuel Control

Both Messrs. Fisher and Hitt mentioned the value of controlling fuel. Mr. Fisher specifically discusses the wood wardrobe where the fire in the Wincrest house almost certainly initiated. We have not plotted a risk figure to show the impact of fuel control. If fuel could be completely controlled, the risk of fire would be eliminated, but this type of control is not possible. For example, with

wardrobe or other clothes containers it is important to recognize that the material inside the storage unit and the position of the door can be a greater factor than the actual construction of the compartment. The same risk can occur from a closet built into a room. The reduction of room furniture and the control of bedding can greatly reduce the fire problem. This was pointed out to some degree in the tests conducted at Beverly Shores. The tests to be conducted at NBS are even more directed at evaluating the differences that can occur from the fuels that relate to the bedding and the interior finish. At this time we know of no practical way to totally control the fuel in furniture used in a health care facility. We expect that the tests that we are going to conduct may point out some areas such as mattresses where a direct attack can be made. A long term program to discourage wooden furniture, improved closet or wardrobe design, and eliminate highly combustible mattresses and related bedding would be meritous but expensive. At NBS there are several long range programs running parallel to the HEW project which are aimed at improved mechanisms in evaluating the hazard of furniture. These, however, are several years from developing mechanisms that could be effectively used as procurement controls.

Improving Staff (and Patient) Capabilities

The question of staff training and capabilities is interesting. It is impossible to put this on a graphic presentation. In the Wincrest home, our interviews left the impression that the staff operated as a reasonable organized team, though they were disrupted in their efforts by the abortive action of an outsider. At the Cermack house, the impression of our investigators was that the staff did not operate as a team but each member did what he or she felt best at that time. In each case, the entire team directed their attentions more towards the extinguishment of the fire than removal of the patients. In each of these cases and in other case histories that we have been studying, we sensed a repitition of underestimation of the level of impact, speed of development, and lethalness to the patients of the fire situation being faced. In this area we are developing two approaches which may be of help in the reasonable future. One involves the development of educational material abstracted from fire histories and our fire research data to better educate the nursing profession in the real nature of the threat of fire. This sort of information could be carried from job to job and would be important in any instant of a fire threat. The second area is one in which we are just now considering. In this case, we are considering an investigation on the relevance of behavior in emergencies to the type of planning, training programs, and drills involved in nursing homes. The initial study will be one of modest depth. If it shows great worth, additional follow up will be made. In the meantime, it does not appear that

anyone has a solid proposal of a mechanism to improve training other than an attempt to try to do more of the same and we question the value of "more of the same."

Summary Statement

As can be seen from the various Figures, the improvement or addition of protection items and mechanisms can raise the safety in nursing homes. The raising of the level of safety will in each case be costly. In general, the mechanisms are only modestly additive. For practical purposes if one considers the simultaneous use of more than one of these protection systems the end result could be considered at each level of exposure as equal to the better of the two, but not equal to the sum. We would not recommend without further study the requirements for both door closers and sprinklers. In general, either one could contribute to life safety with the sprinklers probably making the greater contribution. But, we question the cost benefit of using both together. Of the protection mechanisms proposed, sprinkler protection by its capability of reducing the basic fire threat offers the major potential for "trade-off" or the acceptance of deficient buildings. Figure 5 is a composite of Figures 1-4.

We also strongly endorse the requirement for a door at the entrance to all lounge, assembly or recreational area.

It is suggested that the level of protection that would be provided by compliance with the existing requirements in the Life Safety Code be reviewed and a determination made as to whether this level meets the fire safety objectives of HEW in its nursing home activities. If it is felt necessary to raise the safety level, then the type of analysis provided here can demonstrate both the requirements and options available.

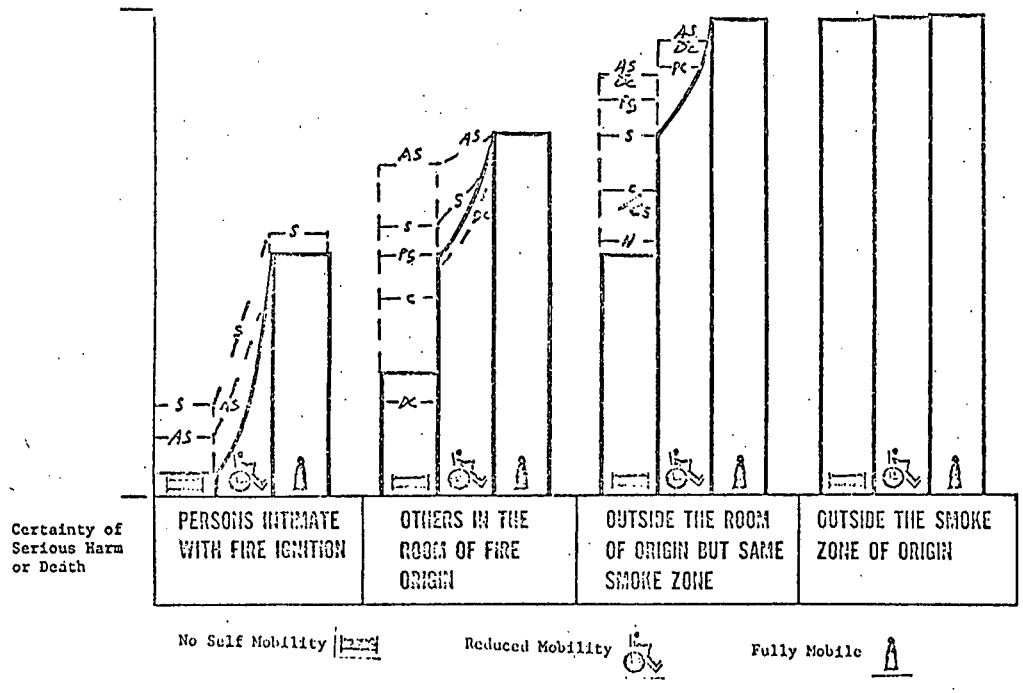
We would be pleased to meet with the OFEPM Committee or any other persons in HEW to discuss the points in this letter or other factors related to nursing home and other health care facility fire safety.

Sincerely,

H. E. Nelson, Chief
Program for Design Concepts
Center for Fire Research

FIGURE 5. COMPOSITE VIEW OF FIRE PROTECTION APPROACHES

DC = Smoke operated door closers on patient rooms. AS = Total automatic sprinkler protection.
S = Smoke detectors in each room. H = Heat detectors in each room. C = Smoke detectors in corridor.
PS = Sprinklers in rooms and corridors. CS = Sprinklers in corridors at patient room doors.



APPENDIX A. Apparent Life Safety Objectives of the Life Safety Code (NFPA 101-1973)

Figure 1 is an expression of an evaluation of the life safety objectives for health care facilities that would be achieved by full compliance with NFPA 101-73. To develop this figure, we have divided the occupants of the health care facility in two ways. The first consideration is the proximity of the exposed person to the point of fire origin. We have divided it into four classes consisting of 1) persons intimate with the fire ignition (ignition of their clothing, bedding, or other material in direct contact with them); 2) persons in the room of fire origin other than anyone who may be intimate with fire ignition; 3) any persons outside the room of origin but within the same smoke zone; and those persons outside the smoke zone of origin (if the floor is divided into separate smoke zones these persons can be on the same floor with fire origin. If, however, the floor is not so divided than this would apply only to persons on different floors).

Secondly, we have divided the character of the occupants by mobility consisting of 1) those who are not capable of any mobility without outside assistance. In this category, we include bedridden patients, patients under sedation, and those patients which might become mobile if someone were to assist them, as into a wheelchair; but can not initiate their mobility on their own. These are depicted on the graph by a cartoon of a person in bed. 2) Those persons who are partially mobile. We define these people as ones having an ability to initiate their own action for evacuation or other self preservation, but an inability to move or operate with the speed or assurance of a totally mobile person. The degree of mobility, of course, can vary from very slight mobility to almost as capable as a fully mobile person. The graph accounts to this by the sloping character of the line used to indicate safety of such persons. This is depicted by a patient in a wheelchair. 3) Those fully mobile persons, indicated by an erect figure.

The current Life Safety Code does not attempt to protect any person if their clothing, bed, or chair becomes ignited. The safety of these people depends upon either shedding the burning clothing or bedding, etc., or getting the fire promptly extinguished. The immobile patient is almost entirely dependent upon outside assistance and, as indicated, has a very low probability of survival under such case. With the person who is fully capable their percentage of survival rises. This difference, however, is based on the difference in their ability to take care of themselves rather than on anything related to the Code.

For other persons in the room of origin the Life Safety Code also provides relatively little protection. The primary activity in the Code in this area is to constrain the flammability of the interior finish; and for new buildings to specify detectors in the corridors, which may or may not provide detection early enough to help a person

in the room. In this case, inmobile patients are dependent upon obtaining assistance to remove them from the room of origin or on having the fire extinguished prior to any toxic impositions. The mobile person on the other hand has the ability to leave the room. The rates of development of fire in health care facilities while sometimes rather quick are not normally so speedy as to prevent the fully mobile person from leaving the room. In the Carmack house fire, at least one patient in the room of fire origin obtained the assistance necessary to get herself removed by shouting for help.

The Life Safety Code specifies the patient room enclosure in such a manner that the room is a separate entity from the corridor and reasonable separate from adjacent patient rooms. The concept is to provide a first line of defense at the patient room door. The Code, however, depends upon staff to assure that the door is closed. While no statistics are solidly available, it is roughly estimated that somewhere in the range of 50% of the time that the staff will close the door to a room containing a fire and that it will be kept closed. Experience seems to indicate a lesser assurity that doors on other patient rooms will be closed by the staff or by mobile occupants in that room. Again the immobile person is almost entirely dependent upon the closing of these doors. The times involved in evacuation or relocation of such persons is such that in the majority of fire incidents immobile persons in their beds must obtain protection from fire in the place. Where they are in wheelchairs or geriatric chairs, the possibility of movement is increased if a place of safety is obtainable on the same floor. The level of safety for ambulatory and fully mobile persons outside the room of fire origin is very high, as they can either evacuate under their own ability or take refuge behind the doors to their rooms. If the doors are not automatically operating they are capable of closing them. It is felt that the Life Safety Code provides an extremely high level of safety for these persons.

For persons outside the smoke zone of origin, including, of course, those on other floors or other fire segments of the building, the Life Safety Code provides a near certain level of protection for all, regardless of their degree of mobility. The Life Safety Code in fact provides significant redundancies in providing structural soundness, protection of high hazard locations, subdivision of floors, and compartmentation which tends to limit the impact of the exposing fire.

MEDICARE/MEDICAID AUTOMATED CERTIFICATION SYSTEM

TOTAL SKILLED NURSING FACILITIES

NATIONAL DEFICIENCY PATTERNS

TABLE 8
MOST RECENT SURVEYS
FOR ALL FACILITIES
THROUGH 05-12-76

UNITED STATES

TOTAL

FACILITIES		BEDS
7326		537983

IDENTIFICATION		NOT MET FACILITIES		NOT MET BEDS
I	FEDERAL, STATE, LOCAL LAWS	70		4411
1A	LICENSURE	20		1335
1B	LICENSURE OR REGISTRATION OF PERSONNEL	98	1%	6404
1C	CONFORMITY WITH OTHER LAWS	895	12%	68828
II	GOVERNING BODY	76	1%	5294
2A	DISCLOSURE OF OWNERSHIP	20		1579
2B	STAFFING PATTERNS	21		1264
2C	BYLAWS	279	3%	21011
2C	F20-BYLAWS&PATIENT CARE POLICIES	101	1%	7016
2C	F21-BYLAWS&OPERATIONS POLICIES	68		5127
2C	F22-BYLAWS&WRITTEN POLICIES	94	1%	6351
2C	F23-BYLAWS&REVIEWED AND REVISED	128	1%	6861
2D	MEDICAL REVIEW	229	3%	14915
2E	ADMINISTRATOR	154	2%	11958
2E	F26-QUALIFIED ADMINISTRATOR	31		2544
2E	F27-ENFORCES RULES AND REGULATIONS	59		4266
2E	F28-DIRECTS DELEGATED RESPONSIBILITIES	29		2653
2E	F29-LIAISON AMONG STAFF	42		3325
2E	F30-ACTS ON COMMITTEE RECOMMENDATIONS	55		4217
2E	F31-EMPLOYEE AVAILABLE TO SUBSTITUTE	104	1%	7908

MEDICARE/MEDICAID AUTOMATED CERTIFICATION SYSTEM

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THROUGH 05-12-76

UNITED STATES

IDENTIFICATION		NOT MET FACILITIES		BEDS
2F	INSTITUTIONAL PLANNING	349	4%	26900
2F-1	INSTITUTIONAL PLAN& BUDGET	260	3%	21341
2F-2	CAPITAL EXPENDITURES PLAN	360	4%	28285
2F-3	PREPARATION OF PLAN AND BUDGET	402	5%	30878
2F-4	ANNUAL REVIEW OF PLAN AND BUDGET	357	4%	26753
2G	PERSONNEL POLICIES AND PROCEDURES	578	7%	52742
2G	F42-WRITTEN PERSONNEL POLICIES	133	1%	10215
2G	F43-CURRENT EMPLOYEE PERSONNEL RECORDS	251	3%	17574
2G	F44-WRITTEN COMMUNICABLE DISEASE CONTROL POLICY	565	7%	40904
2G	F45-PERSONNEL ENVIRONMENT	71		5949
2G	F46-REVIEW OF ACCIDENTS	97	1%	6441
2G	F47-PERIODIC HEALTH EXAM	655	8%	60748
2H	STAFF DEVELOPMENT	527	7%	39324
2H	F49-ONGOING EDUCATIONAL/ TRAINING PROGRAM	231	3%	17332
2H	F50-EMPLOYEE ORIENTATION	508	6%	37445
2H	F51-INSERVICE TRAINING	389	5%	29700
2H	F52-RECORDS OF STAFF DEVELOPMENT PROGRAMS	291	3%	20764
2I	USE OF OUTSIDE RESOURCES	597	8%	43560
2I	F54-CONSULTANT AGREEMENTS	111	1%	7899
2I	F55-WRITTEN AGREEMENTS	452	6%	34447
2I	F56-FACILITY RETAINS RESPONSIBILITY	546	7%	39138
2I	F57-WRITTEN REPORTS TO ADMINISTRATOR	206	2%	15024
2I	F58-FOLLOWUP ACTION ON REPORTS	145	1%	10947

MEDICARE/MEDICAID AUTOMATED CERTIFICATION SYSTEM

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NATIONAL DEFICIENCY PATTERNS

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FOR ALL FACILITIES
THROUGH 05-12-76

UNITED STATES

IDENTIFICATION		NOT MET FACILITIES		BEDS
2J	NOTIFICATION OF CHANGES IN PATIENT STATUS	156	2%	11041
2J	F60-PHYSICIAN NOTIFIED OF CHANGES	107	1%	7659
2J	F61-PATIENT CONSULTED	48		2993
2K	PATIENTS RIGHTS	383	5%	26954
2K	F63-WRITTEN POLICIES	244	3%	16566
2K	F64-ADMINISTRATOR IS RESPONSIBLE	272	3%	18648
2K	F65-POLICIES ARE AVAILABLE	304	4%	22067
2K	F66-STAFF IS TRAINED	448	6%	33145
2K-1	PATIENT IS FULLY INFORMED OF RIGHTS	437	5%	31743
2K-2	PATIENT IS INFORMED OF SERVICE AND CHARGES	255	3%	18083
2K-3	PATIENT IS INFORMED OF MEDICAL CONDITION	289	3%	20021
2K-4	ORDERLY TRANSFER OR DISCHARGE	228	3%	16017
2K-5	ENCOURAGED TO EXERCISE RIGHTS	267	3%	18638
2K-6	MANAGES PERSONAL AFFAIRS	351	4%	26049
2K-7	FREE FROM MENTAL AND PHYSICAL ABUSE	275	3%	18910
2K-8	CONFIDENTIAL TREATMENT OF RECORDS	216	2%	14443
2K-9	TREATED WITH CONSIDERATION	204	2%	14278
2K-10	SERVICES NOT IN PLAN OF CARE	256	3%	17262
2K-11	PERSONAL COMMUNICATIONS	223	3%	15274
2K-12	PERSONAL ACTIVITIES	213	2%	13524
2K-13	PERSONAL POSSESSIONS	218	2%	13688
2K-14	PRIVACY FOR MARITAL VISITS	289	3%	19149
2L	PATIENT CARE POLICIES	493	6%	35237

MEDICARE/MEDICAID AUTOMATED CERTIFICATION SYSTEM

TOTAL SKILLED NURSING FACILITIES

NATIONAL DEFICIENCY PATTERNS

TABLE B
MOST RECENT SURVEYS
FOR ALL FACILITIES
THROUGH 05-12-76

UNITED STATES

NOT MET

IDENTIFICATION		FACILITIES		BEDS
2L	F82-POLICIES DEVELOPED BY PROFESSIONALS	257	3%	18166
2L	F83-POLICIES MEET PATIENT NEEDS	433	5%	31392
2L	F84-PROTECTS PATIENTS RIGHTS	157	2%	10655
2L	F85-RECORDS REFLECT PATIENT CARE	293	3%	21276
2L	F86-COMPLIANCE WITH UR COMMITTEE	224	3%	16494
2L	F88-EXECUTION OF PATIENT CARE POLICIES	237	3%	15803
2L	F89-RESPONSIBILITY FOR POLICY EXECUTION	89	1%	5759
III	MEDICAL DIRECTION	100	1%	7010
3A	COORDINATION OF MEDICAL CARE	158	2%	11834
3A	F95-DIRECTOR RESPONSIBLE FOR WRITTEN POLICIES	190	2%	13657
3A	F96-COORDINATION INCLUDES LIAISON	163	2%	11592
3B	RESPONSIBILITIES TO THE FACILITY	171	2%	12782
3B	F98-ACCIDENTS ARE REVIEWED	201	2%	14508
3B	F99-ADMINISTRATOR IS INFORMED	168	2%	11773
3B	F100-DIRECTOR RESPONSIBLE FOR EXECUTION OF POLICIES	178	2%	12518
IV	PHYSICIAN SERVICES	60		4342
4A	MEDICAL FINDINGS/PHYSICIANS ORDERS AT TIME OF ADMISSION	299	4%	21396
4A	F103-PATIENT INFORMATION OF ADMISSION	113	1%	8070
4A	F104-REHABILITATION INFORMATION	352	4%	24533
4B	PATIENT SUPERVISION BY PHYSICIAN	562	7%	44384
4B	F106-PHYSICIAN SUPERVISION POLICY	25		1854
4B	F107-PHYSICIAN PLANS PATIENT CARE	243	3%	19331
4B	F108-ABSENCE OF PHYSICIAN	81	1%	5225

MEDICARE/MEDICAID AUTOMATED CERTIFICATION SYSTEM

TOTAL SKILLED NURSING FACILITIES

NATIONAL DEFICIENCY PATTERNS

TABLE 8
MOST RECENT SURVEYS
FOR ALL FACILITIES
THROUGH 05-12-76

UNITED STATES

IDENTIFICATION		NOT MET FACILITIES		BEDS
4B	F109-PHYSICAL EXAM	321	4%	26229
4B	F110-PHYSICIAN S VISITS-30 DAYS	242	3%	16853
4B	F111-TOTAL CARE REVIEWED	512	6%	37257
4B	F112-SIGNS ORDERS AND PROGRESS NOTES	496	6%	38874
4B	F113-ALTERNATE SCHEDULE OF VISITS	123	1%	9565
4B	F114-EXCEPTIONS TO ALTERNATE SCHEDULE	54		4571
4B	F115-MAXIMUM 60 DAY CYCLE OF VISITS	78	1%	5935
4B	F116-ALTERNATE SCHEDULE ACTIONS	88	1%	6744
4B	F117-UR COMMITTEE MUST CONCUR	68		5173
4C	AVAILABILITY OF PHYSICIANS FOR EMERGENCY PATIENT CARE	67		4559
V	NURSING SERVICES	162	2%	10781
5A	DIRECTOR OF NURSING SERVICES	232	3%	16407
5A	F125-QUALIFIED RN DIRECTOR	70		3908
5A	F126-AUTHORITY OF DIRECTOR	103	1%	6703
5A	F127-QUALIFIED ASSISTANT DIRECTOR	93	1%	5541
5A	F128-RESPONSIBILITY OF DIRECTOR	332	4%	25842
5B	CHARGE NURSE	212	2%	15807
5B	F130-QUALIFIED CHARGE NURSE	131	1%	10297
5B	F131-SUPERVISION RESPONSIBILITY	71		6118
5B	F132-CHARGE NURSE IS NOT DIRECTOR	119	1%	8863
5B	F133-DELEGATION OF RESPONSIBILITY	105	1%	8810
5C	24-HOUR NURSING SERVICE	693	9%	56512
5C	F135-24-HOUR NURSING SERVICE	257	3%	20929

MEDICARE/MEDICAID AUTOMATED CERTIFICATION SYSTEM

TOTAL SKILLED NURSING FACILITIES

NATIONAL DEFICIENCY PATTERNS

TABLE 8
MOST RECENT SURVEYS
FOR ALL FACILITIES
THROUGH 05-12-76

UNITED STATES

NOT MET

IDENTIFICATION		FACILITIES		BEDS
5C	F136-PROPER CARE	328	4%	28332
5C	F137-PROPER STAFF ASSIGNMENTS	288	3%	19654
5C	F138-WEEKLY SCHEDULE	60		4824
5D	PATIENT CARE PLAN	829	11%	64975
5D	F170-WRITTEN PATIENT CARE PLAN	525	7%	39549
5D	F171-CARE, GOALS, RESPONSIBILITY	1016	13%	79738
5D	F172-PLAN IS REVIEWED AND UPDATED	1009	13%	79595
5E	REHABILITATIVE NURSING CARE	563	7%	48881
5E	F174-REHABILITATIVE NURSING TRAINING	150	2%	12137
5E	F175-ACTIVE PROGRAM OF REHABILITATIVE CARE	280	3%	23367
5E	F176-PERFORMED DAILY AND RECORDED	352	4%	30431
5F	SUPERVISION OF PATIENT NUTRITION	211	2%	18197
5F	F178-AWARE OF NUTRITIONAL NEEDS	160	2%	14360
5F	F179-DIETETIC INFORMATIONAL PROCEDURE	137	1%	10833
5F	F180-PATIENT INTAKE DEVIATIONS	226	3%	20243
5G	ADMINISTRATION OF DRUGS	432	5%	35033
5G	F182-COMPLIANCE WITH STATE AND LOCAL LAWS	74	1%	5416
5G	F183-PROCEDURES ESTABLISHED	320	4%	23560
5G	F184-IDENTIFICATION OF PATIENTS	212	2%	15286
5G	F185-INDIVIDUAL MEDICAL RECORD	5		372
5G	F186-DOSAGE PROPERLY RECORDED	229	3%	17303
5G	F187-PROMPTLY ADMINISTERED	153	2%	12006
5G	E188-SAME PERSON	93	1%	7083

MEDICARE/MEDICAID AUTOMATED CERTIFICATION SYSTEM

TOTAL SKILLED NURSING FACILITIES

NATIONAL DEFICIENCY PATTERNS

TABLE 8
MOST RECENT SURVEYS
FOR ALL FACILITIES
THROUGH 05-12-76

UNITED STATES

IDENTIFICATION		NOT MET FACILITIES		BEDS
5H	CONFORMANCE WITH PHYSICIANS DRUG ORDERS	569	7%	46173
5H	F190-ADMINISTERED IN ACCORDANCE WITH WRITTEN ORDERS	485	6%	39987
5H	F191-AUTOMATIC STOP ORDERS	400	5%	30033
5H	F192-VERBAL ORDERS RECORDED AND SIGNED	172	2%	14921
5H	F193-COUNTERSIGNED ORDERS	373	5%	30331
5H	F194-ATTENDING PHYSICIAN NOTIFIED	233	3%	17497
5I	STORAGE OF DRUGS AND BIOLOGICALS	470	6%	35266
5I	F202-ESTABLISHED PROCEDURES FOR STORING DRUGS	486	6%	36692
5I	F203-LOCKED COMPARTMENTS	165	2%	13386
5I	F204-AUTHORIZED ACCESS	32		2323
5I	F205-SEPARATELY LOCKED STORAGE OF CONTROLLED DRUGS	184	2%	13764
5I	F206-EMERGENCY MEDICATION KIT	337	4%	24258
VI	DIETETIC SERVICES	97	1%	8063
6A	STAFFING	770	10%	61606
6A	F209-FULL-TIME DIETETIC SUPERVISOR	917	12%	67644
6A	F210-CONSULTATION WITH QUALIFIED DIETITIAN	431	5%	33342
6A	F211-SUFFICIENT SUPPORTIVE PERSONNEL	134	1%	11994
6A	F212-PERSONNEL ON DUTY 12 HOURS	123	1%	11584
6A	F213-CONSULTANT DIETETIC SERVICES PROVIDED	402	5%	31890
6B	MENUS AND NUTRITIONAL ADEQUACY	229	3%	19866
6C	THERAPEUTIC DIETS	490	6%	43555
6C	F223-PHYSICIAN PRESCRIBES THERAPEUTIC DIETS	115	1%	11017
6C	F224-THERAPEUTIC MENUS	590	8%	50870

MEDICARE/MEDICAID AUTOMATED CERTIFICATION SYSTEM

TOTAL SKILLED NURSING FACILITIES

NATIONAL DEFICIENCY PATTERNS

TABLE 8
MOST RECENT SURVEYS
FOR ALL FACILITIES
THROUGH 05-12-76

UNITED STATES

IDENTIFICATION		NOT MET FACILITIES		BEDS
6C	F225-THERAPEUTIC DIET MANUAL	198	2%	17828
6D	FREQUENCY OF MEALS	196	2%	14967
6D	F231-THREE MEALS PER DAY	110	1%	8701
6D	F232-BEDTIME NOURISHMENTS	55		4616
6E	PREPARATION AND SERVICE OF FOOD	196	2%	19393
6E	F238-FOOD PREPARATION METHODS	220	3%	22862
6E	F239-SUBSTITUTE MEALS	123	1%	10164
6F	HYGIENE OF STAFF	159	2%	12332
6F	F241-NO COMMUNICABLE DISEASE AMONG DIETETIC PERSONNEL	95	1%	7013
6F	F242-HYGIENIC FOOD HANDLING	80	1%	6308
6F	F243-OTHER NONFOOD DUTIES	20		1808
6G	SANITARY CONDITIONS	455	6%	38751
6G	F245-SATISFACTORY SOURCES OF FOOD	19		2379
6G	F246-SANITARY STORAGE AND PREPARATION	786	10%	66443
6G	F247-PROPER WASTE DISPOSAL	368	5%	31882
6G	F248-WRITTEN INSPECTION REPORT	96	1%	6514
VII	SPECIALIZED REHABILITATIVE SERVICES	104	1%	6778
7A	ORGANIZATION AND STAFFING	260	3%	18288
7A	F251-REHABILITATIVE STAFF	72		4588
7A	F252-REHABILITATIVE SERVICES OFFERED	53		3933
7A	F253-WRITTEN POLICIES AND PROCEDURES	374	5%	27852
7B	PLAN OF CARE	418	5%	34017
7B	F255-WRITTEN PLAN	283	3%	22603

MEDICARE/MEDICAID AUTOMATED CERTIFICATION SYSTEM

TOTAL SKILLED NURSING FACILITIES

NATIONAL DEFICIENCY PATTERNS

TABLE B
MOST RECENT SURVEYS
FOR ALL FACILITIES
THROUGH 05-12-76

UNITED STATES

IDENTIFICATION		NOT MET FACILITIES		BEDS
7B	F256-WRITTEN THERAPY ORDERS	116	1%	9115
7B	F257-PROGRESS REPORT	297	4%	22675
7B	F258-PROGRESS IS REVIEWED	500	6%	40415
7C	DOCUMENTATION OF SERVICES	317	4%	26048
7D	QUALIFYING TO PROVIDE OPT SERVICES	88	1%	6860
VIII	PHARMACEUTICAL SERVICES	105	1%	8057
8A	SUPERVISION OF SERVICES	660	9%	49325
8A	F265-SUPERVISION OF PHARMACIST	66		4338
8A	F266-RESPONSIBILITIES OF PHARMACIST	83	1%	5690
8A	F267-SUFFICIENT HOURS DURING VISITS	606	8%	46830
8A	F268-PHARMACIST REVIEWS DRUG REGIMEN	420	5%	30922
8A	F269-WRITTEN REPORT	402	5%	28377
8B	CONTROL AND ACCOUNTABILITY	298	4%	23536
8B	F273-CONTROL AND ACCOUNTABILITY FOR DRUGS	285	3%	22647
8B	F274-USE OF APPROVED DRUGS	78	1%	5712
8B	F275-DISPENSED IN COMPLIANCE WITH LAW	87	1%	6619
8B	F276-SUFFICIENT RECORDS MAINTAINED	102	1%	8230
8B	F277-PHARMACIST CHECKS RECORDS	177	2%	12952
8C	LABELING OF DRUGS AND BIOLOGICALS	346	4%	25793
8D	PHARMACEUTICAL SERVICES COMMITTEE	749	10%	54764
8D	F280-PHARMACEUTICAL COMMITTEE DEVELOPS POLICIES	581	7%	42578
8D	F281-COMPOSITION OF COMMITTEE	493	6%	34666
8D	F282-COMMITTEE RESPONSIBILITY	592	8%	44095

MEDICARE/MEDICAID AUTOMATED CERTIFICATION SYSTEM

TOTAL SKILLED NURSING FACILITIES

NATIONAL DEFICIENCY PATTERNS

TABLE 8
MOST RECENT SURVEYS
FOR ALL FACILITIES
THROUGH 05-12-76

UNITED STATES

IDENTIFICATION		NOT MET FACILITIES		BEDS
8D	F283-COMMITTEE MEETS AT LEAST QUARTERLY	387	5%	27958
IX	LABORATORY + RADIOLOGIC SERVICES	16		796
9A	PROVISION FOR SERVICES	78	1%	6370
9A	F288-LAB AND X-RAY SERVICES MEET APPLICABLE CONDITION	63		5471
9A	F289-ARRANGEMENTS FOR OUTSIDE SERVICES	61		4490
9A	F290-PROVIDED ON PHYSICIAN S ORDERS	31		2639
9A	F291-PHYSICIAN NOTIFIED	15		1351
9A	F292-ASSISTS IN ARRANGING TRANSPORTATION	10		682
9A	F293-SIGNED REPORTS	77	1%	4702
9B	BLOOD AND BLOOD PRODUCTS	101	1%	7398
9B	F297-ADEQUATE BLOOD FACILITIES	27		2038
9B	F298-MEETS CERTIFICATION CONDITIONS	30		2225
9B	F299-MEETS TRANSFUSION REQUIREMENTS	35		2694
X	DENTAL SERVICES	61		4556
10A	ADVISORY DENTIST	579	7%	39571
10A	F302-ADVISORY DENTIST	464	6%	32380
10A	F303-ORAL HYGIENE POLICIES	334	4%	23962
10B	ARRANGEMENTS FOR OUTSIDE SERVICES	134	1%	10067
10B	F305-COOPERATIVE AGREEMENT WITH A DENTAL SERVICE	113	1%	7949
10B	F306-MAINTAINS LIST OF DENTISTS	93	1%	7994
10B	F307-ASSISTS PATIENT IN ARRANGING TRANSPORTATION	25		1991
XI	SOCIAL SERVICES	92	1%	6439
11A	SOCIAL SERVICE FUNCTION	253	3%	18856

MEDICARE/MEDICAID AUTOMATED CERTIFICATION SYSTEM

TOTAL SKILLED NURSING FACILITIES

NATIONAL DEFICIENCY PATTERNS

TABLE 8
MOST RECENT SURVEYS
FOR ALL FACILITIES
THROUGH 05-12-76

UNITED STATES

		NOT MET		
		FACILITIES		BEDS
IDENTIFICATION				
11A	F310-NEEDS IDENTIFIED	150	2%	13174
11A	F311-SERVICES PROVIDED TO MEET NEEDS	145	1%	11730
11A	F312-REFERRED FOR FINANCIAL ASSISTANCE	35		2568
11A	F313-INFORMED OF RIGHTS	144	1%	10172
11B	STAFFING	240	3%	18377
11B	F315-RESPONSIBLE STAFF MEMBERS	51		4657
11B	F316-OUTSIDE AGREEMENT	195	2%	14074
11B	F317-SUFFICIENT SUPPORTIVE PERSONNEL	84	1%	8841
11B	F318-ADEQUATE FACILITIES FOR SOCIAL SERVICE PERSONNEL	29		2693
11C	RECORDS AND CONFIDENTIALITY OF SOCIAL DATA	181	2%	14406
11C	F321-SOCIAL DATA RECORDS MAINTAINED	239	3%	20911
11C	F322-RECORD OF REFERRALS	120	1%	8899
11C	F323-POLICIES FOR CONFIDENTIALITY	109	1%	9335
XII	PATIENT ACTIVITIES	112	1%	7024
12A	RESPONSIBILITY FOR PATIENT ACTIVITIES	338	4%	22803
12A	F326-DESIGNATED STAFF MEMBER	64		3825
12A	F327-CONSULTATION IF NECESSARY	248	3%	16694
12B	PATIENT ACTIVITIES PROGRAM	449	6%	32174
12B	F331-ONGOING PATIENT ACTIVITIES PROGRAM	210	2%	14669
12B	F332-PHYSICIAN APPROVED OF PROGRAM	467	6%	35619
12B	F333-PROMOTES WELL BEING	135	1%	10316
12B	F334-ADEQUATE SPACE AND SUPPLIES	108	1%	9052
XIII	MEDICAL RECORDS	76	1%	5858

MEDICARE/MEDICAID AUTOMATED CERTIFICATION SYSTEM

TOTAL SKILLED NURSING FACILITIES

NATIONAL DEFICIENCY PATTERNS

TABLE 8
MOST RECENT SURVEYS
FOR ALL FACILITIES
THROUGH 05-12-76

UNITED STATES

IDENTIFICATION		NOT MET FACILITIES		BEDS
13A	STAFFING	364	4%	24241
13A	F337-SUPERVISED BY FULL-TIME EMPLOYEE	36		2474
13A	F338-SUPPORTIVE PERSONNEL	51		4118
13A	F339-CONSULTATION IF NECESSARY	234	3%	14935
13B	PROTECTION OF INFORMATION	91	1%	5894
13C	CONTENT	757	10%	57059
13C	F345-SUFFICIENT INFORMATION IN RECORD	125	1%	8995
13C	F346-CONTENTS OF RECORDS	662	9%	50066
13D	PHYSICIAN DOCUMENTATION	69		5195
13D	F351-DOCUMENTATION BY PHYSICIANS	20		1209
13D	F352-PHYSICIAN SIGNS ENTRIES	82	1%	5558
13E	COMPLETION OF RECORDS AND CENTRALIZATION OF REPORTS	283	3%	20322
13E	F354-RECORDS COMPLETED PROMPTLY	246	3%	17753
13E	F355-ALL CLINICAL INFORMATION ENTERED	52		3736
13F	RETENTION AND PRESERVATION	61		5172
13G	INDEXES	636	8%	47276
13H	LOCATION AND FACILITIES	58		4151
XIV	TRANSFER AGREEMENT	15		915
14A	PATIENT TRANSFER	49		3714
14A	F361-WRITTEN AGREEMENT	11		476
14A	F362-TRANSFER OF PATIENTS BETWEEN HOSPITAL AND SNF	17		1088
14A	F363-INTERCHANGE OF INFORMATION	43		3099
14A	F364-SECURITY OF PERSONAL EFFECTS	94	1%	6845

MEDICARE/MEDICAID AUTOMATED CERTIFICATION SYSTEM

TOTAL SKILLED NURSING FACILITIES

NATIONAL DEFICIENCY PATTERNS

TABLE 8
MOST RECENT SURVEYS
FOR ALL FACILITIES
THROUGH 05-12-76

UNITED STATES

IDENTIFICATION XV		NOT MET FACILITIES		BEDS
	PHYSICAL ENVIRONMENT	93	1%	5827
15B	EMERGENCY POWER	199	2%	13155
15B	F368-EMERGENCY POWER SUPPLY	46		2797
15B	F369-POWER REQUIREMENTS	96	1%	6159
15B	F370-EMERGENCY GENERATOR FOR LIFE SUPPORT SYSTEM	79	1%	4744
15C	FACILITIES FOR PHYSICALLY HANDICAPPED	407	5%	28333
15C	F372-ACCESSABILITY OF FACILITY	40		2797
15C	F373-ACCOMMODATIONS FOR HANDICAPPED	302	4%	22919
15C	[4.1] GROUNDS GRADED TO ENTRANCE LEVEL	50		3193
15C	[4.2] WIDTH AND GRADE OF WALKS	15		772
15C	[4.3] PARKING AREA	476	6%	37655
15C	[5.1] RAMPS PROPERLY DESIGNED	62		3977
15C	[5.2] PRIMARY ENTRANCE FOR WHEELCHAIRS	52		4015
15C	[5.3] WIDTH AND WEIGHT OF DOORS	26		1985
15C	[5.4.1] HEIGHT AND DESIGN OF STAIRS	56		4274
15C	[5.4.3] EXTENDED HANDRAILS	80	1%	6298
15C	[5.5] NON-SLIP FLOORS ON COMMON LEVEL	5		296
15C	[5.6] ACCESSIBLE TOILET ROOMS	144	1%	10562
15C	[5.7] ACCESSIBLE WATER FOUNTAINS	221	3%	15184
15C	[5.8] ACCESSIBLE PUBLIC TELEPHONES	142	1%	9737
15C	[5.9] ACCESSIBLE ELEVATORS	40		2340
15C	[5.10] ACCESSIBLE SWITCHES AND CONTROLS	16		1206
15C	[5.11] FACILITIES ARE IDENTIFIABLE BY THE BLIND	616	8%	46861

MEDICARE/MEDICAID AUTOMATED CERTIFICATION SYSTEM

TOTAL SKILLED NURSING FACILITIES

NATIONAL DEFICIENCY PATTERNS

TABLE 8
MOST RECENT SURVEYS
FOR ALL FACILITIES
THROUGH 05-12-76

UNITED STATES

IDENTIFICATION		NOT MET FACILITIES		BEDS
15C	[5.12] AUDIBLE AND VISUAL WARNING SIGNALS	573	7%	43759
15C	[5.13] HAZARDS TO HANDICAPPED ARE ELIMINATED	42		2920
15D	NURSING UNIT	188	2%	15145
15D	F394-NURSING SERVICE AREAS	79	1%	5692
15D	F395-COMMUNICATION SYSTEM	189	2%	14314
15E	PATIENT ROOMS AND TOILET FACILITIES	215	2%	19575
15E	F397-ROOMS DESIGNED FOR ADEQUATE CARE	151	2%	10813
15E	F398-NUMBER OF BEDS	110	1%	9379
15E	F399-SIZE OF SINGLE ROOMS	93	1%	8855
15E	F400-SIZE OF MULTIPATIENT ROOMS	129	1%	9960
15E	F401-ADEQUATE TOILET AND BATHING FACILITIES	74	1%	6512
15E	F402-DIRECT ACCESS TO A CORRIDOR	48		3475
15F	FACILITIES FOR SPECIAL CARE	243	3%	16935
15F	F404-SPECIAL ROOMING PROVISIONS	176	2%	12067
15F	F405-WRITTEN PROCEDURE FOR ISOLATION AND ASEPTIC	235	3%	16638
15F	F406-PRECAUTIONARY SIGNS	40		2833
15G	DINING AND PATIENT ACTIVITIES ROOMS	72		4431
15G	F408-ADEQUATE DINING AREA[S]	83	1%	6123
15G	F409-WELL LIGHTED AND VENTILATED	67		4140
15G	F410-USE OF MULTIPURPOSE ROOM	58		3542
15H	KITCHEN AND DIETETIC SERVICE AREAS	246	3%	19547
15H	F414-ADEQUATE KITCHEN AREAS	46		3030
15H	F415-PROPERLY VENTILATED AND EQUIPPED	242	3%	19838

MEDICARE/MEDICAID AUTOMATED CERTIFICATION SYSTEM

TOTAL SKILLED NURSING FACILITIES

NATIONAL DEFICIENCY PATTERNS

TABLE B
MOST RECENT SURVEYS
FOR ALL FACILITIES
THROUGH 05-12-76

UNITED STATES

NOT MET

IDENTIFICATION		FACILITIES		BEDS
15I	MAINTENANCE OF EQUIPMENT, BUILDING, AND GROUNDS	585	7%	46146
15I	F417-WRITTEN EQUIPMENT MAINTENANCE PROGRAM	287	3%	20497
15I	F418-CLEAN INTERIOR AND EXTERIOR	230	3%	19429
15I	F419-EQUIPMENT MAINTAINED IN SAFE OPERATING CONDITION	193	2%	15324
15J	OTHER ENVIRONMENTAL CONSIDERATIONS	378	5%	28304
15J	F421-FUNCTIONAL, SANITARY ENVIRONMENT	253	3%	20294
15J	F422-ADEQUATE LIGHTING LEVELS	124	1%	9891
15J	F423-COMFORTABLE SOUND LEVEL	34		3179
15J	F424-COMFORTABLE ROOM TEMPERATURES	56		5118
15J	F425-EMERGENCY WATER SUPPLY	370	5%	25487
15J	F426-ADEQUATE VENTILATION	153	2%	13056
15J	F427-HANDRAILS IN CORRIDORS	72		5326
XVI	INFECTION CONTROL	145	1%	11045
16A	INFECTION CONTROL COMMITTEE	694	9%	51401
16A	F430-COMPOSITION OF COMMITTEE	355	4%	25071
16A	F431-ESTABLISHES POLICIES AND PROCEDURES	307	4%	22326
16A	F432-MONITORS STAFF PERFORMANCE	300	4%	21218
16B	ASEPTIC AND ISOLATION TECHNIQUES	381	5%	28473
16B	F436-WRITTEN PROCEDURES	254	3%	19003
16B	F437-PROCEDURES REVIEWED ANNUALLY	200	2%	14469
16C	HOUSEKEEPING	206	2%	16178
16C	F439-SUFFICIENT HOUSEKEEPING PERSONNEL	69		5149
16C	F440-PROVIDES NECESSARY HOUSEKEEPING EQUIPMENT	114	1%	10007

MEDICARE/MEDICAID AUTOMATED CERTIFICATION SYSTEM

TOTAL SKILLED NURSING FACILITIES

NATIONAL DEFICIENCY PATTERNS

TABLE 6
MOST RECENT SURVEYS
FOR ALL FACILITIES
THROUGH 05-12-76

UNITED STATES

IDENTIFICATION		NOT MET FACILITIES		BEDS
16C	F441-TRAINING OF PERSONNEL	44		3355
16C	F442-NURSING PERSONNEL NOT ASSIGNED HOUSEKEEPING DUTIES	55		3831
16C	F443-OUTSIDE SOURCE OF HOUSEKEEPING	43		3191
16D	LINEN	220	3%	17501
16D	F445-AVAILABLE QUANTITY OF LINEN	75	1%	7003
16D	F446-HANDLING AND PROCESSING OF LINEN	275	3%	21215
16E	PEST CONTROL	89	1%	7420
XVII	DISASTER PREPAREDNESS	75	1%	5266
17A	DISASTER PLAN	249	3%	18599
17A	F450-WRITTEN DISASTER PLAN	152	2%	10836
17A	F451-PLAN DEVELOPED WITH QUALIFIED EXPERTS	118	1%	9368
17A	F452-TRANSFER OF CASUALTIES AND RECORDS	164	2%	13157
17A	F453-INSTRUCTION FOR USE OF ALARM SYSTEM	95	1%	7640
17A	F454-INFORMATION ON CONTAINING FIRE	39		2974
17A	F455-NOTIFICATION PROCEDURES	64		4616
17A	F456-EVACUATION PROCEDURES	91	1%	6384
17B	STAFF TRAINING AND DRILLS	279	3%	20914
17B	F458-EMPLOYEE DISASTER TRAINING	186	2%	14978
17B	F459-ORIENTATION AND TRAINING	265	3%	20347
XVIII	UTILIZATION REVIEW	107	1%	7105
18A	WRITTEN PLAN OF UR ACTIVITY	336	4%	26365
18A	F462-WRITTEN UR PLAN	107	1%	7914
18A	F463-CONTENTS OF PLAN	118	1%	8345

MEDICARE/MEDICAID AUTOMATED CERTIFICATION SYSTEM

TOTAL SKILLED NURSING FACILITIES

NATIONAL DEFICIENCY PATTERNS

TABLE B
MOST RECENT SURVEYS
FOR ALL FACILITIES
THROUGH 05-12-76

UNITED STATES

IDENTIFICATION		NOT MET FACILITIES		BEDS
18B	COMPOSITION AND ORGANIZATION OF UR COMMITTEE	77	1%	6088
18B	F465-COMPOSITION OF COMMITTEE	48		4012
18B	F466-MEDICAL DETERMINATIONS	16		787
18B	F467-PHYSICIANS DO NOT REVIEW NEW CASES	56		4460
18C	MEDICAL CARE EVALUATION STUDIES	310	4%	21629
18C	F476-MEDICAL CARE STUDIES	118	1%	7375
18C	F477-EMPHASIS OF STUDIES	139	1%	9958
18C	F478-PURPOSE OF STUDY	142	1%	9856
18C	F479-STUDIES INCLUDE ADMISSIONS	97	1%	5723
18C	F480-ONE STUDY ALWAYS IN PROGRESS	151	2%	9242
18D	REVIEW OF CASES OF EXTENDED DURATION	368	5%	27061
18D	F464-PERIODIC CASE REVIEW	56		3958
18D	F485-REVIEWS CAN INCLUDE NON-BENEFICIARIES	33		1844
18D	F486-REVIEW PERIODS CAN VARY	217	2%	17376
18D	F487-EXCEPTION TO 21-DAY LIMIT	33		2312
18D	F488-ADVANCE PAYMENT APPROVAL	55		3719
18D	F489-THIRTY-NINETY DAY REVIEW LIMITS	68		4680
18D	F490-FINAL DETERMINATION TIME LIMITS	123	1%	8628
18E	ADMISSION OF FURTHER STAY NOT MEDICALLY NECESSARY	78	1%	5628
18E	F496-PHYSICIANS MAKE COMMITTEE DECISION	21		946
18E	F497-CONCURRENCE OBTAINED WITHIN 7 DAYS	34		2162
18E	F498-CONSULTATION WITH ATTENDING PHYSICIAN	24		1278
18E	F499-NOTIFICATION WITHIN 48 HOURS	45		3024

MEDICARE/MEDICAID AUTOMATED CERTIFICATION SYSTEM

TOTAL SKILLED NURSING FACILITIES

NATIONAL DEFICIENCY PATTERNS

TABLE 8
MOST RECENT SURVEYS
FOR ALL FACILITIES
THROUGH 05-12-76

UNITED STATES

NOT MET

IDENTIFICATION		FACILITIES		BEDS
18F	ADMINISTRATIVE RESPONSIBILITIES	115	1%	8776
18F	F501-ADMINISTRATIVE STAFF KEPT INFORMED	44		2702
18F	F502-ADMINISTRATOR ACTS UPON RECOMMENDATIONS	105	1%	8788
18G	UTILIZATION REVIEW RECORDS	219	2%	15397
18G	F507-WRITTEN UR COMMITTEE RECORDS KEPT	51		3017
18G	F508-SIGNED REPORTS TO STAFF	107	1%	7405
18G	F509-MINUTES OF COMMITTEE MEETINGS KEPT	267	3%	20022
18H	DISCHARGE PLANNING	419	5%	30082
18H-1	DISCHARGE PLANNING PROGRAM IN OPERATION	418	5%	30027
18H-1	F523-RESULTS AVAILABLE TO UR COMMITTEE	335	4%	23967
18H-2	ADMINISTRATOR DELEGATES RESPONSIBILITY	395	5%	27990
18H-3	WRITTEN DISCHARGE PLANNING PROCEDURES	521	7%	38071
18H-4	APPROPRIATE SUMMARY UPON DISCHARGE	309	4%	20214

LIFE SAFETY CODE DEFICIENCY REPORT

The number of Skilled Nursing Facilities with a reported deficiency have been entered next to the requirement on the attached Fire Safety Survey Report Form SSA-2786. For example: 809 facilities are deficient with respect to 2 - 1 construction type. The total number of SNFs in the Medicare/Medicaid Automated Certification System at the date of report preparation was 7990.

DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE
SOCIAL SECURITY ADMINISTRATION
SOCIAL AND REHABILITATION SERVICE

Form Approved
OMB No. 72-R0973

FIRE SAFETY SURVEY REPORT
Medicare – Medicaid

1 (A) PROVIDER NUMBER	1 (B) MEDICAID I D NO
K1	K2

Part I is a guide to surveying for compliance with the Life Safety Code (21st edition, 1967). Part II contains those Medicare and Medicaid fire safety requirements not otherwise identified in the Life Safety Code. Part III contains a certification form to be completed by the fire authority when waiver of a specific provision of the Life Safety code is recommended. Building sketches can also be included in Part III.

Identifying information as shown in applicable records. Enter changes, if any, alongside each item, giving date of change.

2. NAME OF FACILITY	2 (A) MULTIPLE CONSTRUCTION (BLDGS)	2 (B) ADDRESS OF FACILITY (STREET, CITY, STATE, ZIP CODE)
	K3 A. BUILDING _____ B. WING _____ C. FLOOR _____	
3. SURVEY FOR: ☐ MEDICARE ☐ MEDICAID	4 DATE OF SURVEY K4	

5. SURVEY FOR CERTIFICATION OF:
(K5) 1. ☐ HOSPITAL 2. ☐ SKILLED NURSING FACILITY 3. ☐ INTERMEDIATE CARE FACILITY

IF "B" OR "C" IS CHECKED, CHECK APPROPRIATE ITEM(S) BELOW:

(1.) ☐ ENTIRE FACILITY	(2.) ☐ DISTINCT PART OF: (SPECIFY) _____	(3.) IF DISTINCT PART OF HOSPITAL, IS HOSPITAL ACCREDITED BY JCAH? a. ☐ YES b. ☐ NO

6. BED COMPOSITION:

a. TOTAL NO. OF BEDS IN THE FACILITY.	b. NUMBER OF HOSPITAL BEDS CERTIFIED FOR MEDICARE.	c. NUMBER OF SKILLED BEDS CERTIFIED FOR MEDICARE.	d. NUMBER OF SKILLED BEDS CERTIFIED FOR MEDICAID.	e. NUMBER OF ICF BEDS CERTIFIED FOR MEDICAID.

7. A. ☐ THE FACILITY MEETS, BASED UPON (CHECK ALL APPROPRIATE BOXES):
(K6) 1. ☐ COMPLIANCE WITH ALL PROVISIONS 2. ☐ ACCEPTANCE OF A PLAN OF CORRECTION 3. ☐ RECOMMENDED WAIVERS

such standards of the NFPA Life Safety Code (21st edition, 1967) as are applicable to hospitals or nursing homes as well as other Medicare and Medicaid requirements as shown in Part II of this form.

B. ☐ THE FACILITY DOES NOT MEET THE STANDARD

SURVEYOR-(SIGNATURE)	TITLE	OFFICE	DATE
8. SURVEYOR I.D. NO. (K7)			
FIRE AUTHORITY OFFICIAL (SIGNATURE)	TITLE	OFFICE	DATE

FORM SSA-2786 (11-74)

I.D. PREFIX	YES	NO	N.A	PART I — Items Identified In LSC	EXPLANATORY REMARKS
K8 809				2-1. **Construction Type** - Building construction complies with Section 10-1321 and 10-1322.	
K9				2-1. Indicate type of construction as defined in NFPA 220 (Standard Types of Building Construction, 1961.) A. 1. ☐ FIRE RESISTIVE 5. ☐ PROTECTED ORDINARY 2. ☐ NON-COMBUSTIBLE 6. ☐ HEAVY TIMBER 3. ☐ PROTECTED NON-COMBUSTIBLE 7. ☐ WOOD FRAME 4. ☐ ORDINARY 8. ☐ PROTECTED WOOD FRAME	
K10				B. _____ Number of stories, not including basement or cellar	
K11				C. _____ Floors on which patient rooms are located if multi-stories	
K12				D. / / Date original building permit issued or approval given by appropriate authority *(Complete sketch in Part III showing original and subsequent construction dates)*	
K13 497				2-2. **Corridor Walls** - Corridors shall be separated from sleeping rooms and treatment areas by construction having at least a 1-hour fire resistance rating with openings therein, other than doors, limited to 1296 square inches and glazed with wired glass in approved steel frames. 10-1331	
K14 1,073				2-3. **Corridor Doors** - Doors to patient rooms and diagnostic and treatment areas are 1¾" solid wood bonded core doors or the equivalent with any openings limited to 1296 square inches with wired glass in approved steel frames. *(Undercutting of such doors is not permitted).* 10-1332	
K15 398				2-4. **Subdivision of Floor Areas** - Each floor used for sleeping rooms for more than 30 patients, unless provided with a horizontal exit, is divided into at least two sections by a smoke barrier. *(New buildings are required to provide compartmentation on patient floors regardless of the number of patients). (See definition of horizontal exit in 5-5111).* 10-2311	

I.D. PREFIX	YES	NO	N/A		EXPLANATORY REMARKS
K16 433				3-1. **Smoke Barriers** - Smoke barriers or horizontal exits divide corridors into sections of not more than 150 feet in length. 10-2312	
K17 913				3-2. **Smoke Barriers** have at least a ½ hour fire rating and are continuous from exterior wall to exterior wall and floor to floor or roof deck above. *(In new buildings the smoke barrier has a fire-resistance rating of one hour).* 10-2313	
K18 148				3-3. **Common Wall** - If the building shares a common wall with a non-conforming structure, the wall is at least a 2-hour fire rated partition with any openings protected by a self-closing Class B 1½ hour fire door. 10-1131	
K19 385				3-4. **Stairway Enclosures** - Each stairway between stories is enclosed with partitions having at least a 1-hour fire resistance rating to prevent the spread of fire between stories. 10-2321	
K20 97				3-5. **Doors in stairway enclosures** are not equipped with hold-open devices. 10-2246	
K21 402				3-6. **Doors in walls separating hazardous areas** are not equipped with hold-open devices. 10-2246	
K22 137				3-7. **Stairs and smokeproof towers** are Class A or Class B. *(Class B specifications are not acceptable in new construction).* 10-2251, 5-3121	
K23 301				3-8. **Vertical Shafts** - Elevator shafts, light and ventilation shafts, chutes, and other vertical openings between stories are protected as required in item 3-4. 10-2322	
K24 129				3-9. **Fire-Stopping** - Combustible concealed spaces between the basement and the first floor are fire-stopped. *(Fire stopping in new construction shall be in accordance with 6-1311)* 10-2323	
K25 185				3-10. **Linen and Trash Chutes** - Any linen or trash chute which opens directly on to a corridor is sealed by fire-resistive construction to prevent further use or is provided with a door assembly suitable for a Class B location. *(In new construction, chute and incinerator flues do not open directly on to an exit corridor and chutes are sprinklered.)* 10-2324, 7-113	

I.D. PREFIX	YES	NO	N/A		EXPLANATORY REMARKS
K26 243				4-1. **Exits - Number and Type** - At least two exits, remote from each other, are provided for each floor or fire section. At least one of the exits is a door leading directly outside the building or to an interior stairway leading outside the building. 10-2211, 10-2212	
K27 278				4-2. **Access** - Every aisle, passageway, corridor exit discharge, exit location and "access" has a readily available egress leading to the exit. *(In new buildings, corridor dead-ends shall not exceed 30 feet).* 10-2231, 10-1234	
K28 16				4-3. **Capacity** - The capacity of exits providing horizontal travel is 30 persons per exit unit. Where travel is over stairs, the exiting capacity is 22 persons per exit unit. 10-2221	
K29 84				4-4. **Horizontal Exit** - Any horizontal exit is in accordance with section 5-5 and has at least 44 inches in clear width. 10-2261	
K30 155				4-5. **Corridor Width** - Aisles and corridors are a minimum of 48 inches in clear width when serving as a means of egress from institutional sleeping rooms. *(For new construction the corridor is 8 feet in clear width).* 10-2233, 10-1233	
K31 32				4-6. **Room Egress** - All sleeping rooms have a door leading directly to a corridor providing access to an exit, unless there is a door leading directly to grade. See 10-2234 for allowance of one intervening room.	
K32 36				4-7. **Travel distances** to an exit are 100 feet or less from the entrance door and 150 feet from any point in a room. *(In buildings completely protected by an automatic sprinkler system these distances may be increased by 50 feet.)* 10-2232; for new construction: 10-1232	
K33 398				4-8. **Door Width** - Any door to a patient's sleeping room, any door between occupied spaces and the required exits and exit doorways are at least 40 inches in clear width. *(44 inches in new buildings.)* See 10-2242 for allowable exceptions.	
K34 76				4-9. **Doors in Line of Exit Travel** - Every door in the line exit travel from a patient's sleeping room is of the swinging type. 10-2244	

I.D. PREFIX	YES	NO	N.A		EXPLANATORY REMARKS
K35 79				5-1. **Patient Rooms** - Locks installed on patient sleeping room doors other than doors not leading directly to the exterior of the building can be locked only from the corridor side. All sleeping room locks are readily opened by the patient from inside the room without the use of a key. Patient room doors lockable from the inside are permitted provided they can be unlocked from the corridor side and the keys are readily available to attendants. 10-2242	
K36 91				5-2. **Windows** - Every patient's bedroom, unless it has a door leading directly outside of the building, has at least one outside window which can be opened from the inside without the use of tools. 10-2213	
K37 1,440				5-3. **Doors in Fire and Smoke Partitions** - Every door in a fire partition, horizontal exit, and smokestop partition shall be self-closing. Doors may be held open only by electric hold-open devices and are capable of being opened and closed manually. Doors shall be closed upon actuation of the fire alarm system and by one of the approved methods shown as A, B, C in Explanatory Remarks. However, if more than one of the protection systems is installed, each system upon actuation, must close all fire and smoke partition doors. 10-2245, 10-2313	
K38				5-4. **Closing Fire and Smoke Doors** - Indicate which of the following methods will automatically close those fire or smoke doors which are normally held open: 1. ☐ A. Activation of the sprinkler system. 2. ☐ B. Actuation of any detector of a complete smoke or products of combustion detection system. 3. ☐ C. By local detection devices installed to detect smoke or other products of combustion on either side of the door opening.	
K39 654				5-5. **Stairwell doors** bear an appropriate sign indicating that this is a fire exit and must be kept closed. 5-2133	
K40 305				5-6. **Exit Lighting** - Means of egress are illuminated to permit safe evacuation of patients. 10-2272, 5-10113	

I.D. PREFIX	YES	NO	N.A		EXPLANATORY REMARKS
K41 512				6-1. **Exit and Directional Signs** are continuously illuminated with a reliable light source and include the word EXIT in easily visible letters. 10-2271, 5-11121	
K42				6-2. **Hospitals Only:** *(Indicate Not Applicable for Nursing Homes)* **Central electrical systems** are designed, installed, and maintained to assure continuity of electrical power in accordance with NFPA Standard No. 76 *(Essential Electrical Systems for Hospitals, 1967)* 10-1293	
K43 331				6-3. **Emergency lighting** of Type I, II or III is provided in facilities with an inpatient capacity of 30 or more persons. *(In new buildings only types I or II are permitted.)* 10-2273, 5-102, 10-1294	
K44 293				6-4. **Required emergency lighting** is automatic and not manual. 5-10215	
K45 268				6-5. **Interior finish** of walls and ceilings is Class A or Class B. *(In completely sprinklered buildings, Class C interior finish may be continued in use. In newly constructed buildings, means of egress and patient rooms accommodating more than 4 patients have Class A interior finish).* 6-2, 10-1351, 10-2331	
K46 395				6-6. **Floor Covering** has a flame spread rating not in excess of 75 when tested in accordance with NFPA Standard 255, "Flame Spread Tests". *(Flame spread rating of floor covering in completely sprinklered existing buildings is not over 200).*	
K47 →				B. Indicate floor covering test score: 1. ☐ CONCRETE, MARBLE, TERAZZO, ETC. 2. ☐ RESILIENT 3. ☐ CARPETING	
K48 →				6-6. A. **Floor Covering** Indicate type of finish floor or floor covering: 1. ☐ 0–75 3. ☐ OVER 200 2. ☐ 76–200 4. ☐ NOT TESTED	
K49 →				C. Testing Laboratory:	

I.D. PREFIX	YES	NO	N.A.		EXPLANATORY REMARKS
K50 1,012				7-1. **Sprinkler Coverage** - Automatic Sprinkler protection is provided throughout the facility with adequate water supply and pressure *(15 psi at the most remote sprinkler heads).* Fire resistive buildings or 1-hour protected non-combustible buildings of one story should be marked "Not Applicable." 10-2341, NFPA Std. 13	
K51 456				7-2. **Sprinkler System Maintenance** - Automatic sprinkler systems are maintained, inspected and tested in accordance with NFPA Standard 13A *(Care and Maintenance of Sprinkler Systems)* 6-4131	
K52				7-2. A. _____ Date sprinkler system last checked & necessary maintenance last provided.	
				B. Show who provided the service:	
K53				C. Note the source of water supply for the sprinkler system:	
K54 1,159				7-3. **Sprinkler Alarm System** - The automatic sprinkler system is electrically inter-connected with the fire alarm system 10-2342	
K55 1,301				7-4. **The main sprinkler control valve** is electrically supervised so that at least a local alarm will sound when the valve is closed. 10-2342	
K56 1,073				7-5. **Manually operated fire alarm system** is provided. In new buildings it is electrically supervised. *(Pre-signal system is not acceptable).* 10-2344, 10-1365	
336 K57				7-6. **The fire alarm system** is tested at least weekly. 17-1412	
K58 277				7-7. **Portable fire extinguishers** are provided in accordance with NFPA Standard 10 *(Installation of Portable Fire Extinguishers).* 10-2345	
K59 335				7-8. **Fire extinguishers** are maintained in accordance with NFPA Standard 10A *(Maintenance and Use of Portable Fire Extinguishers).* 6-4221	
K60 1,014				7-9. **Air Conditioning and ventilating equipment** is maintained in accordance with NFPA 90A *(Installation of Air Conditioning and Ventilating Systems).* 10-2411	
K61 82				7-10. **Fuel-burning space heaters** and portable electric space heaters are not used. 10-2412	
K62 196				7-11. **Combustion and ventilation air** for boiler, incinerator and heater room is taken from and discharged to the outside air. 10-2413	

I.D. PREFIX	YES	NO	N.A		EXPLANATORY REMARKS
K63 1,654				8-1. **Hazardous Areas** - Every hazardous area has automatic fire protection or is separated by construction having at least a 1-hour fire resistance rating. Where a hazard is severe, both automatic fire protection and fire-resistive construction are used. 10-2351	
K64				8-1. A. The following hazardous areas are protected by automatic extinguishing systems and/or fire-separated. AES - Automatic extinguishment system S - Separated N/A - Not Applicable	

	(1) AES	(2) S	(3) N/A	
(a)				boiler, heater rooms
(b)				incinerator
(c)				laundries
(d)				repair shops
(e)				laboratories using hazardous quantities of flammable solvents
(f)				areas storing hazardous quantities of combustibles
(g)				trash collection rooms
(h)				employee locker rooms
(i)				soiled linen rooms
(j)				kitchen
(k)				handicraft shop
(l)				gift shop

K65 191				8-2. **Fire Protection Plan** - The facility has in effect and available to all supervisory personnel written copies of a plan for the protection of all persons in the event of fire and their evacuation to areas of refuge and from the building. 17-4111	

I.D. PREFIX	YES	NO	N/A		EXPLANATORY REMARKS
K66 342				9-1. **Evacuation Plan Posted** - The evacuation plan is posted in prominent locations on all floors. 17-4111	
K67 512				9-2. **Fire Drills** - A minimum of 12 fire drills are conducted annually at irregular intervals to familiarize employees on all shifts with their responsibilities. 17-4113, 17-11	
K68 232				9-3. **Furnishings and Decorations** - Furnishings and decorations do not obstruct exits or the ability to locate exits. 17-1211	
K69 409				9-4. **All combustible draperies and curtains** *(including cubicle curtains)* are rendered and maintained flame-retardant. 17-4151	
K70 568				9-5. **Wastebaskets** are of non-combustible material. 17-1213, 17-4161	
K71 429				9-6. **Smoking** - Regulations to control smoking have been adopted and implemented and are prominently posted throughout the building. 17-4141	

I.D. PREFIX	YES	NO	N/A	PART II — NON-WAIVERABLE Requirements Specified by Federal Regulations 405.1022(b), 405.1134(a)	EXPLANATORY REMARKS
K72 324				10-1. **Nonflammable medical gas systems** such as oxygen and nitrous oxide used for the administration of inhalation therapy and resuscitative purposes comply with NFPA Standard 56B *(Inhalation Therapy, 1968)*	
K73 194				10-2. **Piped-in oxygen systems** shall comply with NFPA Standard 56F *(Nonflammable Medical Gases, 1970)*	
K74				10-3. **Hospitals Only** *(Indicate Not Applicable for nursing homes)* **Anesthetizing areas** and rooms used for the storage of flammable anesthetic agents are designed, operated and maintained in accordance with NFPA standard 56A *(Inhalation Anesthetics, 1971)*	
K75 35				10-4. **Nursing Homes Only** *(Indicate Not Applicable for hospitals)* **Housing of Blind and Non-Ambulatory Patients** - Blind patients and non-ambulatory or physically handicapped patients are not housed above the street level floor unless the facility is of fire resistive construction, 1-hour protected non-combustible construction, or fully sprinklered 1-hour protected ordinary or fully sprinklered protected wood frame constrction.	

I.D. PREFIX	YES	NO	N A	PART III	EXPLANATORY REMARKS
				A. Alternative Provisions for Sprinkler Requirements - If item 5-7 on sprinkler coverage has been answered "NOT MET" and the facility is a one-story protected wood frame facility, answer the next four items.	
K76 519				11-1. **Hazardous Areas** - All hazardous areas are sprinklered.	
K77 347				11-2. **Detection Systems** - Automatic fire detection devices are installed in all areas required by the Life Safety Code to be protected by an automatic sprinkler system. The detection system is currently listed with UL's Fire Protection List. The system is arranged to close all fire doors in barrier partitions and, where possible, shall be hooked into the local fire department or central control. At a minimum, the detection system must activate an alarm system inside and outside the building.	
K78 216				11-3. **Compartmentation** - Patient rooms are separated from each other and all other areas by construction having at least a 1-hour fire resistance rating.	
K79 126				11-4. **Fire Department Response** - The response time and capability of the local fire department is adequate, in the judgment of the State fire authority official, to provide an acceptable level of protection for an unsprinklered facility.	

B. RECOMMENDATION FOR WAIVER OF SPECIFIC LIFE SAFETY CODE PROVISIONS

For each item of the Life Safety Code (21st edition, 1967) recommended for waiver, list the survey report form item number and state the reason for the conclusion that: (a) the specific provisions of the code, if rigidly applied, would result in unreasonable hardship on the facility, and (b) the waiver of such unmet provisions will not adversely affect the health and safety of the patients. (If additional space is required, use reverse side.)

PROVISION NUMBER(S)	JUSTIFICATION
K80	

SURVEYOR (SIGNATURE)	TITLE	OFFICE	DATE

FIRE AUTHORITY OFFICIAL (SIGNATURE)	TITLE	OFFICE	DATE

FORM SSA-2786 (11-74)

INVENTORY OF HEALTH CARE FACILITY SURVEYORS UNITED STATES-1974

DHEW Publication No. (HSA) 75-6503

U.S. DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE
Health Services Administration
Bureau of Quality Assurance
Division of Provider Standards and Certification

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INVENTORY OF HEALTH CARE FACILITY SURVEYORS

INTRODUCTION

During the months November, 1974 through January, 1975, a nation-wide survey of health facility surveyors for Medicare-Medicaid was conducted by CPI Associates, Inc., under a contract to the Division of Provider Standards and Certification (DPSC). This report contains a compilation of data derived from that survey.

A questionnaire was developed for the survey and is included in the Appendix. The questionnaire sought information concerning age, sex, professional discipline, education, work experience, work status and activities, surveyor training, survey structure, program responsibility, kinds of facilities surveyed, and survey functions. The purpose of the questionnaire was to obtain information on all State and county employees, including life safety code surveyors, who as part of their normal duties conduct on-site surveys and complete at least a portion of the survey report form for facilities covered under Title XVIII (Medicare and Title XIX (Medicaid).

BACKGROUND

The 1974 national inventory of health facility surveyors constitutes the second of its kind. The first was conducted in 1972 by the Community Health Service through the Community Profile Data Center and the Division of Medical Care Standards. In the 1972 Surveyor Inventory, questionnaires were sent to 2,061 individuals, 1,886 of whom were later determined to be employed in survey-related activities. Fifteen-hundred fifty-one persons responded after three mailings and one phone call was made in an attempt to elicit response. The findings of the inventory are included in "Inventory of Health Care Facilities Surveyors; United States—1972" (DHEW Publication No. HSM 73-6503).

The 1974 inventory of surveyors was quite similar in format to that of 1972. There were, however, differences in definitions of health facility surveyor, and in methodology, as will be delineated below. Thus, comparability of the two studies is somewhat limited.

PURPOSE OF SURVEY

The Division of Provider Standards and Certification, of the Bureau of Quality Assurance, Health Services Administration, in cooperation with the Social Security Administration, Social Rehabilitation Administration, and the Office of Nursing Home Affairs, is responsible for operation of a continuing program designed to improve the effectiveness of State health certification procedures. A major part of this mandate is the training of State and Federal personnel engaged in survey activities. Such training is the responsibility of the Bureau of Quality Assurance, Division of Provider Standards and Certification.

In 1971, the President stated that there would be 2,000 surveyors trained by 1973 for the survey of health facilities. According to the Under-Secretary of Health, Education, and Welfare, in a speech to a conference of State long-term care facility surveyors in St. Petersburg, Florida in June of 1974, that goal has been reached.

Over the period that training has been conducted, there have been six university-based training programs involving one or more of three courses. First, there has been a basic training course for surveyors with emphasis in four major areas: (1) techniques of surveying health facilities, (2) techniques of proper documentation, (3) techniques of consultation, and (4) techniques of programming for improvement. Second, there has been an advanced course for surveyors that emphasizes the four areas covered in the basic course, but which offered an opportunity for surveyors with one to two years of experience to refine their skills. Surveyors in the advanced course have been given greater instruction on the technical and professional aspects of their jobs and have taken optional training in such topical areas as investigation of complaints, comprehensive health planning, and quality of life. The third course offered has been the supervisor training institute. The institute has been directed towards improvement of the certification process in general and has involved basic training in management by objective theory.

The information in this inventory is provided as a basis for planning and development of any future training activities for surveyors. The report contains data concerning the characteristics of surveyors, their responsibilities and activities, the kind of training received by surveyors, and areas where training could be improved.

METHOD

When the 1972 surveyor inventory was conducted, 335 nonsurveyors—Director, Supervisors, or consultants—were included in the population analyzed in the inventory. To achieve a more "pure" analysis of surveyors per se, a formal definition of surveyor was composed for the 1974 inventory. The definition was as follows:

> Any individual who as part of his/her normal duties makes on-site inspection visits to facilities which, under law (Medicare-Medicaid), require certification and is responsible for completing at least a portion of a survey report form documenting information derived from observations made during on-site visits.

In September, 1973, the ten HFSIP Regional Coordinators provided the Division of Provider Standards and Certification with the names of surveyors that they had obtained from the directors of the State survey agency in their respective regions. During August of 1974, the heads of the Regional Offices were asked to obtain an update of the lists that took into account the above definition of health facility surveyor. The lists of surveyors' names were transmitted to CPI Associates and they served as the basis for the inventory. The lists and the time at which they were submitted may have affected the quality of the inventory. First, some States provided more comprehensive lists than others. For instance, some States sent names not only of surveyors but also of all individuals employed in the licensure and certification program. And some States neglected to include the life safety code surveyors in their lists. Second, the lists were not completely current because of an OMB clearance delay that precluded mailing the questionnaires before November.

The questionnaire itself was based upon the 1972 questionnaire in format. Changes were made, however, to accommodate alterations in regulations made since 1972. For instance, in 1972 surveyors had the Federal survey functions for only the Medicare program—hospitals, nursing homes, and home health agencies. By 1974 functions had been expanded to include the Medicaid Program—hospitals, skilled nursing facilities, intermediate care facilities, institutions for the mentally retarded and other related conditions, home health agencies, independent laboratories, outpatient/physical therapy services, domiciliary facilities, and portable x-ray facilities. Questions were added in the 1974 questionnaire to elicit information about these additional facilities.

The 1974 questionnaire also varied from the 1972 instrument in that more elaborate information was requested in some areas. For example, the 1974 questionnaire included questions on survey structure (single surveyor vs. team survey construction) whereas the 1972 questionnaire did not. Also, the 1972 questionnaire did not include questions on the number of facilities surveyed and the number of hours spent in survey. The 1974 questionnaire included such questions.

Given that the basic questions were the same in both the 1972 and 1974 questionnaires, an extensive pre-test was not conducted. The "pre-test" for the 1972 questionnaire was considered by the Division of Provider Standards and Certification to have been the 1972 inventory. New questions were perused extensively by personnel in the DPSC and tested on a selected number of surveyors.

On November 14, 1974, the first mailing of the questionnaire occurred; the total number of questionnaires mailed was 2,118. There were two follow-up mailings, the last of which brought the overall response rate of 88.5 percent (cf. Table 1). Eleven States had response rates of 100.0 percent—Alaska, Arizona, Delaware, Hawaii, Nevada, New Hampshire, North Carolina, South Carolina, South Dakota, Vermont, and Wyoming. Detracting from the overall rate were States which had relatively low response rates, e.g., five States had less than 70.0 percent return—the District of Columbia, Iowa, Puerto Rico, Virgin Islands, and West Virginia.

The method used differs from that used in 1972 in that in the 1972 inventory non-respondents were contacted by phone in an attempt to obtain the information asked for in the questionniare. Such a procedure was not followed in the 1974 inventory. Phone calls were made only to ascertain whether or not individuals were surveyors. Through these phone calls it was determined that 86.4 percent of the persons who actually survey facilities responded. The difference in information gathering techniques between 1972 and 1974 may account for the difference in response rate to the two instruments. Moreover, because it has been found that information elicited in telephone interviews differs from that which would be elicited through questionnaires, the comparability of the two sets of data is limited.

The number of persons included in the analysis and who met the definition of surveyor was 1,541 of the 1,875 who returned their questionnaires. Three hundred and thirty-four respondents were deleted from the analysis because: (1) they were no longer employed by the agency, (2) they had clerical or other duties not related to surveying, (3) they functioned as supervisors of surveyors per se, (4) they served only as consultants and performed no direct survey functions, or (5) they functioned as administrators and/or directors and conducted no on-site surveys. This deletion represents a variation from the approach used in 1972, as noted above, since in 1972, directors, consultants, and supervisors were included. The variation further limits comparability.

In the following sections information about health facility surveyors based on the responding population of 1,541 will be provided. The results should be interpreted in light of the fact, as in any mail survey, the validity of response may have been affected by the construction of questions in the questionnaire, the accuracy and completeness of the listing of the surveyors' names submitted by the State Survey Agency to the DHEW Regional offices, and/or by the respondent's views and manner of reporting.

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TABLE 1

NUMBER OF QUESTIONNAIRES AND RESPONSE RATE, BY STATE, 1974

State	Number of Questionnaires Mailed	Number of Questionnaires Returned	Response Rate to General Mailing	Number of Applicable Questionnaires Mailed	Number of Applicable Responses	Response Rate on Applicable Questionnaires
Alabama	33	31	93.9	26	24	92.3
Alaska	8	8	100.0	6	6	100.0
Arizona	12	12	100.0	12	12	100.0
Arkansas	19	17	89.5	17	15	88.2
California	156	147	94.2	120	111	92.5
Colorado	25	22	88.0	24	21	87.5
Connecticut	46	37	80.4	41	32	78.0
Delaware	10	10	100.0	9	9	100.0
District of Columbia	23	14	60.9	22	13	59.1
Florida	55	52	94.5	48	45	93.8
Georgia	26	24	92.3	19	17	89.5
Hawaii	10	10	100.0	9	9	100.0
Idaho	14	13	92.9	13	12	92.3
Illinois	120	101	84.2	107	88	82.2
Indiana	46	45	97.8	39	38	97.4
Iowa	70	53	75.7	53	36	67.9
Kansas	32	29	90.6	27	24	88.9
Kentucky	33	29	87.9	22	18	81.8
Louisiana	13	11	84.6	13	11	84.6
Maine	40	32	80.0	34	26	76.5
Maryland	50	47	94.0	35	32	91.4
Massachusetts	68	62	91.2	53	47	88.7
Michigan	49	44	89.8	48	43	89.6
Minnesota	59	54	91.5	41	36	87.8
Mississippi	10	8	80.0	9	7	77.8
Missouri	43	41	95.3	37	35	94.6
Montana	13	12	92.3	9	8	88.9
Nebraska	28	25	89.3	25	22	88.0
Nevada	11	11	100.0	10	10	100.0
New Hampshire	21	21	100.0	17	17	100.0
New Jersey	44	35	79.5	41	32	78.0
New Mexico	3	3	100.0	2	2	100.0
New York	189	165	87.3	169	145	85.8
North Carolina	27	27	100.0	24	24	100.0
North Dakota	15	12	80.0	12	9	75.0
Ohio	69	58	84.1	61	50	82.0
Oklahoma	24	22	91.7	21	19	90.5
Oregon	22	21	95.5	18	17	94.4
Pennsylvania	163	128	78.5	127	92	72.4
Puerto Rico	17	11	64.7	17	11	64.7
Rhode Island	27	25	92.6	22	20	90.9
South Carolina	15	15	100.0	13	13	100.0
South Dakota	24	24	100.0	18	18	100.0
Tennessee	15	14	93.3	15	14	93.3
Texas	113	102	90.3	100	89	89.0
Utah	18	17	94.4	17	16	94.1
Vermont	13	13	100.0	9	9	100.0
Virginia	27	26	96.3	26	25	96.2
Virgin Islands	1	0	0.0	1	0	0.0
Washington	65	62	95.4	45	42	93.3
West Virginia	15	10	66.7	14	9	64.3
Wisconsin	63	57	90.5	61	55	90.2
Wyoming	6	6	100.0	6	6	100.0
Total	2,118	1,875	88.5	1,784	1,541	86.4

SECTION A. CHARACTERISTICS OF SURVEYORS

This portion of the report is concerned with basic information about the 1,541 surveyors who responded to the questionnaire. The fifteen tables presented in this section include demographic data, information concerning educational attainment, and data concerning surveyors' professional disciplines.

Some summary information may be presented:

(1) The mean age for those who answered the question concerning age was 46 years. The median age was 47 years.

(2) Approximately 50 percent were male and 50 percent were female.

(3) The average number of years employed as a surveyor was four years. Ninety-seven percent of the surveyors served in a health field prior to becoming surveyors, spending on the average of 16 years in such employment. Twenty-eight percent of the surveyors had been employed in a non-health field that has aided them in the survey activities. The average number of years spent in such a non-health field was ten years.

(4) Ninety-eight percent were employed by the State.

(5) Thirty-eight percent of the respondents were nurses; 13 percent, sanitarians; and seven percent, hospital administrators. Seventy-one percent of all respondents were certified or registered in their professional disciplines.

(6) As might be expected given the number of nurses in the surveyor population, 33 percent of the respondents held nursing diplomas. Sixty-six percent of all respondents held baccalaureate degrees. Approximately 45 percent of the surveyors had completed at least some graduate work, 27 percent receiving graduate degrees. Thirty-eight percent of those receiving technical school certificates received them in health-related fields. The vast majority of respondents attending universities at any level obtained their training in health-related fields.

TABLE 2

LOCATION OF RESPONDENTS, BY DISCIPLINE, 1974

Professional Discipline	Health, Education, and Welfare Region										
	I	II	III	IV	V	VI	VII	VIII	IX	X	Total
Hospital Administrator	2	11	0	34	9	19	8	5	17	0	105
Health Administrator	3	6	8	10	10	4	2	2	10	1	56
Medical Records Administrator	1	1	1	7	1	3	1	3	3	4	25
Medical Technologist	6	9	3	8	2	3	4	3	11	2	51
Nurse, RN	94	73	87	34	128	29	54	24	35	31	589
Nurse, LPN or LVN	1	0	0	4	2	1	1	1	1	0	11
Nutritionist	0	12	2	6	3	4	0	1	3	0	31
Dietitian	5	7	6	6	7	9	1	3	3	3	50
Occupational Therapist	1	0	0	2	0	0	0	0	1	0	4
Pharmacist	0	2	4	7	0	2	1	3	4	1	24
Physical Therapist	2	0	8	0	2	0	0	2	4	0	18
Physician, DO	0	1	0	0	0	0	0	0	0	0	1
Physician, MD	5	13	1	5	11	1	1	4	4	1	46
Sanitarian	4	24	12	2	56	35	18	10	25	20	206
Social Worker	1	8	0	0	1	1	0	0	3	1	15
Architect	1	5	1	2	3	0	1	2	2	0	17
Engineer	2	4	4	5	19	0	2	4	0	0	40
Speech or Audiologist Therapist	0	2	0	0	4	2	1	0	0	0	9
Recreational Therapist	2	0	1	3	2	0	0	0	0	0	8
Laboratory Technician	0	0	0	0	3	0	4	1	5	2	15
Fire Marshal, Life Safety Code Surveyor, Health Inspector	8	3	21	2	17	1	11	6	2	9	80
Counselor	0	0	0	0	1	0	0	0	0	0	1
Educator	1	0	1	0	1	1	1	0	0	0	5
Nursing Home Administrator	1	0	0	1	0	3	0	1	0	0	6
Surveyor [1]	11	7	20	24	28	18	6	3	9	2	128
Total	151	188	180	162	310	136	117	78	142	77	1,541

[1]This category includes: persons who called themselves surveyors, persons who left the question regarding disciplines blank, and persons whose professional disciplines could not be coded in the above categories.

TABLE 3

EDUCATIONAL ATTAINMENT OF SURVEYORS, BY REGION, 1974

Region	Level of Educational Attainment[1]									
	Some High School Only	High School Diploma Only	Some College	Technical School Certificate	Associate Degree	Diploma in Nursing	Baccalaureate Degree	Some Graduate Work	Graduate Degree	Not Ascertained
Region I	0	7	6	12	7	85	80	30	30	0
Region II	0	4	0	8	5	49	171	24	119	0
Region III	3	20	5	8	5	78	90	33	29	1
Region IV	0	6	2	11	10	29	126	39	42	0
Region V	2	31	9	27	13	115	174	51	72	3
Region VI	0	4	3	5	3	22	111	40	22	0
Region VII	1	15	7	14	4	53	44	19	15	1
Region VIII	0	2	0	6	3	20	55	13	23	1
Region IX	1	8	6	14	17	34	97	32	41	0
Region X	1	5	0	6	5	21	64	16	22	0
Total	8	102	38	111	72	506	1,012	297	415	6

[1] Persons who attended high school or received a high school diploma and went no further were included in the categories referring to high school. Persons who went further than high school were coded in other categories. If they had credentials in more than one area, they were coded in all areas that applied, with two exceptions. (1) People who received baccalaureate or associate degrees were not included in the "some college" category, and (2) persons who received graduate degrees were not included in the category "some graduate work" unless the field of study listed by the respondent under "some graduate work" differed from that in which the respondent received a graduate degree.

TABLE 4

REGIONAL LOCATION OF SURVEYORS, BY AGE, 1974

Age	Region										
	Region I	Region II	Region III	Region IV	Region V	Region VI	Region VII	Region VIII	Region IX	Region X	Total
Under 25 years	1	3	3	1	5	3	0	0	0	0	16
25 - 34 years	20	31	43	30	55	30	12	16	22	12	271
35 - 44 years	25	43	42	35	65	30	24	13	29	17	323
45 - 54 years	61	65	50	63	85	29	44	28	52	29	506
55 - 64 years	30	35	33	24	75	37	31	19	34	17	335
65 years and over	6	4	3	2	13	3	4	0	4	0	39
Unknown	8	7	6	7	12	4	2	2	1	2	51
Total	151	188	180	162	310	136	117	78	142	77	1,541

TABLE 5

NUMBER OF SURVEYORS, BY SEX AND REGION

Sex of Respondent	Health, Education and Welfare Region										
	I	II	III	IV	V	VI	VII	VIII	IX	X	Total
Male	43	75	78	99	160	87	62	41	86	36	767
Female	108	113	102	63	150	49	55	37	56	41	774
Total	151	188	180	162	310	136	117	78	142	77	1,541

FIGURE 1

PERCENT DISTRIBUTION OF SURVEYORS, BY AGE AND SEX - 1974

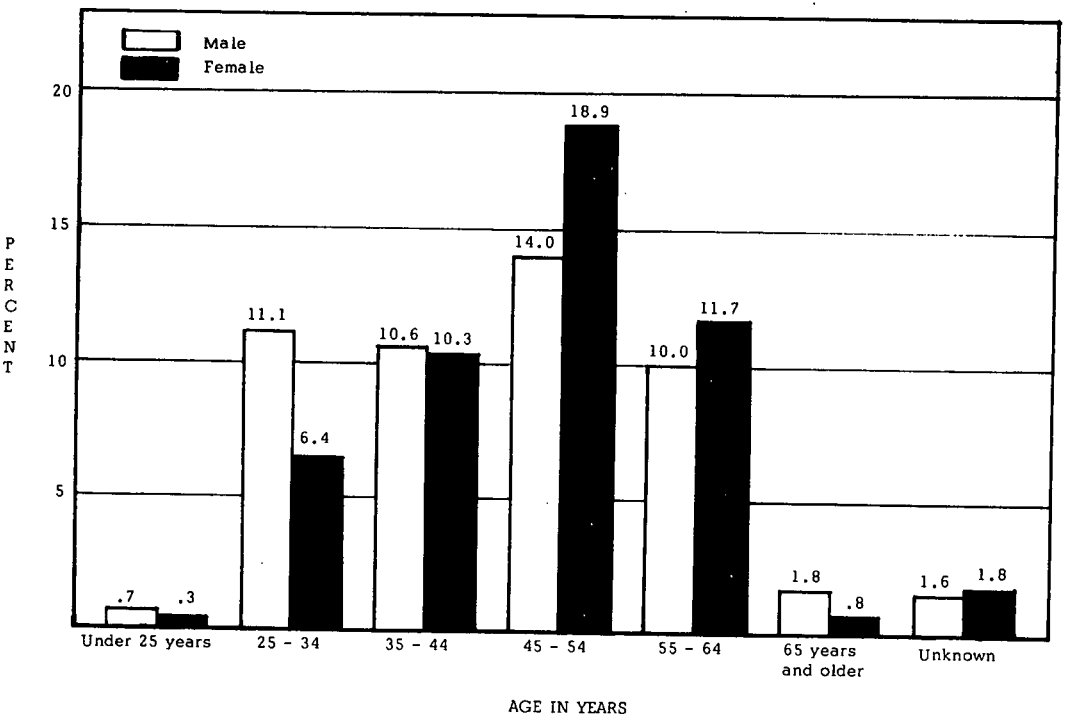

TABLE 6

AGE AND SEX OF SURVEYORS, BY PROFESSIONAL DISCIPLINE, 1974

Professional Discipline	Under 25 Yrs.		25-34 Yrs.		35-44 Yrs.		45-54 Yrs.		55-64 Yrs.		65 Yrs. & Over		Unknown		Total		Total Per Discipline
	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	
Hospital Administrator	0	0	5	0	16	0	43	3	33	1	2	0	2	0	101	4	105
Health Administrator	1	0	8	0	8	2	19	4	10	0	2	0	2	0	50	6	56
Medical Records Administrator	0	0	0	6	0	4	1	6	0	5	0	2	0	1	1	24	25
Medical Technologist	0	0	6	5	10	5	9	6	2	4	0	2	0	2	27	24	51
Nurse, RN	1	1	7	52	7	122	8	229	1	134	1	4	2	20	27	562	589
Nurse, LPN or LVN	0	0	0	1	3	3	0	2	1	1	0	0	0	0	4	7	11
Nutritionist	0	2	1	9	0	5	1	5	0	7	0	0	0	1	2	29	31
Dietitian	0	1	0	9	0	7	0	12	0	17	0	3	0	1	0	50	50
Occupational Therapist	0	0	0	0	0	1	0	3	0	0	0	0	0	0	0	4	4
Pharmacist	0	0	3	0	5	1	4	1	7	0	1	0	2	0	22	2	24
Physical Therapist	0	0	3	2	1	3	5	4	0	0	0	0	0	0	9	9	18
Physician, DO	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	1
Physician, MD	0	0	0	0	8	0	8	2	15	2	9	0	1	1	41	5	46
Sanitarian	6	1	69	8	49	0	40	2	24	1	1	1	4	0	193	13	206
Social Worker	0	0	0	2	0	1	1	5	1	3	0	0	1	1	3	12	15
Architect	0	0	2	0	7	0	4	1	2	0	1	0	0	0	16	1	17
Engineer	0	0	12	0	12	0	9	0	7	0	0	0	0	0	40	0	40
Speech or Audiological Therapist	1	0	2	0	1	1	2	0	0	1	0	0	1	0	7	2	9
Recreational Therapist	0	0	4	1	0	0	1	1	0	1	0	0	0	0	5	3	8
Laboratory Technician	0	0	4	0	2	0	5	1	2	1	0	0	0	0	13	2	15
Fire Marshal ; Life Safety Code Surveyor; Health Inspector	1	0	12	0	13	0	28	1	17	0	5	0	3	0	79	1	80
Counselor	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0	1
Educator	0	0	0	1	0	1	0	0	3	0	0	0	0	0	3	2	5
Nursing Home Administrator	0	0	0	0	1	0	2	0	3	0	0	0	0	0	6	0	6
Surveyor[1]	1	0	33	4	20	3	25	2	26	3	5	0	6	0	116	12	128
Total	11	5	171	100	164	159	216	290	154	181	27	12	24	27	767	774	1,541

[1]This category includes: persons who called themselves surveyors, persons who left the question regarding discipline blank, and persons whose professional disciplines could not be coded in the above categories.

TABLE 7

NUMBER OF SURVEYORS BY DISCIPLINE
WHO ARE REGISTERED OR CERTIFIED, 1974

Professional Discipline	Registered or Certified	Not Registered or Certified	Not Ascertained or Not Applicable	Total
Hospital Administrator	18	14	73	105
Health Administrator	16	9	31	56
Medical Records Administrator	22	1	2	25
Medical Technologist	36	6	9	51
Nurse, RN	575	2	12	589
Nurse, LPN or LVN	10	1	0	11
Nutritionist	23	2	6	31
Dietitian	49	0	1	50
Occupational Therapist	4	0	0	4
Pharmacist	23	0	1	24
Physical Therapist	17	0	1	18
Physician, DO	1	0	0	1
Physician, MD	41	3	2	46
Sanitarian	145	32	29	206
Social Worker	10	2	3	15
Architect	12	0	5	17
Engineer	27	7	6	40
Speech or Audiological Therapist	5	1	3	9
Recreational Therapist	3	0	5	8
Laboratory Technician	8	1	6	15
Fire Marshal; Life Safety Code Surveyor or Health Inspector	18	3	59	80
Counselor	0	0	1	1
Educator	3	0	2	5
Nursing Home Administrator	3	0	3	6
Surveyor[1]	20	7	101	128
Total	1,089	91	361	1,541

[1] This category includes: persons who called themselves surveyors, persons who left the question regarding discipline blank, and persons whose professional disciplines could not be coded in the above categories.

TABLE 8

NUMBER OF PHYSICIAN/SURVEYORS
PER MEDICAL SPECIALITY, 1974

Physician's Medical Specialty	Number of Physician/Surveyors
Anesthesiology	5
Geriatrics	2
Internal Medicine	4
Pediatrics	1
Public Health	10
Psychiatry	8
Pathology	3
Preventive Medicine	6
Obstetrics/Gynecology	1
Not Ascertained	6
Total	46

TABLE 9

NUMBER OF SOCIAL WORKER/SURVEYORS
PER SOCIAL WORK SPECIALTY, 1974

Social Work Specialty	Number of Social Work/Surveyors
Medical Social Work	6
Psychiatric Social Work	1
Public Health Social Work	1
Community Organization/Community Mental Health	1
Not Ascertained	6
Total	15

TABLE 10

TYPE OF AGENCY EMPLOYING SURVEYORS,
BY PROFESSIONAL DISCIPLINE, 1974

Professional Discipline	State	County
Hospital Administrator	104	1
Health Administrator	56	0
Medical Records Administrator	25	0
Medical Technologist	51	0
Nurse, RN	579	10
Nurse, LPN or LVN	11	0
Nutritionist	31	0
Dietitian	48	2
Occupational Therapist	4	0
Pharmacist	23	1
Physical Therapist	17	1
Physician, DO	1	0
Physician, MD	46	0
Sanitarian	184	22
Social Worker	15	0
Architect	17	0
Engineer	40	0
Speech or Audiological Therapist	9	0
Recreational Therapist	8	0
Laboratory Technician	15	0
Fire Marshal; Life Safety Code Inspector; Health Inspector	80	0
Counselor	1	0
Educator	5	0
Nursing Home Administrator	6	0
Surveyor[1]	127	1
Total	1,503	38

[1]This category includes: people who called themselves surveyors, persons who left the question regarding discipline blank, and persons whose professional disciplines could not be coded in the above categories.

TABLE 11

WORK EXPERIENCE OF SURVEYORS, BY PROFESSIONAL DISCIPLINE, 1974

Professional Discipline	Years of Survey Experience					Years Experience in the Health Field								Years Experience in Non-Health Field							
	1 year or less	2-4 years	5-7 years	8 or more years	Not Ascertained	1 year or less	2-4 years	5-9 years	10-14 years	15-19 years	20-24 years	25 years or more	0 years or not Ascertained	1 year or less	2-4 years	5-9 years	10-14 years	15-19 years	20-24 years	25 years or more	0 years or not Ascertained
Hospital																					
Hospital Administrator	13	45	23	22	2	2	8	8	10	7	30	34	6	1	14	4	4	2	1	3	76
Health Administrator	9	21	17	9	0	3	12	6	4	5	9	10	7	2	8	6	3	1	1	2	33
Medical Records Administrator	8	11	1	4	1	3	2	1	3	6	4	4	2	1	5	1	3	0	0	0	15
Medical Technologist	7	20	15	9	0	0	3	8	10	9	8	11	2	1	4	3	0	0	0	0	43
Nurse, RN	156	233	99	90	11	2	22	72	98	85	118	179	13	10	21	10	12	0	0	1	535
Nurse, LPN or LVN	4	2	3	2	0	0	0	3	1	0	4	3	0	0	0	0	1	0	0	0	10
Nutritionist	11	5	12	1	2	1	6	8	5	3	1	0	7	4	2	1	1	1	0	2	20
Dietitian	14	15	11	10	0	1	7	13	4	7	5	13	0	4	5	5	2	2	0	0	32
Occupational Therapist	1	3	0	0	0	0	0	1	0	1	2	0	0	0	0	0	0	0	0	0	4
Pharmacist	4	9	7	3	1	0	0	3	3	6	4	7	1	0	0	1	1	0	0	0	22
Physical Therapist	3	8	4	3	0	0	0	5	5	3	1	3	1	0	3	1	0	0	0	0	14
Physician, DO	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1
Physician, MD	5	20	13	8	0	0	0	5	5	3	7	23	3	0	1	1	0	0	0	0	44
Sanitarian	45	77	47	34	3	17	48	49	18	11	15	12	36	5	24	22	7	9	5	2	132
Social Worker	3	4	8	0	0	0	3	2	1	2	3	1	3	1	1	3	2	1	0	0	7
Architect	0	7	4	3	3	2	2	2	0	0	0	0	11	0	1	2	2	5	3	0	4
Engineer	5	19	8	7	1	1	7	5	1	1	0	0	25	0	6	9	3	2	7	3	10
Speech or Audiological Therapist	2	4	2	1	0	0	1	1	1	2	0	0	4	0	2	0	1	0	1	0	5
Recreational Technician	3	2	2	0	1	0	2	2	0	0	0	0	4	0	1	2	0	1	0	0	4
Fire Marshal; Life Safety Code Surveyor; Health Inspector	1	6	5	2	1	0	2	2	1	4	0	4	2	1	1	0	1	0	0	0	12
Counselor	17	45	7	2	9	4	7	6	4	1	1	1	56	2	10	7	7	5	15	17	17
Educator	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0
Nursing Home Administrator	3	0	0	2	0	0	0	1	1	0	0	1	2	0	1	2	0	1	0	0	1
Surveyor[1]	0	2	1	3	0	0	1	2	0	0	3	0	0	0	0	0	2	0	0	0	4
	36	62	10	17	3	12	21	14	14	6	8	9	44	7	13	7	10	7	8	16	60
Total	351	620	299	233	38	48	154	220	189	162	223	315	229	39	123	88	62	37	41	46	1,105

[1]This category includes: persons who called themselves surveyors, persons who left the question regarding discipline blank, and persons whose professional disciplines could not be coded in the above categories

TABLE 12

NUMBER OF RESPONDENTS PER HEALTH FIELD PRIOR TO EMPLOYMENT AS SURVEYOR, 1974

Health Fields In Which Respondents Worked Prior to Becoming Surveyors	Number of Respondents[1]
Hospital Administration	110
Health Administration	50
Medical Records Administration	25
Medical Technology	34
Nursing, Administration	116
Nursing	465
Nursing Home Administration	46
Dietetics	60
Nutrition	17
Occupational Therapy	5
Physical Therapy	15
Recreational Therapy	6
Physician (M.D.)	39
Physician (D.O.)	1
Dentistry	5
Pharmacy	30
Sanitation	85
Environmental Health	36
Health and Safety Inspection	60
Biological Science/Laboratory Work	77
Food/Dairy Processing	12
Social Work, Health-Related	14
Architecture, Health-Related	7
Education, Health-Related	95
Public Health	116
Hospital Work, Unspecified	74
Other	73

[1]Total does not equal 1,497 as some of the 1,497 respondents for whom the question was applicable or from whom an answer was ascertained served in more than one field prior to becoming surveyors.

TABLE 13

EDUCATIONAL ATTAINMENT OF SURVEYORS, BY PROFESSIONAL DISCIPLINE, 1974

Professional Discipline	Level of Educational Attainment[2]									
	Some High School Only	High School Diploma Only	Some College	Technical School Certificate	Associate Degree	Diploma in Nursing	Baccalaureate Degree	Some Graduate Work	Graduate School	Not Ascertained
Hospital Administrator	0	6	1	11	7	3	86	25	42	0
Health Administrator	0	3	2	5	7	4	41	15	15	1
Medical Records Administrator	0	1	3	7	6	1	14	8	1	0
Medical Technologist	0	0	0	5	2	0	49	9	15	0
Nurse, RN	1	0	20	8	18	485	293	111	149	1
Nurse, LPN or LVN	0	0	0	4	1	6	3	2	0	0
Nutritionist	0	0	0	0	0	0	31	7	18	0
Dietitian	0	0	0	1	0	0	49	12	28	0
Occupational Therapist	0	0	0	0	0	0	4	4	0	0
Pharmacist	0	0	0	1	1	0	22	6	3	1
Physical Therapist	0	0	0	2	0	1	18	4	7	0
Physician, DO	0	0	0	0	0	0	1	0	1	0
Physician, MD	0	0	0	1	0	1	45	1	43	0
Sanitarian	1	16	1	22	14	1	172	52	34	0
Social Worker	0	0	0	0	1	1	14	1	12	0
Architect	0	5	0	0	1	0	10	1	1	1
Engineer	0	0	1	2	0	0	39	10	11	0
Speech or Audiological Therapist	0	3	0	0	0	0	6	3	0	0
Recreational Therapist	0	0	0	1	2	0	6	0	5	0
Laboratory Technician	0	0	0	4	1	0	12	3	7	0
Fire Marshal; Life Safety Code Surveyor; Health Inspector	1	35	6	19	6	0	15	3	1	1
Counselor	0	0	0	0	0	0	1	0	1	0
Educator	0	1	0	1	0	0	5	1	3	0
Nursing Home Administrator	0	0	1	0	0	0	4	1	1	0
Surveyor[1]	5	32	3	17	5	3	72	18	17	1
Total	8	102	38	111	72	506	1,012	297	415	6

[1]This category includes: persons who called themselves surveyors, persons who left the question regarding discipline blank, and persons whose professional disciplines could not be coded in the above categories.

[2]Persons who attended high school or received a high school diploma and went no further were included in the categories referring to high school. Persons who went further than high school were coded in other categories. If they had credentials in more than one area, they were coded in all areas that applied, with two exceptions. (1) People who received baccalaureate or associate degrees were not included in the "some college" category, and (2) persons who received graduate degrees were not included in the category "some graduate work" unless the field of study listed by the respondent under "some graduate work" differed from that in which the respondent received a graduate degree.

TABLE 14

FIELD OF STUDY FOR 111 SURVEYORS
WHO ATTENDED TECHNICAL SCHOOL, 1974

Field of Study	Number of Surveyors
Business	12
Trade	33
Sanitation	8
Medical Training	42
Fire and Safety	6
Not Ascertained	10

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TABLE 15

SURVEYORS' FIELDS OF STUDY BY EDUCATIONAL ATTAINMENT, 1974

Level of Educational Attainment[1]	Field of Study																															Total
	Liberal Arts	Social Science	Life Science	Business	Natural Science	Engineering	Home Economics	Environmental Health	Architecture	Agriculture	Education	Law	Nursing	Physical or Occupational Therapy	Pharmacy	Pre-Med	Public Administration	Medical Records Administration	Sanitation	Medical School; Dental School	Public Health Administration	Surveyor Training Course	Nursing Home Administration	Recreational Therapy	Nursing Education	Hospital Administration	Fire Safety	General, Non-Major	Other	Not Ascertained	
Some College	0	1	0	4	0	0	0	0	0	0	1	0	9	0	0	1	0	0	0	0	0	0	0	0	0	2	0	0	2	18	38
Associate Degree	9	7	5	11	3	1	0	1	1	0	4	0	10	1	2	1	0	0	2	0	1	1	0	0	0	0	2	2	3	5	72
Baccalaureate Degree	31	56	147	73	26	47	64	19	11	17	18	0	164	12	23	16	0	5	3	0	19	0	0	8	37	5	4	1	10	196	1,012
Some Graduate Work	7	31	22	22	5	5	14	4	1	3	22	3	37	2	0	1	5	4	2	6	39	1	7	2	6	20	2	0	2	22	297
Graduate Degree	4	24	29	13	1	4	36	10	2	0	25	1	70	3	2	0	8	0	1	41	55	0	5	2	25	33	0	0	7	14	415

[1] If respondents had credentials in more than one area, they were coded in all areas that applied, with two exceptions, (1) people who received baccalaureate or associate degrees were not included in the "some college" category, and (2) persons who received graduate degrees were not included in the category "some graduate work" unless the field of study listed by the respondent under "some graduate work" differed from that in which the respondent received a graduate degree.

TABLE 16

EDUCATIONAL ATTAINMENT OF SURVEYORS,
BY NUMBER OF YEARS EMPLOYED AS SURVEYOR, 1974

Number of Years of Survey Experience	Level of Educational Attainment[1]									
	Some High School Only	High School Diploma Only	Some College	Technical School Certificate	Associate Degree	Diploma in Nursing	Baccalaureate Degree	Some Graduate Work	Graduate Degree	Not Ascertained
1 year or less	1	19	7	1	20	128	220	62	82	0
2 - 4 years	7	51	15	33	36	201	385	127	144	3
5 - 7 years	0	11	8	45	9	90	222	58	98	0
8 or more years	0	15	7	24	7	78	165	44	83	0
Not Ascertained	0	6	1	8	0	9	20	6	8	3
Total	8	102	38	111	72	506	1,012	297	415	6

[1]Persons who attended high school or received a high school diploma and went no further were included in the categories referring to high school. Persons who went further than high school were coded in other categories. If they had credentials in more than one area, they were coded in all areas that applied, with two exceptions, (1) people who received baccalaureate or associate degrees were not included in the "some college" category, and (2) persons who received graduate degrees were not included in the category "some graduate work" unless the field of study listed by the respondent under "some graduate work" differed from that in which the respondent received a graduate degree.

SECTION B. TRAINING OF SURVEYORS

In this section of the report there are seven tables describing the kinds of training that surveyors have had. As in Section A, several general points may be derived from these tables and from additional information found in the questionnaire:

(1) Sixty percent of the surveyors responding to the questionnaire have attended one or more of the DHEW-sponsored university-based courses. Fifty-nine percent had attended the basic course; 9 percent, the advanced course; and 4 percent, the supervisor training institute. By region, Regions VI and IX had the highest percentage attendance at the DHEW-sponsored courses.

(2) Not included in the tables is information pertaining to the location and date of attendance at the university-based courses. The data reveal that 45% of the 861 persons who reported the university they attended for the basic course had received training from Tulane. Twenty-one percent received their training from the University of California at Los Angeles; 13 percent, the University of Colorado; 13 percent, the University of Maryland; and 8 percent; the University of New Hampshire. Most had taken the basic course during 1972 or 1973.

(3) The likelihood of attendance at a university-based course increased with the number of years that a surveyor had been employed. Only 30 percent of those employed one year or less had attended any of the courses. Sixty percent of those employed two or four years had attended a course. And 73 percent of those employed five to seven years or 8 or more years had attended.

(4) Percentagewise, the professional discipline most likely to be in attendance at any university-based course were hospital administrators, health administrators, registered nurses, social workers, speech or audiological therapists, and nursing home

administrators. Nurses, who represented 38 percent of the total population of surveyors, had 71 percent attendance for at least one course.

(5) Fifty-four percent of the respondents reported having professional disciplines that required continuing education. Of these individuals, 62 percent stated that the DHEW-sponsored university-based courses met the discipline's requirements. Courses most likely to meet requirements were the basic and advanced courses.

(6) Those most likely to have attended a university-based course were those who had received at least one higher-educational credential. Those least likely to have attended were those who had attended high school only or received a high school diploma only.

(7) Aside from the university-based courses, respondents had opportunities to attend other continuing education conferences. Approximately 70 percent availed themselves of that opportunity since 1972.

TABLE 17

ATTENDANCE AT DHEW-SPONSORED COURSES,
BY REGION, 1974

Region	Attendance at any DHEW Course			Number Who Attended [1]		
	Attended	Did Not Attend	Not Ascertained	Basic Course	Advanced Course	Supervisor Training Institute
Region I	83	68	0	81	15	5
Region II	110	77	1	109	2	3
Region III	86	92	2	82	15	7
Region IV	105	57	0	105	22	12
Region V	161	147	2	156	29	10
Region VI	102	33	1	102	27	7
Region VII	75	41	1	74	9	4
Region VIII	48	30	0	47	0	3
Region IX	103	36	3	102	22	11
Region X	49	28	0	49	2	1
Total	922	609	10	907	143	63

[1] Persons who attended more than one course were included in all categories that applied.

TABLE 18

ATTENDANCE AT DHEW-SPONSORED COURSES, BY STATE, 1974

State	Attendance at any DHEW Courses			Number Who Attended [1]		
	Attended	Did Not Attend	Not Ascertained	Basic Course	Advanced Course	Supervisor Training Institute
Alabama	22	2	0	22	6	1
Alaska	2	4	0	2	1	1
Arizona	7	4	1	7	4	0
Arkansas	7	8	0	7	0	0
California	86	23	2	86	14	10
Colorado	11	10	0	11	0	0
Connecticut	20	12	0	20	6	1
Delaware	5	4	0	5	1	0
District of Columbia	8	5	0	8	2	0
Florida	25	20	0	25	11	3
Georgia	13	4	0	13	0	0
Hawaii	6	3	0	5	2	0
Idaho	6	6	0	6	1	0
Illinois	45	42	1	43	5	2
Indiana	14	23	1	13	2	1
Iowa	19	17	0	19	2	0
Kansas	10	14	0	9	3	1
Kentucky	11	7	0	11	0	1
Louisiana	11	0	0	11	6	0
Maine	11	15	0	10	0	0
Maryland	21	11	0	21	5	1
Massachusetts	29	18	0	28	2	0
Michigan	18	25	0	16	0	2
Minnesota	27	9	0	27	9	3
Mississippi	6	1	0	6	0	0
Missouri	32	3	0	32	0	1
Montana	5	3	0	5	0	1
Nebraska	14	7	1	14	4	1
Nevada	4	6	0	4	2	0
New Hampshire	6	11	0	6	1	1
New Jersey	2	29	1	2	0	0
New Mexico	1	1	0	1	1	0
New York	102	43	0	101	1	3
North Carolina	10	14	0	10	0	0
North Dakota	8	1	0	8	0	1
Ohio	32	18	0	32	13	2
Oklahoma	16	3	0	16	1	6
Oregon	12	5	0	12	0	0
Pennsylvania	40	52	0	37	7	5
Puerto Rico	6	5	0	6	1	0
Rhode Island	13	7	0	13	6	3
South Carolina	9	4	0	9	3	5
South Dakota	14	4	0	14	0	0
Tennessee	9	5	0	9	2	2
Texas	67	21	1	67	19	1
Utah	9	7	0	9	0	0
Vermont	4	5	0	4	0	0
Virginia	10	15	0	9	0	1
Washington	29	13	0	29	0	0
West Virginia	2	5	2	2	0	1
Wisconsin	25	30	0	25	0	0
Wyoming	1	5	0	0	0	1
Total	922	609	10	907	143	63

[1] Persons who attended more than one course were included in all categories that applied.

TABLE 19

ATTENDANCE AT DHEW-SPONSORED COURSES, BY PROFESSIONAL DISCIPLINE, 1974

Professional Discipline	Attendance at DHEW Courses			Number Who Attended [2]		
	Attended	Did Not Attend	Not Ascertained	Basic Course	Advanced Course	Supervisor Training Institute
Hospital Administrator	85	20	0	85	29	17
Health Administrator	43	13	0	41	9	8
Medical Records Administrator	9	16	0	9	1	0
Medical Technologist	9	39	3	9	0	1
Nurse, RN	420	166	3	415	57	21
Nurse, LPN or LVN	10	1	0	10	0	1
Nutritionist	14	17	0	14	2	0
Dietitian	26	24	0	25	1	1
Occupational Therapist	1	3	0	1	0	0
Pharmacist	15	9	0	14	1	1
Physical Therapist	7	10	1	8	1	0
Physician (D.O.)	1	0	0	0	0	1
Physician (M.D.)	4	42	0	3	1	0
Sanitarian	151	55	0	151	24	5
Social Worker	12	3	0	12	1	0
Architect	2	15	0	1	0	0
Engineer	6	34	0	6	0	0
Speech or Audiological Therapist	7	2	0	5	1	0
Recreational Therapist	5	3	0	5	1	0
Laboratory Technician	2	13	0	2	2	0
Fire Marshal; Life Safety Code Surveyor; Health Inspector	12	65	3	11	0	0
Counselor	0	1	0	0	0	0
Educator	3	2	0	3	1	0
Nursing Home Administrator	5	1	0	5	1	1
Surveyor[1]	73	55	0	72	10	6
Total	922	609	10	907	143	63

[1]This category includes: persons who called themselves surveyors, persons who left the question blank, and persons whose professional disciplines could not be coded in the above categories.

[2]Persons who attended more than one course were included in all categoreies that applied.

TABLE 20

ROLE OF DHEW-SPONSORED COURSES
IN MEETING PROFESSIONAL DISCIPLINE'S REQUIREMENTS
FOR CONTINUING EDUCATION, BY PROFESSIONAL DISCIPLINE, 1974

Professional Discipline	Number of Surveyors Whose Professional Disciplines Require Continuing Education	Number of Surveyors Whose Professional Disciplines Require Continuing Education			Courses that Meet Discipline's Requirements:							
		DHEW-Sponsored Courses Meet Discipline's Requirements	DHEW-Sponsored Courses Do Not Meet Discipline's Requirements	Not Ascertained	Basic Course	Advanced Course	Supervisor Training Institute	Basic and Advanced Courses	Basic and Supervisor Training Institute	Advanced and Supervisor Training Institute	Basic, Advanced and Supervisor Training Institute	Not Ascertained
Hospital Administrator	57	44	13	0	7	2	3	17	1	6	8	0
Health Administrator	33	28	5	0	10	2	2	6	1	1	6	0
Medical Records Administrator	25	11	6	8	2	0	0	1	0	0	6	2
Medical Technologist	26	8	18	0	3	2	1	1	0	0	1	0
Nurse, RN	285	187	85	13	93	20	6	50	0	0	18	0
Nurse, LPN or LVN	7	7	0	0	4	1	0	1	0	0	1	0
Nutritionist	30	9	16	5	4	1	0	1	0	0	2	1
Dietitian	50	14	29	7	4	1	1	3	0	0	5	0
Occupational Therapist	3	2	1	0	0	1	0	0	0	0	0	1
Pharmacist	14	5	9	0	1	1	0	0	0	0	2	1
Physical Therapist	2	1	1	0	1	0	0	0	0	0	0	0
Physician, DO	0	0	0	0	0	0	0	0	0	0	0	0
Physician, MD	27	4	19	4	1	1	0	0	0	0	0	2
Sanitarian	112	92	16	4	40	6	3	29	1	0	13	0
Social Worker	4	3	1	0	0	0	0	1	0	0	2	0
Architect	3	2	1	0	0	1	0	1	0	0	0	0
Engineer	19	8	11	0	1	2	1	1	0	0	2	1
Speech or Audiological Therapist	6	6	0	0	3	3	0	0	0	0	0	0
Recreational Therapist	3	1	2	0	0	1	0	0	0	0	0	0
Laboratory Technician	6	1	5	0	0	0	1	0	0	0	0	0
Fire Marshal; Life Safety Code Surveyor; Health Inspector	51	28	18	5	7	10	0	8	0	1	2	0
Counselor	0	0	0	0	0	0	0	0	0	0	0	0
Educator	3	3	0	0	2	0	1	0	0	0	0	0
Nursing Home Administrator	6	5	0	1	0	0	1	4	0	0	0	0
Surveyor[1]	60	48	12	0	11	13	0	11	0	4	9	0
Total	832	517	268	47	194	68	20	135	3	12	77	1

[1] This category includes: persons who called themselves surveyors, persons who left the question regarding discipline blank, and persons whose professional disciplines could not be coded in the above categories.

TABLE 21

ATTENDANCE AT DHEW-SPONSORED COURSES,
BY EDUCATIONAL ATTAINMENT, 1974

Level of Educational Attainment[1]	Attendance at any DHEW Course			Number Who Attended:[2]		
	Attended	Did Not Attend	Not Ascertained	Basic Course	Advanced Course	Supervisor Training Course
Some High School Only	2	6	0	2	0	0
High School Diploma Only	38	63	1	34	7	5
Some College	25	12	1	25	8	0
Technical School Certificate	57	52	2	57	7	7
Associate Degree	42	28	2	42	7	3
Diploma in Nursing	360	144	2	357	48	17
Baccalaureate Degree	620	387	5	613	101	45
Some Graduate School	202	92	3	202	38	18
Graduate Degree	239	176	0	233	24	21
Not Ascertained	3	2	1	3	1	0

[1]Persons who attended high school or received a high school diploma and went no further were included in the categories referring to high school. Persons who went further than high school were coded in other categories. If they had credentials in more than one area, they were coded in all areas that applied, with two exceptions, (1) people who received baccalaureate or associate degrees were not included in the "some college" category, and (2) persons who received graduate degrees were not included in the category "some graduate work" unless the field of study listed by the respondent under "some graduate work" differed from that in which the respondent received a graduate degree.

[2]Persons who attended more than one course were included in all categories that applied.

TABLE 22

ATTENDANCE AT DHEW-SPONSORED COURSES,
BY NUMBER OF YEARS OF SURVEY EXPERIENCE, 1974

Number of Years of Survey Experience	Attendance at DHEW Courses			Number Who Attended [1]		
	Attended	Did Not Attend	Not Ascertained	Basic Course	Advanced Course	Supervisor Training Institute
1 year or less	105	242	4	105	2	2
2 - 4 years	411	208	1	402	62	24
5 - 7 years	218	78	3	217	43	19
8 or more years	171	62	0	166	32	17
Not Ascertained	17	19	2	17	4	1
Total	922	609	10	907	143	63

[1] Persons who attended more than one course were included in all categories that applied.

TABLE 23

REGIONAL LOCATION OF SURVEYORS,
BY CONTINUING EDUCATION CONFERENCES,
COMPLETED SINCE 1972

Continuing Education Conferences	Health, Education, and Welfare Region										
	I	II	III	IV	V	VI	VII	VIII	IX	X	Total
Number of respondents who have attended continuing education courses	104	140	129	118	195	79	79	57	107	64	1,072
Number of Respondents who have not attended	39	45	41	40	105	54	34	19	30	12	419
Not ascertained	8	3	10	4	10	3	4	2	5	1	50
Subjects of Conferences											
Administration	3	17	7	8	13	10	4	5	7	2	76
Care of Aging	4	20	10	7	21	5	4	5	14	3	93
Dietetic Services	10	14	3	9	15	12	2	1	8	5	79
Environmental Health	1	2	2	0	9	2	3	2	3	2	26
Life Safety	6	27	30	6	32	6	16	9	10	6	148
Home Health Agencies	2	1	1	0	1	3	1	2	1	1	13
Infection Control	6	20	7	3	11	1	3	5	7	4	67
Laboratory Procedures	2	3	2	6	0	2	1	1	8	5	30
Hospital Services	1	0	0	1	1	1	0	2	0	0	6
Legal Aspects	1	2	0	1	0	1	0	0	7	2	14
Medical Records	12	7	9	12	15	6	3	6	16	2	88
Mental Health	4	2	0	0	3	0	2	1	4	0	16
Mental Retardation	5	2	2	5	4	6	0	0	8	3	35
Intermediate Care Facilities	5	5	7	4	4	8	3	1	3	5	45
Skilled Nursing Facilities	5	1	6	6	3	7	1	2	1	4	36
Nursing Services	14	17	4	12	24	7	6	8	13	4	109
Patient Activities	3	1	1	5	7	0	0	4	5	2	28
Pharmacy Services	13	3	7	11	9	4	12	1	5	2	67
Radiation Hazards	1	0	0	0	1	0	2	0	0	0	4
Rehabilitation	9	1	2	1	10	1	2	1	4	1	32
Social Services	2	5	1	4	3	0	2	1	1	1	20
Survey Process	12	5	27	16	29	21	11	7	10	9	147
Title VI	0	0	0	1	0	0	0	0	0	0	1
Title XVIII & XIX (Regulations)	13	17	15	15	17	13	5	7	15	16	133
Utilization Review	1	7	7	3	7	2	5	1	5	10	48
Government-conducted Workshops, Seminars, Staff Meetings (topic unspecified)	24	10	34	29	26	12	13	9	21	12	190
Conferences conducted by Associations in Respondent's Discipline	15	21	14	16	27	8	7	9	11	13	141
Conferences dealing with Specific Diseases	3	3	4	3	8	1	1	3	4	2	32
Other	20	23	15	21	32	2	14	11	24	8	170

SECTION C. SURVEY RESPONSIBILITIES AND ACTIVITIES

This section of the report deals with surveyors' activities and responsibilities. There are 22 tables in this section which describe program responsibility, functional responsibility, survey structure, kinds of facilities surveyed, conditions of participation and standards surveyed, estimated number of facilities surveyed per year, and estimated number of hours spent surveying particular kinds of facilities.

General points that may be drawn from these tables include:

(1) Seventy percent of the surveyors are responsible for Title XVIII, Title XIX, and Licensure.

(2) Twelve percent of those reporting that have survey activities spent one to 25 percent of their time as surveyors. Nineteen percent spent 26 to 50 percent; 16 percent, 51 to 75 percent; and 43 percent, 76 to 100 percent. The estimates of 10 percent were not ascertained. (Not included in the tables is information about the number of hours spent in survey-related activities. These may be summarized as follows. Reporting surveyors spent an average of four hours per week in pre-survey file review. They spent an average of 16 hours per week in actual surveying. An average of nine hours per week is spent in report writing and other survey-related activities, while an average of eight hours is spent in travel. An average of seven hours is spent in consultation and/or follow-up. Seven hours are spent in other activities. This brings the average work week for surveyors to approximately 51 hours. This average may be somewhat inflated, but some surveyors reported that travel was on the "surveyor's own time" and others reported that they normally worked a longer than 40 hour week.)

(3) In addition to their survey activities, one percent of the surveyors spent their time in director positions. Eight percent reported that they spent a portion of their time in administrative duties in offices. Twelve percent acted in supervisory capacities. Sixty-two percent functioned as consultants.

(4) Those most likely to hold administrative duties are those who hold higher-educational credentials.

(5) The likelihood of holding administrative positions is directly associated with the number of years of survey experience.

(6) Males are significantly more likely than females to hold administrative positions.

(7) Seventeen percent always work as single surveyors. Fifty-one percent sometimes as single surveyors and sometimes as part of a team. Thirty-one percent always work as part of a team.

(8) Facilities for which a team is most likely to be used include general hospitals, psychiatric and TB hospitals, skilled nursing facilities, intermediate care facilities, institutions for the mentally retarded and other related conditions, outpatient/physical therapy services, and domiciliary facilities. Facilities for which a surveyor is likely to be solely responsible include home health agencies, independent laboratories, and portable x-ray facilities.

(9) Persons in almost all disciplines were likely to survey other conditions of participation or standards as well as their own areas of expertise.

TABLE 24

PROGRAM RESPONSIBILITY OF SURVEYORS,
BY PROFESSIONAL DISCIPLINE, 1974

Professional Discipline	Kind of Program Responsibility							
	Title XVIII	Title XIX	Licensure Only	Title XVIII & Title XIX	Title XIX and Licensure	Title XVIII and Licensure	All Programs	Not Ascertained
Hospital Administrator	13	2	0	16	1	4	68	1
Health Administrator	0	0	2	4	5	1	41	3
Medical Records Administrator	1	0	0	8	1	1	13	1
Medical Technologist	13	1	1	6	1	9	19	1
Nurse, RN	28	21	6	39	19	29	440	7
Nurse, LPN or LVN	0	0	0	1	3	0	6	1
Nutritionist	1	1	0	2	1	2	24	0
Dietitian	2	0	0	5	4	3	34	2
Occupational Therapist	0	0	0	1	0	0	3	0
Pharmacist	3	1	0	2	1	1	14	2
Physical Therapist	5	1	0	4	0	0	8	0
Physician, DO	0	0	0	0	0	0	1	0
Physician, MD	5	0	1	6	3	3	26	2
Sanitarian	1	0	6	5	8	4	181	1
Social Worker	1	0	0	2	0	1	11	0
Architect	0	0	2	3	0	2	10	0
Engineer	1	0	0	1	1	0	36	1
Speech or Audiological Therapist	0	0	0	1	2	0	6	0
Recreational Therapist	0	0	0	3	0	0	5	0
Laboratory Technician	5	0	1	1	0	1	6	1
Fire Marshal; Life Safety Code Surveyor, Health Inspector	0	1	4	23	1	1	46	4
Counselor	0	0	0	1	0	0	0	0
Educator	1	2	0	1	0	0	1	0
Nursing Home Administrator	0	1	0	1	0	1	3	0
Surveyor [1]	7	6	1	16	10	4	77	7
Total	87	37	24	152	61	67	1,079	34

[1]This category includes: persons who called themselves surveyors, persons who left the question regarding discipline blank, and persons whose professional disciplines could not be coded in the above categories.

TABLE 25

PROGRAM RESPONSIBILITY, BY PERCENTAGE OF TIME SPENT AS SURVEYOR, 1974

Percentage of Time Spent As Surveyor	Program Responsibility								
	Title XVIII Certification Only	Title XIX Certification Only	Licensure Only	Title XVIII and XIX Certification	Title XIX Certification & Licensure	Title XVIII Certification & Licensure	Title XVIII and XIX Certification & Licensure	Not Ascertained	Total
1 - 25	14	1	4	17	4	7	127	5	179
26 - 50	25	1	1	20	17	13	196	5	278
51 - 75	10	4	3	18	5	12	184	2	238
76 - 100	25	24	13	57	26	25	444	6	620
Not ascertained	10	6	2	7	28	7	70	11	141
Total	84	36	23	119	80	64	1,021	29	1,456[1]

[1]Total does not equal 1,541 because 85 individuals did not list "surveyor" as a functional responsibility even though they answered later questions concerning survey activities.

TABLE 26

FUNCTIONAL RESPONSIBILITY, BY PROFESSIONAL DISCIPLINE, 1974

Professional Discipline	Number of Surveyors Who Hold Functional Responsibility as:[1]						
	Director	Administrator (in office)	Supervisor (of field operations)	Surveyor	Consultant	Other	Not Ascertained
Hospital Administrator	3	21	27	101	66	16	1
Health Administrator	4	18	17	52	26	8	4
Medical Records Administrator	1	0	1	23	24	0	0
Medical Technologist	0	11	9	50	35	11	0
Nurse, RN	7	21	40	564	386	97	16
Nurse, LPN or LVN	0	0	1	11	4	0	0
Nutritionist	0	1	4	31	25	6	0
Dietitian	0	3	5	44	40	16	4
Occupational Therapist	0	0	0	3	3	1	1
Pharmacist	1	2	1	23	21	5	1
Physical Therapist	0	2	1	15	14	1	2
Physician, DO	0	0	0	0	0	0	1
Physician, MD	4	6	10	38	31	6	6
Sanitarian	1	15	22	201	133	26	2
Social Worker	0	1	0	15	13	4	0
Architect	0	3	2	15	12	0	2
Engineer	0	3	8	37	29	12	2
Speech or Audiological Therapist	0	0	0	9	9	0	0
Recreational Therapist	0	1	1	8	5	2	0
Laboratory Technician	0	3	2	15	8	0	1
Fire Marshal; Life Safety Code Surveyor; Health Inspector	1	1	6	70	24	10	2
Counselor	0	0	0	1	1	0	0
Educator	0	0	1	5	1	0	0
Nursing Home Administrator	0	1	1	6	2	0	0
Surveyor[2]	1	13	20	119	46	10	3
Total	23	126	179	1,456	958	231	48

[1]Respondents were coded in all categories that applied.

[2]This category includes: persons who called themselves surveyors, persons who left the question regarding discipline blank, and persons whose professional disciplines could not be coded in the above categories.

TABLE 27

FUNCTIONAL RESPONSIBILITY OF SURVEYORS,
BY EDUCATIONAL ATTAINMENT, 1974

Level of Educational Attainment[1]	Number of Surveyors Who Hold Functional Responsibilities as:[2]						
	Director	Administrator (in office)	Supervisor (of field operations)	Surveyor	Consultant	Other	Not Ascertained
Some High School Only	0	0	2	7	2	1	0
High School Diploma Only	1	3	10	92	28	9	6
Some College	1	4	3	37	20	7	0
Technical School Certificate	0	10	12	105	63	15	2
Associate Degree	0	4	5	68	35	7	3
Diploma in Nursing	4	15	36	487	320	90	12
Baccalaureate Degree	18	110	146	957	693	145	30
Some Graduate School	7	31	50	286	209	39	5
Graduate Degree	12	51	63	388	299	65	15
Not Ascertained	1	1	0	5	3	0	1

[1]Persons who attended high school or received a high school diploma and went no further were included in the categories referring to high school. Persons who went further than high school were coded in other categories. If they had credentials in more than one area, they were coded in all areas that applied, with two exceptions, (1) people who received baccalaureate or associate degrees were not included in the "some college" category, and (2) persons who received graduate degrees were not included in the "some graduate work" category unless the field of study listed by the respondent under "some graduate work" differed from that in which the respondent received a graduate degree.

[2]Respondents were coded in all categories that applied.

TABLE 28

FUNCTIONAL RESPONSIBILITY OF SURVEYORS,
BY NUMBER OF YEARS OF SURVEY EXPERIENCE

Number of Years of Survey Experience	Number of Surveyors Who Hold Functional Responsibilities as:[1]						
	Director	Administrator (in office)	Supervisor (of field operations)	Surveyor	Consultant	Other	Not Ascertained
1 year or less	2	10	16	336	212	53	7
2 - 4 years	8	48	72	591	366	85	16
5 - 7 years	7	27	43	273	202	56	18
8 or more years	6	38	44	222	162	32	5
Not Ascertained	0	3	4	35	17	5	2
Total	23	126	179	1,457	959	231	48

[1]Respondents were coded in all categories that applied.

TABLE 29

FUNCTIONAL RESPONSIBILITY, BY SEX OF SURVEYOR, 1974

Sex	Number of Surveyors Who Hold Functional Responsibility as:[1]						
	Director	Administrator (in office)	Supervisor (of field operations)	Surveyor	Consultant	Other	Not Ascertained
Male	16	97	122	720	437	97	23
Female	7	29	57	736	521	134	25
Total	23	126	179	1,456	958	231	48

[1]Respondents were coded in all categories that applied.

TABLE 30

NUMBER OF SURVEYORS WHO WORK AS SINGLE SURVEYORS SOMETIMES AS PART OF A TEAM, OR ALWAYS AS PART OF A TEAM, BY PROFESSIONAL DISCIPLINE, 1974

Professional Discipline	Survey Structure				Total
	Always Work As Single Surveyor	Sometimes Work As Part of a Team[1]	Always Work As Part of a Team	Not Ascertained	
Hospital Administrator	5	76	22	2	105
Health Administrator	7	35	11	3	56
Medical Records Administrator	0	4	20	1	25
Medical Technologist	12	35	3	1	51
Nurse, RN	116	280	188	5	589
Nurse, LPN or LVN	0	7	2	2	11
Nutritionist	1	8	22	0	31
Dietitian	1	13	36	0	50
Occupational Therapist	0	1	3	0	4
Pharmacist	1	12	11	0	24
Physical Therapist	4	7	7	0	18
Physician, DO	0	1	0	0	1
Physician, MD	7	29	9	1	46
Sanitarian	16	113	76	1	206
Social Worker	0	5	10	0	15
Architect	8	8	1	0	17
Engineer	11	20	9	0	40
Speech or Audiological Therap	1	5	3	0	9
Recreational Therapist	1	4	3	0	8
Laboratory Technician	8	6	1	0	15
Fire Marshal; Life Safety Code Surveyor; Health Inspector	38	34	7	1	80
Counselor	1	0	0	0	1
Educator	2	2	1	0	5
Nursing Home Administrator	0	5	1	0	6
Surveyor[2]	24	78	26	0	128
Total	264	788	472	17	1,541

[1]Of those respondents who sometimes work as single surveyors or always work as single surveyors, 770 use consultant support back-up, 146 do not, and the answers of 136 were not ascertained.

[2]This category includes: persons who called themselves surveyors, persons who left the question regarding discipline blank, and persons whose professional disciplines could not be coded in the above categories.

TABLE 31

NUMBER OF SURVEYORS WHO WORK AS SINGLE SURVEYORS, SOMETIMES AS PART OF A TEAM, OR ALWAYS AS PART OF A TEAM, BY EDUCATIONAL LEVEL, 1974

Level Of Educational Attainment[1]	Survey Structure				Total
	Always Work As Single Surveyor	Sometimes Work as Part of a Team[2]	Always Work As Part of a Team	Not Ascertained	
Some High School Only	0	7	1	0	8
High School Diploma Only	32	53	15	2	102
Some College	9	22	7	0	38
Technical School Certificate	23	55	30	3	111
Associate Degree	10	42	18	2	72
Diploma in Nursing	103	242	156	5	506
Baccalaureate Degree	148	509	346	9	1,012
Some Graduate School	36	166	93	2	297
Graduate Degree	58	194	157	6	415
Not Ascertained	1	5	0	0	6

[1]Persons who attended high school or received a high school diploma and went no further were included in the categories referring to high school. Persons who went further than high school were coded in other categories. If they had credentials in more than one area, they were coded in all areas that applied, with two exceptions, (1) people who received baccalaureate or associate degrees were not included in the "some college" category, and (2) persons who received graduate degrees were not included in the "some graduate work" category unless the field of study listed by the respondent under "some graduate work" differed from that in which the respondent received a graduate degree.

[2]Of those respondents who sometimes work as single surveyors or always work as single surveyors, 770 use consultant support back-up, 146 do not, and the answers of 136 were not ascertained.

TABLE 32

NUMBER OF SURVEYORS SURVEYING PARTICULAR KINDS OF FACILITIES, BY SURVEY STRUCTURE[1]

Survey Structure[2]	Kind of Facilities[3]											
	General Hospitals	Psychiatric and/or Tuberculosis Hospitals	Skilled Nursing Facilities	Intermediate Care Facilities	Institutions for the Mentally Retarded and other Related Conditions	Home Health Agencies	Independent Laboratories	Outpatient/Physical Therapy Services	Domiciliary Facilities	Portable X-Ray Facilities	Whether or not team is used depends on whether surveyors can get together as a team	Whether or not team is used depends on size of facility
Work as Single Surveyor	469	257	585	522	189	126	65	44	87	14	6	5
Work as Part of a Team	758	361	910	769	322	91	32	77	104	12	6	5

[1] The kinds of facilities surveyed with a particular structure could not be ascertained for 73 of the 1,541 respondents.

[2] Respondents who "sometimes work as part of a team" were divided and coded into the other two categories, "work as single surveyors" and "work as part of a team." See question G. 1 in questionnaire.

[3] Respondents who survey more than one kind of facility were included in all categories that applied.

TABLE 33

NUMBER OF SURVEYORS SURVEYING PARTICULAR KINDS OF FACILITIES, BY REGION, 1974

Region	Number of Surveyors Who Survey[1]								
	Hospitals	Skilled Nursing Facilities	Intermediate Care Facilities	Institutions for the Mentally Retarded and Other Related Conditions	Home Health Agencies	Independent Laboratories	Outpatient/Physical Therapy Services	Domiciliary Facilities	Portable X-Ray Facilities
Region I	65	100	97	29	22	10	16	33	4
Region II	163	159	139	77	12	13	28	7	1
Region III	103	150	141	99	26	9	19	49	4
Region IV	150	144	133	86	48	13	23	27	6
Region V	165	249	243	158	17	9	21	34	5
Region VI	63	106	103	38	17	5	16	5	3
Region VII	72	87	84	36	6	3	8	31	3
Region VIII	61	66	57	41	17	7	16	13	3
Region IX	130	124	76	82	53	16	26	4	3
Region X	70	67	61	27	7	8	3	29	1
Total	1,042	1,252	1,134	673	225	93	176	232	33

[1]Respondents who survey more than one kind of facility were included in all categories that applied.

TABLE 34

NUMBER OF SURVEYORS SURVEYING PARTICULAR KINDS OF FACILITIES, BY STATE, 1974[1]

State	Hospitals	Skilled Nursing Facilities	Intermediate Care Facilities	Institutions for the Mentally Retarded and Other Related Conditions	Home Health Agencies	Independent Laboratories	Outpatient/Physical Therapy Services	Domiciliary Facilities	Portable X-Ray Facilities
Alabama	21	22	20	3	14	2	3	10	0
Alaska	6	6	4	3	2	1	2	0	0
Arizona	8	10	2	2	2	1	5	0	2
Arkansas	7	9	7	7	1	2	1	1	0
California	105	98	63	71	45	12	18	1	0
Colorado	19	17	17	17	4	1	5	4	0
Connecticut	9	20	19	4	7	5	8	10	2
Delaware	3	8	7	6	2	1	2	1	0
District of Columbia	10	10	9	7	5	2	2	5	1
Florida	41	34	32	29	5	4	6	5	2
Georgia	17	17	16	13	3	1	2	0	1
Hawaii	8	7	6	3	3	2	1	1	0
Idaho	12	10	9	6	1	1	0	2	0
Illinois	43	61	58	42	9	8	5	7	5
Indiana	15	17	24	8	0	0	0	1	0
Iowa	25	23	27	13	3	0	6	8	0
Kansas	18	12	12	9	1	1	0	1	2
Kentucky	17	17	16	8	8	2	5	4	2
Louisiana	11	11	11	6	5	0	2	0	0
Maine	19	20	22	10	3	0	2	10	1
Maryland	24	28	31	12	1	1	1	22	0
Massachusetts	11	32	26	6	4	2	1	12	0
Michigan	42	43	35	35	0	0	4	9	0
Minnesota	31	34	35	18	1	0	1	4	0
Mississippi	6	6	4	3	0	1	0	0	0
Missouri	7	31	25	5	1	1	2	19	1
Montana	8	8	8	7	4	2	4	0	0
Nebraska	22	21	20	9	1	1	0	3	0
Nevada	9	9	5	6	3	1	2	2	1
New Hampshire	12	13	12	3	4	1	3	0	0
New Jersey	20	22	21	9	2	5	6	4	0
New Mexico	2	2	2	2	1	0	0	0	0
New York	132	127	117	66	7	7	22	3	1
North Carolina	24	23	22	16	12	2	6	7	1
North Dakota	6	6	2	1	1	0	0	0	0
Ohio	19	39	37	23	5	1	8	5	0
Oklahoma	19	19	18	12	5	3	5	0	0
Oregon	15	13	13	7	2	3	0	7	0
Pennsylvania	38	77	68	58	8	1	9	15	3
Puerto Rico	11	10	1	2	3	1	0	0	0
Rhode Island	7	9	13	2	2	1	0	0	1
South Carolina	11	12	12	7	3	1	0	1	0
South Dakota	12	14	13	4	1	1	0	6	0
Tennessee	13	13	11	7	3	0	1	0	0
Texas	24	65	65	11	5	0	8	4	3
Utah	10	15	11	10	5	3	3	2	2
Vermont	7	6	5	4	2	1	2	1	0
Virginia	19	20	20	12	6	3	3	5	0
Washington	37	38	35	11	2	3	1	20	1
West Virginia	5	7	6	4	4	1	2	1	0
Wisconsin	15	55	54	32	2	0	3	8	0
Wyoming	6	6	6	2	2	0	4	1	1
Total	1,042	1,252	1,134	673	225	93	176	232	33

[1]Respondents who survey more than one kind of facility were included in all categories who applied.

TABLE 35

KINDS OF FACILITIES SURVEYED, BY PROFESSIONAL DISCIPLINE, 1974

Professional Discipline	Kinds of Facilities[2]																
	Hospitals																
	Hospitals, -- General Psychiatric, and/or Tuberculosis	General	Psychiatric	Tuberculosis	General and Psychiatric	Psychiatric and Tuberculosis	General and Tuberculosis	General, Psychiatric and Tuberculosis	Particular Kind of Hospital Surveyed Not Ascertained	Skilled Nursing Facilities	Intermediate Care Facilities	Institutions for Mentally Retarded and Other Related Conditions	Home Health Agencies	Independent Laboratories	Outpatient/Physical Therapy Services	Domiciliary Facilities	Portable X-Ray Facilities
Hospital Administrator	103	36	1	0	26	0	0	39	1	78	60	47	16	4	25	6	7
Health Administrator	43	18	1	0	10	1	3	10	0	43	41	30	13	5	5	8	2
Medical Records Administrator	20	8	0	0	4	0	2	5	1	23	12	9	3	0	1	2	0
Medical Technologist	46	25	0	0	11	0	1	5	4	7	5	12	1	45	3	0	1
Nurse, RN	304	153	6	0	86	0	9	39	11	474	449	209	122	6	55	110	6
Nurse, LPN or LVN	7	2	0	0	4	0	0	1	0	8	8	7	1	0	0	0	0
Nutritionist	24	15	0	0	4	0	1	2	2	31	27	20	1	0	0	3	1
Dietitian	38	22	1	0	8	0	0	5	2	44	41	31	3	1	0	5	0
Occupational Therapist	3	1	1	0	1	0	0	0	0	4	4	2	1	0	0	0	0
Pharmacist	20	8	0	0	7	0	1	4	0	20	19	11	4	1	1	2	0
Physical Therapist	6	2	2	0	2	0	0	0	0	15	11	3	6	0	11	1	0
Physician, DO	1	0	0	0	1	0	0	0	0	1	1	0	0	0	0	0	0
Physician, MD	41	10	6	0	10	0	1	9	5	24	10	10	2	5	8	2	1
Sanitarian	137	57	0	1	38	0	1	38	2	198	183	107	10	2	32	42	2
Social Worker	12	7	2	0	1	0	0	2	0	15	13	7	4	1	2	1	1
Architect	15	5	0	0	5	0	1	4	0	17	17	9	2	1	6	2	0
Engineer	38	14	0	0	10	0	0	14	0	38	36	29	3	1	4	9	1
Speech or Audiological Therapist	3	12	0	0	1	0	0	0	0	9	8	7	0	0	1	1	0
Recreational Therapist	2	2	0	0	0	0	0	0	0	8	7	1	1	0	0	1	0
Laboratory Technician	12	6	0	0	1	0	1	2	2	4	0	2	1	11	0	0	0
Fire Marshal; Life Safety Code Surveyor; Health Inspector	67	25	0	0	23	0	1	18	0	79	77	61	5	2	8	5	0
Counselor	1	1	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0
Educator	3	2	0	0	1	0	0	0	0	2	4	1	1	0	1	1	0
Nursing Home Administrator	5	3	0	0	0	0	1	1	0	4	4	4	2	1	1	1	0
Surveyor[1]	91	34	2	2	32	0	3	16	3	105	97	53	23	7	12	30	11
Total	1,042	468	22	3	286	1	26	204	33	1,252	1,134	673	225	93	176	232	33

[1]This category includes: persons who called themselves surveyors, persons who left the question regarding discipline blank, and persons whose professional disciplines could not be coded in the above categories

[2]Respondents who survey more than one kind of facility were included in all categories that applied.

TABLE 36

KINDS OF FACILITIES SURVEYED,
BY EDUCATIONAL LEVEL, 1974

Level of Educational Attainment[1]	Kinds of Facilities[2]								
	Hospitals	Skilled Nursing Facilities	Intermediate Care Facilities	Institutions for the Mentally Retarded and Other Retarded Conditions	Home Health Agencies	Independent Laboratories	Outpatient/Physical Therapy Services	Domiciliary Facilities	Portable X-Ray Facilities
Some High School Only	8	8	7	6	2	0	1	1	0
High School Diploma Only	72	94	91	67	12	2	8	13	2
Some College	19	36	31	18	3	1	2	9	1
Technical School Certificate	87	96	83	59	14	7	6	14	8
Associate Degree	50	59	54	34	13	5	12	8	1
Diploma in Nursing	241	409	387	177	97	4	43	92	6
Baccalaureate Degree	768	791	699	423	155	82	134	146	22
Some Graduate School	211	250	221	132	53	16	47	47	8
Graduate Degree	328	309	251	172	62	38	51	46	9
Not Ascertained	4	5	5	2	1	0	1	1	0

[1]Persons who attended high school or received a high school diploma and went no further were included in the categories referring to high school. Persons who went further than high school were coded in other categories. If they had credentials in more than one area, they were coded in all areas that applied, with two exceptions, (1) people who received baccalaureate or associate degrees were not included in the "some college" category, and (2) persons who received graduate degrees were not included in the category "some graduate work" unless the field of study listed by the respondent under "some graduate work" differed from that in which the respondent received a graduate degree.

[2]Respondents who survey more than one kind of facility were included in all categories that applied.

TABLE 37. PROFESSIONAL DISCIPLINE OF SURVEYORS, BY HOSPITAL CONDITIONS OF PARTICIPATION, 1974

Conditions of Participation	Professional Discipline																									
	Hospital Administrator	Health Administrator	Medical Records Administrator	Medical Technologist	Nurse, RN	Nurse, LPN or LVN	Nutritionist	Dietitian	Occupational Therapist	Pharmacist	Physical Therapist	Physician, DO	Physician, MD	Sanitarian	Social Worker	Architect	Engineer	Speech or Audiological Therapist	Recreational Therapist	Laboratory Technician	Fire Marshal; Life Safety Code Surveyor; Health Inspector	Counselor	Educator	Nursing Home Administrator	Surveyor [1]	Total
Compliance with State and Local Laws	92	41	5	23	185	4	9	9	2	14	2	1	13	112	5	11	26	2	1	7	53	0	2	4	69	692
Governing Body	90	34	4	5	134	5	0	3	1	7	2	0	12	54	2	1	3	0	2	2	4	0	3	3	43	414
Physical Environment	80	32	1	8	103	4	2	8	0	4	2	0	7	127	1	9	25	2	2	1	11	0	3	4	47	483
Medical Staff	82	32	9	4	141	5	0	3	1	5	2	1	31	46	1	0	0	0	2	2	2	0	3	4	42	418
Nursing Department	45	23	2	2	279	5	1	1	0	7	1	0	11	32	0	2	0	0	1	2	1	0	2	2	31	450
Dietary Department	59	27	1	4	106	4	22	35	2	4	0	0	5	104	1	2	2	2	2	1	3	0	3	3	34	426
Medical Records Department	77	25	19	5	173	5	1	5	1	6	3	1	27	32	1	2	0	0	2	2	2	0	3	3	36	431
Pharmacy or Drug Room	81	28	2	6	191	5	0	1	0	20	1	0	8	43	1	2	0	0	2	3	3	0	3	2	32	434
Laboratories	41	17	4	45	83	0	0	0	0	2	0	0	17	51	1	3	1	2	0	6	7	0	2	1	30	313
Radiology Department	67	21	3	9	93	4	0	1	0	6	2	0	12	59	1	4	3	1	0	5	6	0	2	2	35	337
Medical Library	79	26	11	4	132	5	0	3	0	7	2	0	12	27	1	0	0	0	2	2	3	0	3	3	33	355
Complementary Department	60	20	4	3	189	6	0	2	1	5	4	0	8	46	0	1	2	0	1	2	2	0	3	3	37	399
Outpatient Department	60	22	8	3	195	5	0	1	0	5	2	1	14	42	0	4	0	1	1	1	1	0	3	3	35	409
Emergency Services Department	60	23	8	4	228	6	0	1	0	8	1	1	14	61	1	3	0	1	1	2	5	0	3	3	36	470
Social Work Department	66	25	2	3	145	3	0	3	1	5	2	0	10	29	12	0	0	0	2	1	1	0	2	1	33	346
Utilization Review Plan	88	31	13	5	96	4	0	4	1	4	1	1	36	51	3	0	1	0	2	2	1	1	3	4	46	398
Life Safety Code	9	7	0	0	4	0	0	0	0	1	0	0	3	41	0	15	30	3	0	0	59	0	0	0	33	205

[1]This category includes: persons who called themselves surveyors, persons who left the question regarding discipline blank, and persons whose professional disciplines could not be coded in the above categories.

[2]Respondents who survey more than one condition of participation were coded in all categories that applied.

TABLE 38. PROFESSIONAL DISCIPLINE OF SURVEYOR, BY SKILLED NURSING FACILITY CONDITIONS OF PARTICIPATION, 1974

Conditions of Participation[1]	Professional Discipline																										
	Hospital Administrator	Health Administrator	Medical Records Administrator	Medical Technologist	Nurse, RN	Nurse, LPN or LVN	Nutritionist	Dietitian	Occupational Therapist	Pharmacist	Physical Therapist	Physician, DO	Physician, MD	Sanitarian	Social Worker	Architect	Engineer	Speech or Audiological Therapist	Recreational Therapist	Laboratory Technician	Fire Marshal; Life Safety Code Surveyor; Health Inspector	Counselor	Educator	Nursing Home Administrator	Surveyor[2]	Total
Compliance with Federal, State and Local Laws	74	42	9	5	367	7	15	18	3	14	8	0	7	180	6	14	29	8	3	2	60	0	2	4	93	970
Governing Body and Management	72	38	4	3	322	6	6	10	1	8	5	0	5	108	5	0	7	5	3	2	3	0	2	3	58	676
Patient Care Policies	64	30	6	3	447	7	9	11	2	11	8	0	10	73	8	1	2	4	4	2	3	0	2	4	54	765
Physician Services	51	27	12	3	416	7	1	2	1	6	5	1	17	59	4	0	2	1	1	2	1	0	2	3	47	671
Nursing Services	30	25	2	3	463	6	2	6	0	13	3	0	5	58	4	1	1	1	2	2	1	0	1	1	41	671
Dietetic Services	50	30	2	4	257	5	31	43	2	5	0	0	3	150	4	1	2	6	4	1	2	0	2	3	49	656
Special Rehabilitative Services	50	25	2	3	407	5	0	1	3	2	14	0	6	69	5	1	0	1	3	2	4	0	2	1	42	648
Pharmaceutical Services	65	30	2	3	408	6	0	1	0	19	1	0	6	68	3	1	1	1	3	2	0	0	2	1	44	668
Laboratory and Radiologic Services	52	25	3	6	298	5	2	3	0	6	2	0	10	85	3	2	0	3	4	3	3	0	2	2	49	568
Dental Services	64	28	4	3	352	5	4	5	1	8	3	0	5	72	3	0	0	2	5	2	1	0	2	2	51	622
Social Services	62	25	3	4	348	5	1	4	1	7	3	0	4	72	15	0	1	3	5	1	2	0	2	1	48	617
Patient Activities	61	29	3	4	399	6	5	6	3	6	6	0	2	92	10	0	1	4	7	2	4	0	2	2	55	709
Medical Records	57	30	23	4	410	7	2	7	1	8	5	0	16	61	4	0	0	1	5	2	1	0	2	2	51	699
Transfer Agreement	68	37	7	4	317	6	1	5	1	5	3	0	7	88	4	0	1	4	3	2	3	1	2	4	58	631
Physical Environment	63	30	2	4	192	5	4	8	0	4	5	0	3	186	3	9	22	8	3	1	17	0	2	4	61	636
Infection Control	57	28	2	4	329	8	9	11	0	7	2	0	10	173	3	0	7	6	3	2	2	0	2	2	56	723
Disaster Preparedness	63	31	2	3	192	5	5	9	0	2	2	0	3	163	3	3	6	8	3	2	15	0	2	4	57	583
Utilization Review	72	33	14	3	228	6	0	3	1	3	4	0	20	86	3	0	0	3	3	2	1	1	2	3	53	544
Life Safety Code	13	8	1	0	23	0	0	0	0	0	1	0	3	63	0	15	30	5	0	0	72	0	0	0	46	280

[1]Respondents who survey more than one condition of participation were included in all categories that applied.

[2]This category includes: persons who called themselves surveyors, persons who left the question regarding discipline blank, and persons whose professional disciplines could not be coded in the above categories.

TABLE 39. PROFESSIONAL DISCIPLINE OF SURVEYOR BY INTERMEDIATE CARE FACILITY CONDITIONS OF PARTICIPATION, 1974

Conditions of Participation	Professional Discipline																										
	Hospital Administrator	Health Administrator	Medical Records Administrator	Medical Technologist	Nurse, RN	Nurse, LPN or LVN	Nutritionist	Dietitian	Occupational Therapist	Pharmacist	Physical Therapist	Physician, DO	Physician, MD	Sanitarian	Social Worker	Architect	Engineer	Speech or Audiological Therapist	Recreational Therapist	Laboratory Technician	Fire Marshal Life Safety Code Surveyor; Health Inspector	Counselor	Educator	Nursing Home Administrator	Surveyor [2]	Total
State Licensure	58	39	5	5	380	8	14	24	3	12	6	0	5	161	7	12	28	8	2	0	50	0	3	4	77	911
Conformity with Federal, State and Local Laws	59	39	6	4	374	0	11	21	3	12	7	0	6	154	7	11	22	8	2	0	52	0	2	4	75	887
Administrative Management	57	37	2	3	345	7	6	7	1	7	6	0	4	92	4	0	2	5	2	0	2	0	3	4	54	650
Transfer Agreement	56	34	5	4	324	7	1	3	1	5	3	0	3	74	4	0	1	4	2	0	3	0	3	4	53	594
Arrangements for Services	54	32	3	4	353	7	2	7	1	5	5	0	4	66	5	0	0	4	2	0	2	0	3	3	53	615
Resident Record System	43	29	12	4	407	8	2	6	1	4	4	0	3	64	6	0	1	3	3	0	3	0	3	3	50	659
Life Safety Code	15	13	0	1	36	1	0	1	0	1	1	0	1	72	0	15	28	4	0	0	73	0	0	0	46	308
Environment and Sanitation	52	30	1	3	158	6	7	12	0	2	4	0	3	179	2	8	23	7	2	0	12	0	3	4	57	575
Dietetic Services	44	29	3	4	272	7	25	41	1	5	0	0	2	139	3	2	2	6	3	0	2	0	3	3	45	641
Drugs and Biologicals	46	30	3	4	423	8	0	2	1	17	1	0	6	52	3	1	1	1	1	0	1	0	3	2	42	648
Health Services	40	26	2	3	436	8	2	4	1	7	5	0	9	52	3	0	1	1	2	0	2	0	3	1	43	651
Disclosure of Ownership	54	34	2	3	298	7	1	3	1	4	4	0	1	83	4	0	1	4	2	0	2	0	3	4	51	566
Administrator	55	35	3	3	324	7	2	2	1	6	4	0	1	96	4	1	1	6	2	0	4	0	3	4	51	615
Resident Services Director	46	28	3	3	360	7	0	2	1	3	4	0	3	67	4	0	1	2	2	0	2	0	3	2	47	590
Rehabilitation Services	43	25	3	3	407	8	0	2	3	2	11	0	7	62	3	0	1	1	3	0	3	0	3	1	42	633
Social Services	49	26	4	4	348	7	1	3	2	5	4	0	3	59	13	0	1	2	4	0	2	0	3	1	46	587
Activities Program	50	28	3	4	378	8	4	6	3	4	5	0	4	84	9	0	1	4	7	0	4	0	3	2	48	659
Physician Services	41	27	8	3	416	8	1	2	1	6	6	1	11	50	3	2	1	1	1	0	2	0	3	2	44	640

[1] Respondents who survey more than one standard were included in all categories that applied.

[2] This categories includes: persons who called themselves surveyors, persons who left the question regarding discipline blank, and persons whose professional disciplines could not be coded in the above categories.

TABLE 40. PROFESSIONAL DISCIPLINE OF SURVEYOR, BY CONDITIONS OF PARTICIPATION FOR INSTITUTIONS FOR THE MENTALLY RETARDED AND OTHER RELATED CONDITIONS, 1974

Conditions of Participation	Professional Discipline																										
	Hospital Administrator	Health Administrator	Medical Records Administrator	Medical Technologist	Nurse, RN	Nurse, LPN or LVN	Nutritionist	Dietitian	Occupational Therapist	Pharmacist	Physical Therapist	Physician, DO	Physician, MD	Sanitarian	Social Worker	Architect	Engineer	Speech or Audiological Therapist	Recreational Therapist	Laboratory Technician	Fire Marshal, Life Safety Code Surveyor, Health Inspector	Counselor	Educator	Nursing Home Administrator	Surveyor[2]	Total
State Licensure	42	26	4	7	148	7	5	9	2	8	2	0	3	84	2	7	20	5	1	0	36	0	1	4	33	456
Conformity with Federal, State and Local Laws	39	28	4	3	152	6	7	10	1	9	1	0	2	86	3	7	17	7	1	1	35	0	0	4	38	461
Disclosure of Ownership	36	23	2	0	110	5	0	1	0	2	1	0	0	45	0	0	0	3	1	0	1	0	1	4	13	248
Transfer Agreement	38	23	4	0	124	4	0	1	0	2	1	0	0	34	0	0	0	3	1	0	0	1	1	3	15	255
Admission of Residents	33	20	4	1	157	5	1	0	0	2	1	0	1	21	3	0	0	0	1	0	0	0	1	3	10	264
Active Treatment	24	16	3	1	170	4	2	0	1	2	1	0	4	17	0	0	0	1	1	0	1	0	1	2	9	260
Administrative Management	38	22	2	0	136	5	1	0	0	2	1	0	1	41	0	0	0	2	1	0	0	0	1	3	15	271
Administrator	36	23	2	0	140	5	0	0	0	2	1	0	1	44	0	0	0	4	1	0	1	0	1	3	15	279
Qualified Mental Retardation Professional	21	20	2	1	144	3	0	0	1	0	1	0	2	18	3	0	0	0	1	0	0	0	1	4	7	229
Arrangements for Services	29	22	2	1	155	5	1	2	1	3	1	0	2	25	3	0	0	3	1	0	0	0	1	3	7	267
Services as Needed	24	17	3	1	165	4	1	0	1	1	3	0	2	20	5	0	0	0	1	0	0	0	1	2	13	264
Direct Care Staff	21	16	2	1	181	4	3	0	0	1	1	0	2	17	1	0	0	0	1	0	0	0	1	2	8	262
Health Services	21	18	2	6	190	5	3	3	0	1	3	0	5	20	0	0	0	1	1	0	0	0	1	2	9	291
Dietetic Services	28	19	1	1	112	4	20	29	1	1	1	0	1	63	0	0	1	4	1	0	1	0	1	2	10	301
Drugs & Biologicals	29	20	2	1	176	5	0	0	0	11	1	0	3	24	0	0	0	1	1	0	0	0	1	3	11	289
Resident Record System	30	19	9	1	177	5	3	1	0	1	1	0	1	20	1	0	0	1	1	0	1	0	1	3	11	287
Life Safety Code	8	7	0	0	12	0	0	0	0	0	0	0	0	38	0	8	22	4	0	0	54	0	0	0	33	186
Environment and Sanitation	32	21	1	0	65	5	3	7	1	1	1	0	1	97	0	4	15	6	1	0	6	0	1	4	17	289
Relationship to 249.13	16	14	0	0	60	0	0	1	0	0	1	0	0	16	0	0	1	2	1	0	0	0	0	3	3	118

[1]Respondents who survey more than one standard were included in all categories that applied.

[2]This category includes: persons who called themselves surveyors, persons who left the question regarding discipline blank, and persons whose professional disciplines could not be coded in the above categories.

TABLE 41. PROFESSIONAL DISCIPLINE OF SURVEYOR, BY HOME HEALTH AGENCY CONDITIONS OF PARTICIPATION, 1974

Conditions of Participation[1]	Professional Discipline																											
	Hospital Administrator	Health Administrator	Medical Records Administrator	Medical Technologist	Nurse, RN	Nurse, LPN or LVN	Nutritionist	Dietitian	Occupational Therapist	Pharmacist	Physical Therapist	Physician, DO	Physician, MD	Sanitarian	Social Worker	Architect	Engineer	Speech or Audiological Therapist	Recreational Therapist	Laboratory Technician	Fire Marshal Life Safety Code Surveyor, Health Inspector	Counselor	Educator	Nursing Home Administrator	Surveyor[2]	Total
Compliance with Federal, State, and Local Laws	14	11	2	0	115	1	0	1	0	2	1	0	1	7	0	1	3	0	1	1	5	0	1	1	23	191
Organization, Services, Administration	13	11	1	0	111	1	0	1	0	2	1	0	1	4	1	0	0	0	1	1	1	0	1	2	14	167
Group of Professional Personnel	12	10	1	0	115	1	0	1	0	2	1	0	1	3	2	0	0	0	1	1	1	0	1	1	14	168
Acceptance of Patients, Plan Of Treatment, and Medical Supervision	11	10	2	0	115	1	0	1	0	2	1	0	1	2	1	0	0	0	1	1	1	0	1	1	14	166
Skilled Nursing Service	11	10	0	0	117	1	0	1	0	2	1	0	1	3	0	0	0	0	0	1	1	0	1	0	16	166
Therapy Services	12	10	1	0	114	1	0	1	1	2	6	0	1	2	0	0	0	0	1	1	1	0	1	1	14	170
Medical Social Services	10	10	1	0	110	1	0	1	0	2	1	0	1	2	4	0	0	0	1	1	1	0	1	0	13	160
Home Health Aide Services	11	10	1	1	115	1	0	1	0	2	1	0	1	2	0	0	0	0	0	1	1	0	1	0	14	163
Clinical Records	11	10	3	0	115	1	1	1	0	3	2	0	1	2	1	0	0	0	1	1	1	0	1	1	14	170
Evaluation	11	10	1	0	112	1	0	1	0	3	1	0	1	3	2	0	0	0	0	1	2	0	1	1	14	165
Qualifying to Provide Outpatient Physical Therapy Services	12	9	1	0	74	1	0	0	0	2	6	0	1	3	0	0	0	0	1	1	1	0	1	1	13	127

[1]Respondents who survey more than one condition of participation were included in all categories that apply.

[2]This category includes: persons who called themselves surveyors, persons who left the question regarding discipline blank, and persons whose professional discipline could not be coded in the above categories.

TABLE 42. DISCIPLINE OF SURVEYOR, BY INDEPENDENT LABORATORY CONDITIONS OF PARTICIPATION, 1974

Conditions of Participation[2]	Professional Discipline																							Total
	Hospital Administrator	Health Administrator	Medical Records Administrator	Medical Technologist	Nurse, RN	Nurse, LPN or LVN	Nutritionist	Dietitian	Occupational Therapist	Pharmacist	Physical Therapist	Physician, DO	Physician, MD	Sanitarian	Social Worker	Architect	Engineer	Speech or Audiological Therapist	Recreational Therapist	Laboratory Technician	Fire Marshal; Life Safety Code Surveyor; Health Inspector	Counselor	Educator	Nursing Home Administrator	Surveyor[1]	
Compliance with State and Local Laws	4	3	0	44	4	0	0	1	0	1	0	0	4	1	0	1	1	0	0	11	2	0	0	0	5	82
Clinical Laboratory; Laboratory Director	4	3	0	44	4	0	0	1	0	1	0	0	4	1	0	0	0	0	0	9	0	0	0	1	4	76
Clinical Laboratory; Supervision	4	3	0	44	4	0	0	1	0	1	0	0	4	1	0	0	0	0	0	9	0	0	0	1	4	76
Clinical Laboratory; Tests Performance	4	3	0	44	3	0	0	1	0	1	0	0	4	1	0	0	0	0	0	9	0	0	0	1	4	75
Clinical Laboratory; Technical Personnel	4	3	0	43	4	0	0	1	0	1	0	0	4	1	0	0	0	0	0	9	0	0	0	1	4	75
Clinical Laboratory; Records, Equipment, and Facilities	4	3	0	44	3	0	0	1	0	1	0	0	4	1	0	0	0	0	0	9	0	0	0	1	4	75

[1]This category includes: persons who called themselves surveyors, persons who left the question regarding discipline blank, and persons whose professional disciplines could not be coded in the above categories.

[2]Respondents who survey more than one condition of participation were included in all categories that applied.

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TABLE 43. DISCIPLINE OF SURVEYOR, BY CONDITIONS OF PARTICIPATION FOR OUTPATIENT/PHYSICAL THERAPY SERVICES

Conditions of Participation[2]	Professional Discipline																								Total
	Hospital Administrator	Health Administrator	Medical Records Administrator	Medical Technologist	Nurse, RN	Nurse, LPN or LVN	Nutritionist	Dietitian	Occupational Therapist	Pharmacist	Physical Therapist	Physician, DO	Physician, MD	Sanitarian	Social Worker	Architect	Engineer	Speech or Audiological Therapist	Recreational Therapist	Laboratory Technician	Fire Marshal; Life Safety Code Surveyor; Health Inspector	Counselor	Educator	Nursing Home Administrator	Surveyor[1]	
Compliance with State and Local Laws	23	5	0	3	43	0	0	0	0	1	10	0	3	25	0	5	3	0	0	0	5	0	1	0	9	135
Administrative Management	22	5	0	3	42	0	0	0	0	1	10	0	1	11	0	0	0	0	0	0	0	0	1	1	5	102
Patient Care Policies	21	5	0	2	50	0	0	0	0	1	11	0	5	9	1	0	0	0	0	0	0	0	1	1	4	111
Program Evaluation	20	5	0	2	43	0	0	0	0	1	11	0	2	9	0	0	0	0	0	0	0	0	1	0	5	99
Physician Service and Plan of Care	18	5	0	3	43	0	0	0	0	1	11	0	7	8	0	0	0	0	0	0	0	0	1	0	5	102
Physical Therapy Services	18	5	0	2	52	0	0	0	0	1	11	0	4	9	0	0	0	0	0	0	0	0	1	1	5	109
Rehabilitation Program	18	5	0	3	47	0	0	0	0	1	11	0	5	8	1	0	0	0	0	0	0	0	1	1	5	106
Arrangements for Physical Therapy Services to be Performed by Other than Salaried Clinic or Agency Personnel	18	5	0	3	41	0	0	0	0	1	10	0	0	7	0	0	0	0	0	0	0	0	1	0	4	90
Clinical Records	19	5	1	2	45	0	0	0	0	1	11	0	5	9	0	0	0	0	0	0	0	0	1	1	5	106
Emergency Procedures	20	5	0	2	45	0	0	0	0	1	11	0	6	12	0	1	1	0	0	0	1	0	1	0	5	111
Physical Environment	22	5	0	3	33	0	0	0	0	1	11	0	1	31	0	5	3	1	0	0	5	0	1	1	6	129

[1]This category includes: persons who called themselves surveyors, persons who left the question regarding discipline blank, and persons whose professional disciplines could not be coded in the above categories.

[2]Respondents who survey more than one condition of participation were included in all categories that applied.

TABLE 44

ESTIMATED NUMBER OF FACILITIES SURVEYED YEARLY, BY NUMBER OF SURVEYORS SURVEYING PARTICULAR KINDS OF FACILITIES

Kinds of Facilities[2]	Number of Surveyors Estimating They Survey:										Total Number of Surveyors	Average Number of Facilities Surveyed[1]
	1 - 5 Facilities	6 - 10 Facilities	11 - 15 Facilities	16 - 20 Facilities	21 - 25 Facilities	26 - 35 Facilities	36 - 50 Facilities	51 - 64 Facilities	65 or more Facilities	Not Ascertained		
Hospitals	164	337	140	173	61	37	11	5	4	110	1,042	12.5
Skilled Nursing Facilities	153	186	145	152	108	138	148	33	55	134	1,252	23.6
Intermediate Care Facilities	233	214	119	92	76	85	100	20	55	140	1,134	20.3
Institutions for the Mentally Retarded and Other Related Conditions	469	62	17	16	8	1	4	0	1	95	673	4.5
Home Health Agencies	92	33	18	15	6	17	9	5	3	27	225	13.2
Independent Laboratories	22	5	8	12	3	4	10	3	6	20	93	22.9
Outpatient/Physical Therapy Services	107	24	10	4	1	0	0	0	1	29	176	4.8
Domiciliary Facilities	85	62	23	15	7	5	9	1	1	24	232	10 8
Portable X-Ray Facilities	18	1	2	3	1	0	0	0	2	6	33	11.8

[1]Average is based on number of surveyors whose estimates were ascertained.

[2]Respondents who survey more than one kind of facility were included in all categories that applied.

TABLE 45

ESTIMATED NUMBER OF HOURS SPENT SURVEYING,
BY NUMBER OF SURVEYORS SURVEYING PARTICULAR KINDS OF FACILITIES

Kinds of Facilities[1]	Number of Surveyors Estimating They Spend:										Total Number of Surveyors	Average Number of Hours
	1 - 4 Hours	5 - 8 Hours	9 - 12 Hours	13 - 16 Hours	17 -20 Hours	21 - 24 Hours	25 - 36 Hours	37 - 48 Hours	49 or more Hours	Not Ascertained		
Hospitals	96	347	137	154	80	53	47	9	9	110	1,042	12.5
Skilled Nursing Facilities	132	370	155	222	97	81	63	8	12	94	1,252	12.9
Intermediate Care Facilities	146	442	147	137	57	35	29	2	10	130	1,134	10.7
Institutions for the Mentally Retarded & Other Related Conditions	80	170	72	85	44	45	32	14	9	122	673	13.8
Home Health Agencies	40	103	28	18	7	2	0	2	1	24	225	8.7
Independent Laboratories	31	40	2	4	0	0	0	0	0	16	93	5.5
Outpatient/Physical Therapy Services	55	63	8	9	1	0	0	1	0	39	176	6.5
Domiciliary Facilities	73	90	10	9	4	1	1	0	1	34	232	6.6
Portable X-Ray Facilities	16	6	2	0	0	0	0	0	0	9	33	3.9

[1]Respondents who survey more than one kind of facility were included in all categories that applied.

CONCLUSIONS

Summary characteristics have been presented at the beginnings of Sections A, B, and C and need not be presented here. But some general conclusions may be derived from the data.

The majority of the surveyors have received training. However, due to turnover and expanding State survey staffs necessary to meet Medicare/Medicaid demands, there is a continuing need for entry-level training. Likewise, there is need for training staff who survey in specialty areas such as fire safety and laboratory services.

The focus of future training must be sensitive to special needs of States, regions, disciplines, and years of survey experience so that basic as well as specialized training requirements are met in the most effective manner.

DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE

BUREAU OF QUALITY ASSURANCE
DIVISION OF PROVIDER STANDARDS AND CERTIFICATION

APPENDIX

CONFIDENTIAL: *All information which permits the identification of the individual will be held strictly confidential, will be used by personnel engaged in and only for the purposes of the survey.*

Dear Health Facility Surveyor:

The Division of Provider Standards and Certification has been periodically conducting a national inventory of surveyors to update our census on surveyors to assist in the development and projection of plans for the surveyor training programs. We have contracted with CPI Associates, Inc. to perform and to prepare a report on this inventory study. However, we do need your assistance in completing the enclosed questionnaire.

The purpose of the questionnaire is to obtain information on all State and local employees who survey health care facilities and home health agencies. This includes surveys conducted for State licensure programs, Title XVIII (Medicare) and Title XIX (Medicaid) certification, Life Safety Code, and inspections for compliance with local health facility ordinances. For purposes of this inventory, the term "Surveyor" includes any individual who, as part of his normal duties, makes on-site visits to facilities, which, under law (Medicare/Medicaid), require certification, and is responsible for completing and documenting at least a portion of a survey report form. No individual respondent will be identified in the final report since it consists of a summary of all questionnaires. Confidentiality measures will be in effect throughout the study and a copy of the final report will be sent to each respondent.

Please complete all questions on this form and return it within five days in the enclosed self-addressed envelope.

Thank you for your interest and support.

Sincerely yours,

Michael J. Spodnik, Jr.
Acting Director
Division of Provider Standards
and Certification

Enclosures

OMB #68-R1289
Expires June 30, 1977

DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE

BUREAU OF QUALITY ASSURANCE
DIVISION OF PROVIDER STANDARDS AND CERTIFICATION

CONFIDENTIAL: *All information which permits the identification of the individual will be held strictly confidential, will be used solely by personnel engaged in and only for the purposes of the Survey.*

HEALTH FACILITY SURVEYOR INVENTORY

A. BIOGRAPHICAL DATA

1. Year of Birth _____ 2. Sex 1 ☐ Male 2 ☐ Female

B. EDUCATIONAL ATTAINMENT (Check **ALL** categories that apply)

1 ☐ Less than High School
2 ☐ High School Diploma
3 ☐ Technical School Certificate; Specify major field: _____
4 ☐ Associate Degree; Specify major field: _____
5 ☐ Diploma in Nursing; Specify number of years spent in training: _____
6 ☐ Baccalaureate Degree; Specify major field: _____
7 ☐ Some Graduate Work; Specify major field: _____
8 ☐ Graduate Degree; Specify major field: _____

C. PROFESSIONAL DISCIPLINE (Check **ONLY** one and indicate whether you are **registered or certified** to fulfill your discipline's requirements)

Discipline	Registered/Certified Yes	No	Not Applicable
01 ☐ Hospital Administrator	☐	☐	☐
02 ☐ Health Administrator	☐	☐	☐
03 ☐ Medical Records Administrator	☐	☐	☐
04 ☐ Medical Technologist	☐	☐	☐
05 ☐ Nurse, RN	☐	☐	☐
06 ☐ Nurse, LPN or LVN	☐	☐	☐
07 ☐ Nutritionist	☐	☐	☐
08 ☐ Dietitian	☐	☐	☐
09 ☐ Occupational Therapist	☐	☐	☐
10 ☐ Pharmacist	☐	☐	☐
11 ☐ Physical Therapist	☐	☐	☐
12 ☐ Physician, DO; Specify specialty: _____	☐	☐	☐
13 ☐ Physician, MD; Specify specialty: _____	☐	☐	☐
14 ☐ Sanitarian	☐	☐	☐
15 ☐ Social Worker; Specify field: _____	☐	☐	☐
16 ☐ Other; Specify: _____	☐	☐	☐

D. EXPERIENCE

1. How many years since 1966 have you worked as a health-related facility surveyor under the Medicare-Medicaid programs? _____
2. How many years did you work in the health field prior to becoming a Medicare-Medicaid surveyor? _____
   Specify field(s): _____
3. How many years did you work in a non-health field that has aided you in your job as surveyor? _____
   Specify field(s): _____

E. 1. Do you, as part of your normal duties, make on-site inspection visits to facilities which, under law (Medicare-Medicaid), require certification?

1 ☐ Yes 2 ☐ No

2. Are you responsible for completing at least a portion of a survey report form, documenting information derived from observations made during these on-site visits?

1 ☐ Yes 2 ☐ No

3. Type of agency in which employed for surveying activities (Check appropriate box)

1 ☐ State (Specify State: _____)

2 ☐ County/Parish (Specify County/Parish and State: _____)

3 ☐ City (Specify City and State: _____)

4 ☐ Other (Specify location: _____)

4. Official name of agency: _____

5. Address of agency: _____

_____

_____

6. How many hours per week are you employed in:

Pre-Survey File Review _____ Travel _____

Actual Surveying _____ Consultation and/or Follow-up _____

Report Writing and Other Survey-Related Activities _____ Other _____

7. What responsibilities do you have in the Licensure/Certification Program?
(Check ALL that apply and estimate the percentage of time you spend in fulfilling that responsibility; percentages should not exceed a total of 100%)

Responsibilities	Percentage of Time
1 ☐ Director	_____
2 ☐ Administrator (in office)	_____
3 ☐ Supervisor (of field operations)	_____
4 ☐ Surveyor	_____
5 ☐ Consultant	_____
6 ☐ Other Specify: _____	_____

F. SURVEYOR-RELATED TRAINING

1. Have you attended and completed any of the DHEW-sponsored university-based health facility surveyor training courses?

1 ☐ Yes 2 ☐ No

IF **YES** is checked, which one(s)?

1 ☐ Basic course (Specify university and date: _____)

2 ☐ Advanced course (Specify university and date: _____)

3 ☐ Supervisor training institute (Specify university and date: _____)

2. Does your professional discipline require continuing education?

1 ☐ Yes 2 ☐ No

IF **YES** is checked, do any of the courses mentioned in question 1 of this section meet your discipline's requirements?

1 ☐ Yes 2 ☐ No

IF **YES** is checked, which one(s)?

1 ☐ Basic course

2 ☐ Advanced course

3 ☐ Supervisor training institute

3. Since 1972 have you attended other continuing education conferences that have helped you in your survey functions and responsibilities?

1 ☐ Yes 2 ☐ No

IF **YES** is checked, specify subject area(s): _____

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G. TYPE, AREA AND FUNCTIONAL RESPONSIBILITY

1. Do you work as:

1 ☐ a single surveyor

2 ☐ sometimes as a single surveyor, sometimes as part of a team

3 ☐ part of a team (two or more persons, excluding life safety code surveyors, who are responsible for surveying the same facility)

If you work **at least sometimes** as a single surveyor, do you utilize consultant support back-up?

1 ☐ Yes 2 ☐ No

If you work sometimes as a single surveyor and sometimes as part of a team, for what kinds of facilities do you function as a single surveyor? _____ For what kinds of facilities do you function as part of a team? _____ .

If you work **at least sometimes** as part of a team, please answer the following questions:

What is the average size of the teams on which you worked during past year _____ .

Specify the professional disciplines represented on the teams with which you worked during the past year (Check **ALL** that apply)

01 ☐ Hospital Administrator

02 ☐ Health Administrator

03 ☐ Medical Records Administrator

04 ☐ Medical Technologist

05 ☐ Nurse, RN

06 ☐ Nurse, LPN or LVN

07 ☐ Nutritionist

08 ☐ Dietitian

09 ☐ Occupational Therapist

10 ☐ Pharmacist

11 ☐ Physical Therapist

12 ☐ Physician, DO

13 ☐ Physician, MD; Specify specialty(s): _____

14 ☐ Sanitarian

15 ☐ Social Worker; Specify field(s): _____

16 ☐ Other; Specify _____

Do you survey facilities together as a team or do you conduct individual visits on separate days?

1 ☐ Survey facilities together as a team

2 ☐ Conduct individual visits on separate days

2. Program Responsibility (Check **ALL** that apply)

1 ☐ Title XVIII Certification

2 ☐ Title XIX Certification

3 ☐ Licensure

3. Survey Functions

1. Do you survey **hospitals**?

1 ☐ Yes 2 ☐ No

If **YES** is checked, please answer the following questions:

Please estimate the average number of hospital facilities you survey yearly _____

Please estimate the average number of hours spent in facility for survey _____

What kind of hospital facilities do you survey? (Check **ALL** that apply)

1 ☐ General

2 ☐ Psychiatric

3 ☐ TB

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What condition(s) of participation do you survey in hospitals? (Check ALL that apply)

01 ☐ Compliance with State and Local laws
02 ☐ Governing Body
03 ☐ Physical Environment
04 ☐ Medical Staff
05 ☐ Nursing Department
06 ☐ Dietary Department
07 ☐ Medical Records Department
08 ☐ Pharmacy or Drug Room
09 ☐ Laboratories
10 ☐ Radiology Department
11 ☐ Medical Library
12 ☐ Complementary Department
13 ☐ Outpatient Department
14 ☐ Emergency Service or Department
15 ☐ Social Work Department
16 ☐ Utilization Review Plan
17 ☐ Life Safety Code

2. Do you survey skilled nursing facilities?

1 ☐ Yes 2 ☐ No

If YES is checked, please answer the following questions:

Please estimate the average number of skilled nursing facilities you survey yearly _____

Please estimate the average number of hours you spend in facility for survey _____

What condition(s) of participation do you survey in skilled nursing facilities? (Check ALL that apply)

01 ☐ Compliance with Federal, State, and Local laws
02 ☐ Governing Body and Management
03 ☐ Patient Care Policies
04 ☐ Physician Services
05 ☐ Nursing Services
06 ☐ Dietetic Services
07 ☐ Specialized Rehabilitative Services
08 ☐ Pharmaceutical Services
09 ☐ Laboratory and Radiologic Services
10 ☐ Dental Services
11 ☐ Social Services
12 ☐ Patient Activities
13 ☐ Medical Records
14 ☐ Transfer Agreement
15 ☐ Physical Environment
16 ☐ Infection Control
17 ☐ Disaster Preparedness
18 ☐ Utilization Review
19 ☐ Life Safety Code

3. Do you survey intermediate care facilities?

1 ☐ Yes 2 ☐ No

If YES is checked, please answer the following questions:

Please estimate the average number of intermediate care facilities you survey yearly _____

Please estimate the average number of hours you spend in facility survey _____

What standards do you survey in intermediate care facilities? (Check ALL that apply)

01 ☐ State Licensure
02 ☐ Conformity with Federal, State, and Local laws
03 ☐ Administrative Management
04 ☐ Transfer Agreement
05 ☐ Arrangements for Services
06 ☐ Resident Record System
07 ☐ Life Safety Code
08 ☐ Environment and Sanitation
09 ☐ Dietetic Services
10 ☐ Drugs and Biologicals
11 ☐ Health Services
12 ☐ Disclosure of Ownership
13 ☐ Administrator
14 ☐ Resident Services Director
15 ☐ Rehabilitation Services
16 ☐ Social Services
17 ☐ Activities Program
18 ☐ Physician Services

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4. Do you survey institutions for the mentally retarded and other related conditions?

1 ☐ Yes 2 ☐ No

If YES is checked, please answer the following questions:

Please estimate the average number of mental retardation facilities you survey yearly _____

Please estimate the average number of hours you spend in facility for survey _____

What standards do you survey in institutions for the mentally retarded and other related conditions? (Check ALL that apply)

01 ☐ State Licensure
02 ☐ Conformity with Federal, State, and Local laws
03 ☐ Disclosure of Ownership
04 ☐ Transfer Agreement
05 ☐ Admission of Residents
06 ☐ Active Treatment
07 ☐ Administrative Management
08 ☐ Administrator
09 ☐ Qualified Mental Retardation Professional
10 ☐ Arrangements for Services
11 ☐ Services as Needed
12 ☐ Direct Care Staff
13 ☐ Health Services
14 ☐ Dietetic Services
15 ☐ Drugs and Biologicals
16 ☐ Resident Record System
17 ☐ Life Safety Code
18 ☐ Environment and Sanitation
19 ☐ Relationship to 249.13

5. Do you survey home health agencies?

1 ☐ Yes 2 ☐ No

If YES is checked, please answer the following questions:

Please estimate the average number of home health agencies you survey yearly _____

Please estimate the average number of hours you spend in facility for survey _____

What condition(s) of participation do you survey in home health agencies? (Check ALL that apply)

01 ☐ Compliance with Federal, State, and Local law
02 ☐ Organization, Services, Administration
03 ☐ Group of Professional Personnel
04 ☐ Acceptance of Patients, Plan of Treatment and Medical Supervision
05 ☐ Skilled Nursing Service
06 ☐ Therapy Services
07 ☐ Medical Social Services
08 ☐ Home Health Aide Services
09 ☐ Clinical Records
10 ☐ Evaluation
11 ☐ Qualifying to Provide Outpatient Physical Therapy Services

6. Do you survey independent laboratories?

1 ☐ Yes 2 ☐ No

If YES is checked, please answer the following questions:

Please estimate the average number of independent laboratories you survey yearly _____

Please estimate the average number of hours you spend in facility for survey _____

What condition(s) of participation do you survey in independent laboratories? (Check ALL that apply)

1 ☐ Compliance with State and Local laws
2 ☐ Clinical Laboratory; Laboratory Director
3 ☐ Clinical Laboratory; Supervision
4 ☐ Clinical Laboratory; Tests Performance
5 ☐ Clinical Laboratory; Technical Personnel
6 ☐ Clinical Laboratory; Records, Equipment, and Facilities

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7. Do you survey **outpatient/physical therapy services?**

1 ☐ Yes 2 ☐ No

If **YES** is checked, please answer the following questions:

Please estimate the average number of outpatient/physical therapy services you survey yearly _____

Please estimate the average number of hours you spend in facility for survey _____

What condition(s) of participation do you survey in outpatient/physical therapy services? (Check **ALL** that apply)

01 ☐ Compliance with State and Local laws

02 ☐ Administrative Management

03 ☐ Patient Care Policies

04 ☐ Program Evaluation

05 ☐ Physician Service and Plan of Care

06 ☐ Physical Therapy Services

07 ☐ Rehabilitation Program

08 ☐ Arrangements for Physical Therapy Services to be Performed by Other than Salaried Clinic or Agency Personnel

09 ☐ Clinical Records

10 ☐ Emergency Procedures

11 ☐ Physical Environment

8. Do you survey **domiciliary facilities?**

1 ☐ Yes 2 ☐ No

If **YES** is checked, please answer the following questions:

Please estimate the average number of domiciliary facilities you survey yearly _____

Please estimate the average number of hours you spend in facility for survey _____

9. Do you survey **portable x-ray facilities?**

1 ☐ Yes 2 ☐ No

If **YES** is checked, please answer the following questions:

Please estimate the average number of portable x-ray facilities you survey yearly _____

Please estimate the average number of hours you spend in facility for survey _____

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DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE 65

BUREAU OF QUALITY ASSURANCE
DIVISION OF PROVIDER STANDARDS AND CERTIFICATION

Dear Surveyor:

Approximately two weeks ago, you were sent a questionnaire concerning your duties as a surveyor of facilities participating in the Medicare and Medicaid programs. This questionnaire was to be returned within five days after receipt, and your questionnaire has not yet been received.

The Division of Provider Standards and Certification has been periodically conducting a national inventory of surveyors to update our census on surveyors and to assist in the development and projection of plans for the surveyor training programs. To make a more reliable assessment of training needs and the nature of the surveyor population, a high rate of response by surveyors is needed. Therefore, we would like your questionnaire as soon as possible.

We have enclosed a copy of the questionnaire, which also includes a letter giving a more detailed explanation of the survey. As we note in the letter and on the questionnaire, all answers will be kept confidential.

Thank you for your cooperation.

Sincerely,

Michael J. Spodnik, Jr.
Acting Director
Division of Provider Standards
and Certification

Enclosures

MANUAL.....
PART ..

CHAPTER 8-40

Safety Standard for Flammability of Floor Coverings

8-40-00 Purpose
10 Policy
20 Applicability
30 Effective Date
40 Standards for Flammability
50 Standard for Smoke Developed
60 Standard for Static Build-up
70 Standard for General Safety
80 Standard for Use by Handicapped
90 Previous Standards for Departmental Facilities
100 Previous Standards for Program Facilities
110 Exceptions

8-40-00 Purpose

To establish a Department of Health, Education, and Welfare safety standard on the flammability of floor coverings.

8-40-10 Policy

It is the policy of the Department of Health, Education, and Welfare to assure a safe and healthful environment insofar as practicable, for its employees in the performance of their assigned responsibilities and to those members of the public whose environments may be affected by activities or programs of the Department, through the establishment of appropriate Departmental safety and health standards, criteria, policy and guidance for uniform and consistent use on a Department-wide basis.

8-40-20 Applicability

This standard is applicable to all types of floor coverings and surfacings used in all facilities owned or operated by the Department of Health, Education, and Welfare and to all program areas of the Department including Federally aided and grant programs.

8-40-30 Effective Date

This standard is effective on January 1, 1977; floor coverings installed prior to the effective date of this standard may be continued in use. In those cases where a purchase contract or similar commitment to install floor coverings was entered into prior to January 1, 1977, but for installation to commence after that date, the policy standards in this chapter should be adhered to if it is feasible to renegotiate the contract or

8-40-30 (continued)

similar commitment.

8-40-40 Standard for Flammability

A. Floor coverings used in corridors and means of egress in health care facilities shall have a minimum critical radiant flux of 0.45 watts per square centimeter as determined by the Flooring Radiant Panel Test (FRPT). See Exhibit X-25.

B. Floor coverings used in corridors and means of egress in facilities other than health care shall have a minimum critical radiant flux of 0.22 watts per square centimeter as determined by the Flooring Radiant Panel Test (FRPT). See Exhibit X-25.

C. Carpets and rugs used in spaces other than corridors and means of egress of all facilities (including health care) are required by Federal Law to meet "Standard for the surface Flammability of Carpets and Rugs" DOC FF-1-70 (Pill Test).

See Federal Register, April 10, 1970. Only those floor coverings installed after April 10, 1970 are required to meet DOC FF-1-70. Floor coverings of other materials used in spaces other than corridors and means of egress of all facilities may be required to meet the interior finish requirements of the "Life Safety Code," 1973 edition as published by the National Fire Protection Association as determined by the authority having jurisdiction.

D. When floor coverings are composed of multi-layered materials, such as a carpet over a separate pad, the minimum criteria above shall apply to the entire assembly.

E. When an additive or process has been applied to either the basic material or to the final floor covering material which significantly decreases the flammability of the floor covering and enables it to meet the acceptance criterion of this standard, the test method calls for a washing or other determination that such treatment or process is not easily removed by normal maintenance procedures.

F. Special treatments, such as carpet shampoo which may render a floor covering less flammable, shall not be used to comply with above criteria. The use of such treatments requires judgment on the part of the enforcing official as to the acceptability of such treatments for previously installed floor coverings.

8-40-50 Standard for Smoke Developed

Floor coverings, installed throughout any facility, after the effective date of this standard shall possess a "smoke developed" rating of 450 or less as determined by the standard "Smoke Generated by Solid Materials". (Note: This standard is currently National Fire Protection Association's No. 258T and was developed as National Bureau of Standards Technical Note No. 708. The smoke developed rating is intended to permit hardwood floors and most resilient (vinyl, asbestos, etc.) floor coverings).

8-40-60 Standard for Static Build-up

Floor coverings, unless in conflict with another safety or medical standard, installed after the effective date of this standard, shall not build-up a static level exceeding 3.5 kV when tested by the AATCC Test Method 134-1969. In locations where flammable liquids, vapors, gases, and highly combustible solids are present, there should be no measurable build-up of static electricity charges.

8-40-70 Standard for General Safety

Floor coverings, installed throughout any facility after the effective date of this standard, shall be of types which do not present an unusual slipping or tripping hazard to those persons traveling over them.

8-40-80 Standard for Use by Handicapped

All carpeting in areas subject to use by handicapped individuals shall, in addition to meeting other requirements of these standards, be specified as high density, low uncut pile, and non-absorbent. Underlayments are permissible provided they are specified as firm or hard and do not exceed 3/8 inches in depth. Carpets,and underlayments if used, shall be installed stretched taut and securely anchored at all edges to the floor. Edging strips shall not project higher than 3/8 inches above the floor line.

8-40-90 Previous Standards for Departmental Facilities

Floor coverings in use in Department owned or operated health care facilities prior to the effective date of this standard and installed after May 17, 1973 are required to have a flame spread rating of 75 or less as determined by ASTM E-84 test method (Steiner Tunnel).

(Note: This ASTM E-84 standard will no longer apply to floor coverings installed after the effective date of this standard.

8-40-100 Previous Standards for Program Facilities

Floor coverings in use in facilities under a Department funded or grant program were required to meet various standards according to the particular program. These floor coverings may be continued in use, provided they met the applicable standards of the specific program (Hill-Burton, Medicare, Medicaid, etc.) at the time of installation.

(Note: These program standards will no longer apply to floor coverings installed after the effective date of this standard.)

8-40-110 Exceptions

When deviations from the basic intent of this standard are required to meet specific conditions or problems, justifications supporting such determinations may be submitted to the official possessing waiver authority for the specific program or facility involved. In the case of Departmental owned or operated facilities justifications shall be submitted via appropriate organizational channels to the Director, Office of Safety Management, in accordance with 8-00-40 of the Safety Management Manual, DHEW.

76-611 O - 76 - 20

FLOORING RADIANT PANEL TEST (FRPT) EXHIBIT X-25

1. Scope

1.1 This method of test describes a procedure for measuring the critical radiant flux of horizontally mounted floor covering systems exposed to a flaming ignition source in a graded radiant heat energy environment, in a test chamber. The specimen can be mounted over underlayment, a simulated concrete structural floor, bonded to a simulated structural floor or otherwise mounted in a typical and representative way.

1.2 This method measures the critical radiant flux at flame out. It provides a basis for estimating one aspect of flame spread behavior for floor covering systems in corridors or exitways of buildings. The imposed radiant flux simulates the thermal radiation levels likely to impinge on the floor of a corridor whose upper surfaces are heated by flames and/or hot gases from a fully developed fire in an adjacent room or compartment.

2. Summary of Method

2.1 The basic elements of the test chamber, Figure 1, are: 1) an air gas fueled radiant heat energy panel inclined at 30° to and directed at 2) a horizontally mounted floor covering system specimen, Figure 2. The radiant panel generates a radiant energy flux distribution ranging along the 100 cm length of the test specimen from a nominal maximum of 1.0 watts/cm^2 to a minimum of 0.1 watt/cm^2. The test is initiated by open flame ignition from a pilot burner. The distance burned to flame out is converted to watts/cm^2 from the flux profile graph, Figure 6, and reported as critical radiant flux, watts/cm^2.

3. Significance

3.1 This method of test is designed to provide a basis for estimating one aspect of the flame spread behavior of a floor covering system installed in a building corridor. The test environment is intended to simulate conditions that have been observed and defined in full scale corridor experiments.

3.2 The test is intended to be suitable for regulatory statutes, specification acceptance, design purposes, or development and research.

3.3 The fundamental assumption inherent in the test is that "critical radiant flux" is one measure of the sensitivity to flame spread of floor covering systems in a building corridor.

3.4 The test is applicable to floor covering system specimens which follow or simulate accepted installation practice. Tests on the individual elements of a floor system are of limited value and not valid for evaluation of the flooring system.

4. Definitions of Terms

4.1 Critical Radiant Flux is the level of incident radiant heat energy on the floor covering system at the most distant flame out point. It is reported as watts/cm^2 (Btu/ft^2 sec).

4.2 Flux Profile is the curve relating incident radiant heat energy on the specimen plane to distance from the initiation of flaming ignition point, i.e. 0 cm.

4.3 Total Flux Meter is the instrument used to measure the level of radiant heat energy incident on the specimen plane at any point.

4.4 Black Body Temperature is the temperature of a perfect radiator--a surface with an absorptivity of unity and, therefore, a reflectivity of zero.

5. Flooring Radiant Panel Test Chamber -- Construction and Instrumentation

5.1 The flooring radiant panel test chamber employed for this test shall be located in a draft protected laboratory.

5.1.1 The flooring radiant panel test chamber, Figures 3 and 4, shall consist of an enclosure 140 cm [55 in] long by 50 cm [19-1/2 in] deep by 71 cm [28 in] above the test specimen. The sides, ends and top shall be of 1.3 cm [1/2 in] calcium silicate-asbestos fibre, 0.58 g/cm^3 [36 lbs/ft^3] nominal density, insulating material with a thermal conductivity @ 200 F of 0.96 cal (gm)/hr cm^2 deg C per cm [0.77 Btu/(hr) (ft^2) (deg F per in)]. One side shall be provided with a draft tight fire resistant glass window so that the entire length of the test specimen may be observed from outside the fire test chamber. On the same side and below the observation window is a door which when open allows the specimen platform to be moved out for mounting or removal of test specimens.

5.1.2 The bottom of the test chamber shall consist of a sliding steel platform which has provisions for rigidly securing the test specimen holder in a fixed and level position.

The free, or air access, area around the platform shall be in the range of 1950-3550 cm^2 [300-500 square inches].

5.1.3 The top of the chamber shall have an exhaust stack with interior dimensions of 12.5 cm [5 in] wide by 38 cm [15 in] deep by 30 cm [12 in] high at the opposite end of the chamber from the radiant panel.

5.2 The radiant heat energy source shall be a panel of porous refractory material mounted in a cast iron frame, with a radiation surface of 30.5 x 45.7 cm [12 by 18 in]. It shall be capable of operating at temperatures up to 816 C [1500 F]. The panel fuel system shall consist of an aspirator for mixing gas and air at approximately atmospheric pressure, a clean dry air supply capable of providing 28.3 NTP m^3 per hr [1000 Standard Cubic Feet per Hour] at 7.6 cm [3.0 in] of water, and suitable instrumentation for monitoring and controlling the flow of fuel to the panel.

5.2.1 The radiant heat energy panel is mounted in the chamber at 30° to the horizontal specimen plane. The horizontal distance from the 0 mark on the specimen fixture to the bottom edge (projected) of the radiating surface of the panel is 8.9 cm [3-1/2 in]. The panel to specimen vertical distance is 14 cm [5-1/2 in] (see Figure 3).

5.2.2 The radiation pyrometer for standardizing the thermal output of the panel shall be suitable for viewing a circular area 25.4 cm [10 in] in diameter at a range of about 1.37 m [54 in]. It shall be calibrated over the 490-510 C (914-950 F) operating black body temperature range in accordance with the procedure described in Appendix A.

5.2.3 A high impedance potentiometer voltmeter with a suitable millivolt range shall be used to monitor the output of the radiation pyrometer described in 5.2.2.

5.3 The specimen holder (see Figure 5), is constructed from heat resistant stainless steel[1] having overall dimensions of 115 cm [45 in] by 32 cm [12-3/4 in] with a specimen opening of 20 cm [7.9 in] x 100 cm [40 in]. Six slots are cut in the flange on either side of the holder to reduce warping. The holder is fastened to the platform with two stud bolts at each end.

5.4 The pilot burner used to ignite the specimen is a commerical propane venturi torch[2] with an axially symmetric burner tip having a propane supply tube with an orifice diameter of 0.0076 cm [0.003 in]. In operation, the propane flow is adjusted to give a pencil flame blue inner cone length of 1.3 cm [1/2 in]. The pilot burner is positioned so that the flame generated will impinge on the center line of the specimen at the 0 distance burned point at right angles to the specimen length (see Figures 3 and 4). The burner shall be capable of being swung out of the ignition position so that the flame is horizontal and at least 5 cm [2 in] above the specimen plane.

5.5 Two 0.32 cm [1/8 in] stainless steel sheathed grounded junction chromel alumel thermocouples[3] are located in the Flooring Radiant Panel Test Chamber (see Figures 3 and 4).

5.5.1 An indicating potentiometer with a range of 100-500 C (212-932 F) may be used to determine the chamber temperatures prior to a test.

5.6 An exhaust duct with a capacity of 28.3-85 NTP m^3 per minute (1000-3000 SCFM) decoupled from the chamber stack by at least 7.6 cm [3 in] on all sides and with an effective area of the canopy slightly larger than plane area of the chamber with the specimen platform in the out position is used to remove combustion products from the chamber.

5.7 The dummy specimen which is used in the flux profile determination shall be made of 1.9 cm [3/4 in] inorganic 0.58 g/cm^3 [36 lbs/ft^3] nominal density calcium silicate asbestos fibre board (see Figure 5). It is 25 cm [10 in] wide by 107 cm [42 in] long with 2.7 cm [1-1/16 in] diameter holes centered on and along the center line at the 10, 20, 30 ---- 90 cm locations, measured from the maximum flux end of the specimen.

5.7.1 The total heat flux transducer used to determine the flux profile of the chamber in conjunction with the dummy specimen should be of the Schmidt-Boelter[4] type, have a range of 0-1.5 watts/cm^2 (0-1.32 Btu/ft^2 sec), and shall be calibrated over the operating flux level range of 0.10 to 1.5 watts/cm^2 in accordance with the procedure outlined in Appendix A. A source of 15-25 C cooling water shall be provided for this instrument.

5.7.2 A high impedance or potentiometric voltmeter with a range of 0-10 m.v. and reading to 0.01 m.v. shall be used to measure the output of the total heat flux transducer during the flux profile determination.

5.8 A timer shall be conveniently mounted on the chamber for measuring preheat and pilot contact time.

6. Safety Precautions

6.1 The possibility of a gas-air fuel explosion in the test chamber should be recognized. Suitable safeguards consistent with sound engineering practice should be installed in the panel fuel supply system. These may include one or more of the following: 1) a gas feed cut off activated when the air supply fails, 2) a fire sensor directed at the panel surface that stops fuel flow when the panel flame goes out, 3) a commerical gas water heater or gas fired furnace pilot burner control thermostatic shut off which is activated when the gas supply fails or other suitable and approved device. Manual reset is a requirement of any safeguard system used.

6.2 In view of the potential hazard from products of combustion, the exhaust system must be so designed and operated that the laboratory environment is protected from smoke and gas. The operator should be instructed to minimize his exposure to combustion products by following sound safety practice, e.g. insure exhaust system is working properly, wear appropriate clothing including gloves, et al.

7. Sampling

7.1 The samples selected for testing shall be representative of the product.

7.2 Standard ASTM sampling practice shall be followed where applicable, see ASTM Method E-122.

8. Washing of Textile Floor Coverings

8.1 If the carpet has had a treatment, or is made of fibers which have had a treatment as the term "treatment" is defined in 8.2, the selected sample shall be washed as prescribed in Appendix C, unless this method can be proven to be unsuitable for the particular fabric involved. In this case, such other method as the manufacturer determines is likely to be used on the carpet in service and which is agreed to by the purchaser, may be used. Alternatively, the carpet may be washed and dried as many times under such other washing and drying procedures as shall have been demonstrated to be the equivalent of ten washings under the washing procedure described herein.

8.2 "Treatment" as that term is used in this standard shall mean any process, such as spraying, padding, dipping, brushing, or otherwise applying a material onto the pile or primary backing of a carpet at any stage of manufacture, which has the effect of reducing flammability.[5]

8.3 This washing requirement may be modified or waived by the purchaser if the manufacturer will certify that washing does not affect the permanence of the fire-retardancy resulting from the treatment.

9. Test Specimens

9.1 The test specimen shall be a floor covering system sized to provide for adequate clamping in the mounting frame. Its minimum dimensions shall exceed the frame width [20 cm (7.9 in) nominal] and length [100 cm (39.4 in) nominal] by about 5 cm (2 in). It may be necessary to notch or punch holes in the specimen to accommodate the mounting frame bolts (see Figure 5).

9.2 Insofar as possible, the floor covering system specimen should simulate actual installation practice. Typical examples follow:

9.2.1 A carpet mounted over the standard[6] cushion or the standard simulated concrete subfloor[7] (see Appendix B2.1).

9.2.2 A carpet with or without integral cushion pad bonded to a high density inorganic sheet simulating a concrete subfloor (see Appendix B2.2).

9.2.3 A resilient floor bonded to a high density inorganic sheet simulating a concrete subfloor (see Appendix B3.1).

9.2.4 A hardwood floor nailed to a plywood subfloor, then sanded and finished according to standard practice (see Appendix B4.1).

9.3 A minimum of three specimens per sample shall be tested.

10. Radiant Heat Energy Flux Profile Standardization

10.1 In a continuing program of tests, the flux profile shall be determined not less than once a week. Where the time interval between tests is greater than one week, the flux profile shall be determined at the start of the test series.

10.2 Mount the dummy specimen in the mounting frame and attach the assembly to the sliding platform.

10.3 With the sliding platform out of the chamber, ignite the radiant panel. Allow the unit to heat for one hour. The pilot burner is off during this determination. Adjust the fuel mixture to give an air-rich flame. Make fuel flow settings to bring the panel black body temperature to about 500 C (932 F), and the chamber temperature to about 180 C (356 F). When equilibrium has been established, move the specimen platform in the chamber.

10.4 Allow 0.5 hours for the closed chamber to equilibrate.

10.5 Measure the radiant heat energy flux level at the 40 cm point with the total flux meter instrumentation. This is done by inserting the flux meter in the opening so that its detecting plane is 0.16-0.32 cm (1/16-1/8 in) above and parallel to the plane of the dummy specimen and reading its output after 30 ± 10 seconds. If the level is within the limits specified in 10.6 the flux profile determination is started. If it is not, make the necessary adjustments in panel fuel flow. A suggested flux profile data log format is shown in Figure 7.

10.6 The test shall be run under chamber operating conditions which give a flux profile of the form shown in Figure 6. The radiant heat energy incident on the dummy specimen at the 40 cm point shall be 0.5 ± 0.02 watts/cm^2 (0.44 ± 0.017 Btu/ft^2 sec).

10.7 Insert the flux meter in the 10 cm opening following the procedure given in 10.5 above. Read the m.v. output at 30 ± 10 seconds and proceed to the 20 cm point. Repeat the 10 cm procedure. The 30 - 90 cm flux levels are determined in the same manner. Following the 90 cm measurement, make a check reading at 40 cm. If this is within the limits set forth in 10.6. the test chamber is in calibration and the profile determination is completed. If not, carefully adjust fuel flow, allow 0.5 hours for equilibrium and repeat the procedure.

10.8 Plot the radiant heat energy flux data as a function of distance along the specimen plane on rectangular coordinate graph paper. Carefully draw the best smooth curve through the data points. This curve will hereafter be referred to as the flux profile curve.

10.9 Determine the open chamber black body and chamber temperatures that are identified with the standard flux profile by opening the door and moving the specimen platform out. Allow 0.5 hours for the chamber to equilibrate. Read optical pyrometer output and record black body temperature in C. This is the temperature setting that can be used in subsequent test work in lieu of measuring the radiant flux at 40 cm using the dummy specimen. The chamber temperature also should be determined again after 0.5 hours and is an added check on operating conditions.

11. Conditioning

11.1 Specimens shall be conditioned according to standard practice for the floor covering being tested unless otherwise specified; see ASTM E-171-63.

12. Test Procedure

12.1 With the sliding platform out of the chamber, ignite the radiant panel. Allow the unit to heat for one hour. Read the panel black body temperature and the chamber temperature. If these temperatures are in agreement to within ±5 C with those determined in accordance with 10.9 above, the chamber is ready for use.

12.2 Invert the sample holder on a workbench and insert the flooring system. Place the steel bar clamps across the back of the assembly and tighten nuts firmly. Return the sample holder to its upright position, clean the test surface with a vacuum and mount on the specimen platform.

12.3 Ignite the pilot burner, move the specimen into the chamber and close the door. Start the timer. After 2 minutes preheat, with the pilot burner on and set so that the flame is horizontal and 5 cm above the specimen, bring the pilot burner flame into contact with the center of the specimen at the 0 cm mark. Leave the pilot burner flame in contact with the specimen for 10 minutes, then remove to a position 5 cm above the specimen. If the specimen does not ignite within 10 minutes following pilot burner flame application, the test is terminated by extinguishing the pilot burner flame.

12.4 For specimens that do ignite, the test is continued until the flame goes out. Observe and record significant phenomena such as melting, blistering, penetration of flame to the substrate, etc.

12.5 When the test is completed, the door is opened, the specimen platform is pulled out.

12.6 Measure the distance burned i.e. the point of farthest advance of the flame front, to the nearest 0.1 cm. From the flux profile curve, convert the distance to watts/cm^2 critical radiant heat flux at flame out. Read to two significant figures. A suggested data log format is shown in Figure 8.

12.7 Remove the specimen and its mounting frame from the moveable platform.

12.8 The succeeding test can begin as soon as the panel black body temperature is verified (see 12.1). The test assembly should be at room temperature prior to start up.

13. Calculations

13.1 The mean and standard deviation of the critical radiant flux test data on the three specimens are calculated in accordance with ASTM standard practice (ASTM Manual on Quality Control of Materials 1951 Edition STP 15C).

$$S = \sqrt{\frac{(\Sigma X^2 - n \bar{X}^2)}{n - 1}}$$

where S = estimated standard deviation

X = value of single observation

n = number of observations, and

$\bar{X}$ = arithmetic mean of the set of observations.

14. Report

14.1 The report shall include the following:

14.1.1 Description of the flooring system tested including its elements.

14.1.1.1 If a textile floor covering is tested, indicate whether it has been washed in accordance with 8.1.

14.1.2 Description of the procedure used to assemble the flooring system specimen.

14.1.3 Number of specimens tested.

14.1.4 Average critical radiant flux and standard deviation.

14.1.5 Observations of the burning characteristics of the specimen during the testing exposure, such as delamination, melting, sagging, shrinking, etc.

15. Precision[8]

Defining a test result as the average of 3 replicate determinations, the repeatability (within laboratory variability) is about 20 per cent of the measured value[9] and the reproducibility (among laboratory variability) is of the order of 35 per cent of the measured value.[10]

APPENDIX A

Procedure for Calibration of Radiation Instrumentation

A1 Radiation Pyrometer

A1.1 Calibrate the radiation pyrometer by means of a conventional black body enclosure placed within a furnace and maintained at uniform temperatures of 490, 500, and 510 C (914, 932, 950 F). The black body enclosure may consist of a closed chromel metal cylinder with a small sight hole in one end. Sight the radiation pyrometer upon the opposite end of the cylinder where a thermocouple indicates the black body temperature. Place the thermocouple within a drilled hole and in good thermal contact with the black body. When the black body enclosure has reached the appropriate temperature equilibrium, read the output of the radiation pyrometer. Repeat for each temperature.

A2 Total Heat Flux Meter

A2.1 Calibrate the total flux meter against a standard quartz lamp source having a radiant energy output of approximately 0.15 watts/cm^2 in accordance with the procedure [NBS Report of Calibration, Test No.: 221.12/ 1B/74 Interdivision Work Order No. 490-2220, dated 10/17/74] developed by the NBS optical radiation group. The precision (3 sigma limits) of the calibration based on 25 measurements at the above single point is of the order of ±1%. For a calibration across the operating range of the instrument, the manufacturer of the transducer should be contacted. This calibration can be good to ±5%.

APPENDIX B

Guide to Mounting Methods

B1 Introduction

B1.1 This guide has been compiled as an aid in selecting a method for mounting various flooring materials in the fire test chember. These mountings are suggested for test method uniformity and convenience.

B2 Mounting Procedures

B2.1 Carpet and Cushion Pad Over Concrete, Simulated -- Carpet specimens should be cut in the machine direction. To mount a specimen, invert the holder on a clean, flat surface. Insert the test specimen in the holder. Then insert the cushion pad with the waffle side facing the carpet followed by a 0.64 cm [1/4 in] thick cement asbestos board* and a 1.2 cm [1/2 in] 0.58 gms/cm^2 [36 lbs/ft^3] inorganic millboard. Finally, place the steel bar clamps across the assembly and tighten firmly. Turn the specimen upright and vacuum to remove any foreign particles. Brush the surface to raise the pile to its normal position. Mount the test assembly on the specimen transport frame so that the pile lay faces the panel.

B2.2 Carpet with or without Integral Cushion Pad Bonded to Concrete, Simulated -- carpet specimens should be cut in the machine direction. The adhesive shall be that recommended by the carpet manufacturer (see note B5.1). Apply the adhesive to the smooth side of the cement asbestos board according to the directions provided by the adhesive manufacturer. Mount the specimen in testing frame as described in B2.1 and test according to standard procedure.

*The cement asbestos board may spall during a test. This can be avoided by heating for 12 hours at 325°F.

B2.3 Carpet, Other -- The actual sub-floor may be substituted for the standard cement asbestos board substrate.

B3 Resilient Flooring

B3.1 Follow and/or simulate commerical installation practice. This will in most instances mean bonding to the standard cement asbestos substrate.

B4 Hardwood Flooring

B4.1 Follow and/or simulate commerical installation practice. In a typical system, the substrate would be a 5/8" plywood sheet covered with building paper. The oak flooring strips would be nailed to the plywood then sanded, sealed, and waxed. The assembly should be treated with the moisture content of the oak at 7-8%.

B5 Notes

B5.1 Taylor's Multi-purpose Latex Base #260 or equivalent.

APPENDIX C

Method for Washing Textile Floor Coverings

C1 Purpose and Scope

C1.1 This laboratory procedure is designed to produce results comparable to the "Rotary Brush" and the "Roll-A-Jet" methods customarily used for textile floor coverings in service. The method is suitable whenever cleaning procedures, in which a textile floor covering is wetted-down, scrubbed, rinsed, and dried, are to be simulated.

C1.2 This method is applicable to either soiled or unsoiled textile floor coverings.

C1.3 This method is applicable for evaluating the permanence of fire-retardant treatments for textile floor coverings.

C2 Principle

C2.1 The test is performed by wetting the textile floor covering with water, applying a solution of a sodium alkylsulfate surfactant, hand scrubbing with a nylon bristle brush, rinsing, extracting excess water, and then drying in a vented oven.

C3 Apparatus and Materials

C3.1 Cleaning agent--a 1%, by volume, solution of a sodium alkylsulfate (see note C5.1).

C3.2 A brush having nylon bristles 0.056 to 0.066 cm (0.022 to 0.026 in) in diameter and a bristle height of 2.2 to 2.9 cm (0.88 to 1.13 in). Width of the brush should be approximately 5 cm (2 in). A desirable length of the brush should be approximately one dimensional width of the test specimen (see note C5.2).

C3.3 A hydro extractor (see note C5.3).

C3.4 Laboratory oven, a vented circulating air type, capable of removing the moisture from the specimens when maintained at 105 C (221 F) for 2 hours (see note C5.4).

C4 Procedure

C4.1 Cut three test specimens, 110 x 30 cm (41 x 11 in) in size from the sample free from defects or creases. The perimeter shall be stitched, if necessary, to prevent delamination, distortion, or other degradation.

C4.2 Immerse the test specimen to be washed in a container of water at 18 to 30 C (65 to 85 F) until it appears to be uniformly wet. Remove specimen, drain until excess water runs off, and then position on a flat working surface with traffic surface up.

C4.3 Apply 250 ml. of the surfactant solution at a temperature of 18 to 30 C (65 to 85 F) distributed uniformly over the traffic surface of the test specimen. Hand scrub, with minimum pressure, the traffic surface with the nylon bristle brush for 10 strokes in the long direction, lifting the brush between strokes. Attempt to keep the brush centered on the specimen during each stroke. Rotate the specimen a half-turn and repeat the brush strokes, doing this until the specimen has been stroked 10 times in each long direction for a total of 20 strokes.

C4.4 Thoroughly rinse the specimen on both sides by spraying forcibly with water at 46 to 52 C (115 to 125 F) until foaming ceases.

C4.5 Position the washed and rinsed test specimen in the hydro-extractor to extract excess water so there is no over-lapping and spin-dry for approximately 3 minutes.

C4.6 Place the damp-dry specimen in the oven at 104 to 110 C (220 to 230 F) for 30 minutes and then remove for additional washing.

C4.7 Repeat steps C4.2 to C4.6 nine times until the specimen has been washed a total of 10 times.

C4.8 On the 10th and final cycle, keep the specimen in the oven until dry, or for not less than 2 hours. Remove the specimen from the oven and allow to stand at least 8 hours in order to come to equilibrium conditions with the laboratory environment.

C4.9 Cut the three specimens to 105 x 25 cm (40 x 10 in) in size, condition as prescribed in paragraph 11.1 of the test method, and test.

C5 Notes

C5.1 Orvus WA Paste has been found to be suitable. Available from Procter and Gamble Company, Textile Specialities Section, P.O. Box 599, Cincinnati, Ohio 45201.

C5.2 A suitable brush may be obtained from the Atlanta Brush Company, 19 Hilliard Street, Atlanta, Georgia 30312 (stock number 1-4638).

C5.3 A satisfactory means of extracting excess water from specimens is the use of the spin-dry cycle only in a home laundry type of washing machine. Care must be used in setting the machine or closing the water valves so that no rinse water is admitted during this spin-dry cycle.

C5.4 Procedure 2 of ASTM D 2654-71, "Moisture Content and Moisture Regain of Textile Material," without the predrying feature for the incoming air describes a satisfactory oven.

Figure 1. Flooring Radiant Panel Tester Apparatus

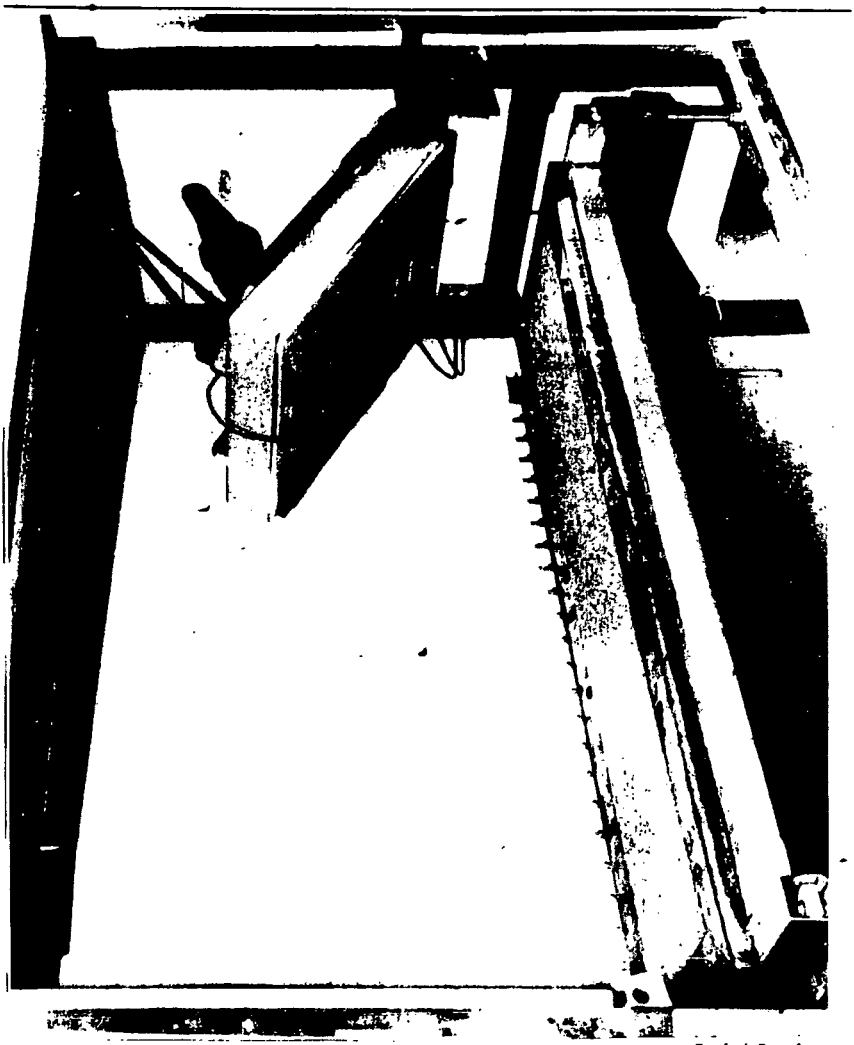

Figure 2. Flooring Radiant Panel Test Showing Carpet Specimen and Gas Fueled Panel

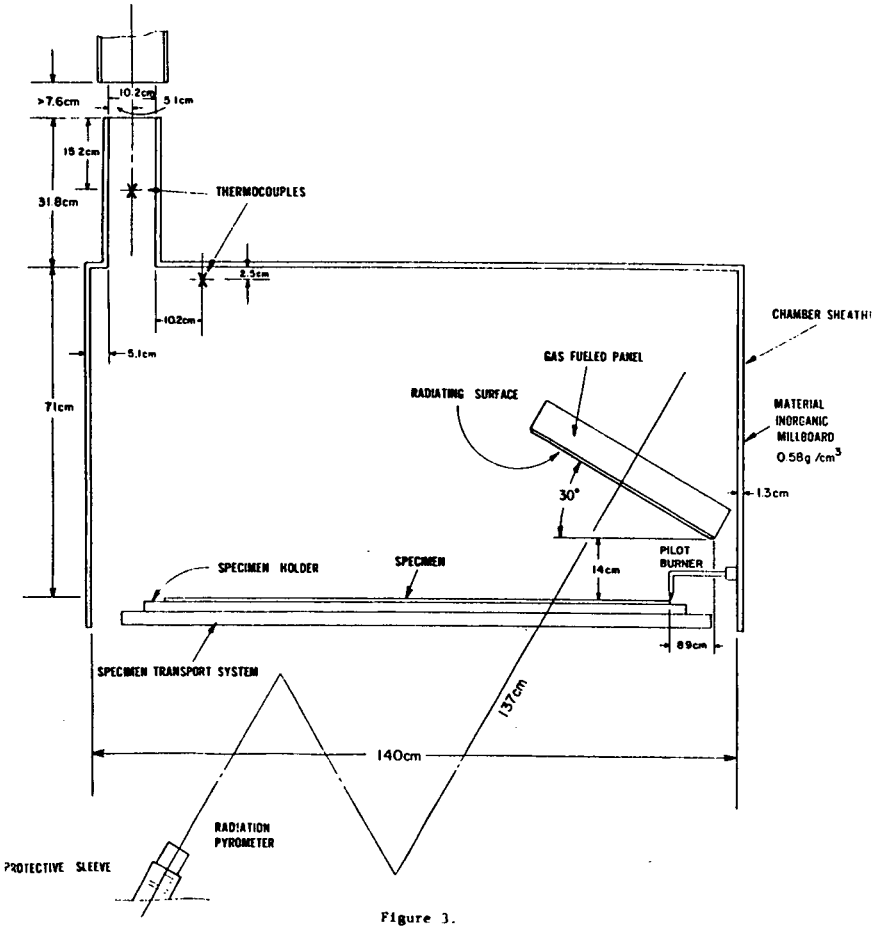

Figure 3.

FLOORING RADIANT PANEL TESTER SCHEMATIC
SIDE ELEVATION

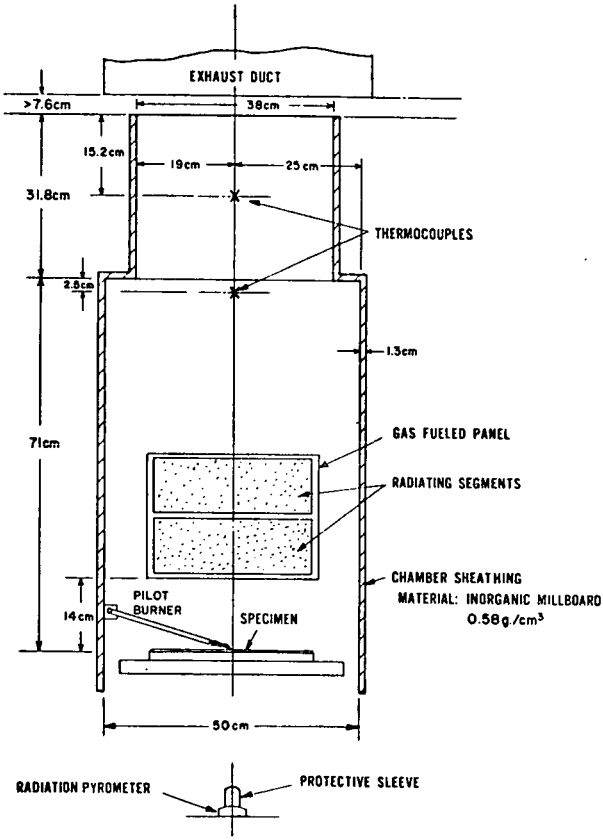

Figure 4.
FLOORING RADIANT PANEL TESTER SCHEMATIC
LOW FLUX END, ELEVATION

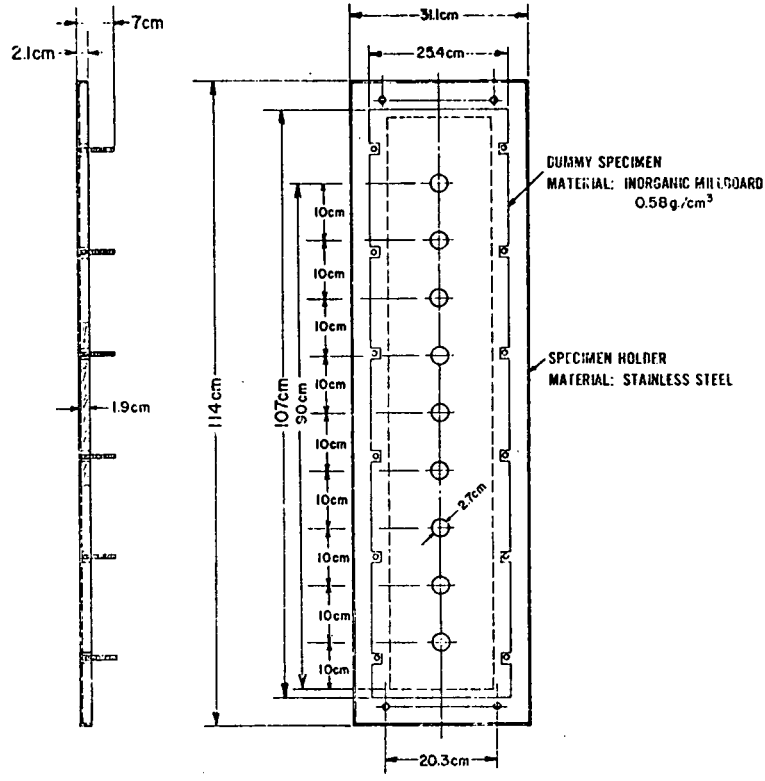

FIGURE 5 DUMMY SPECIMEN IN SPECIMEN HOLDER

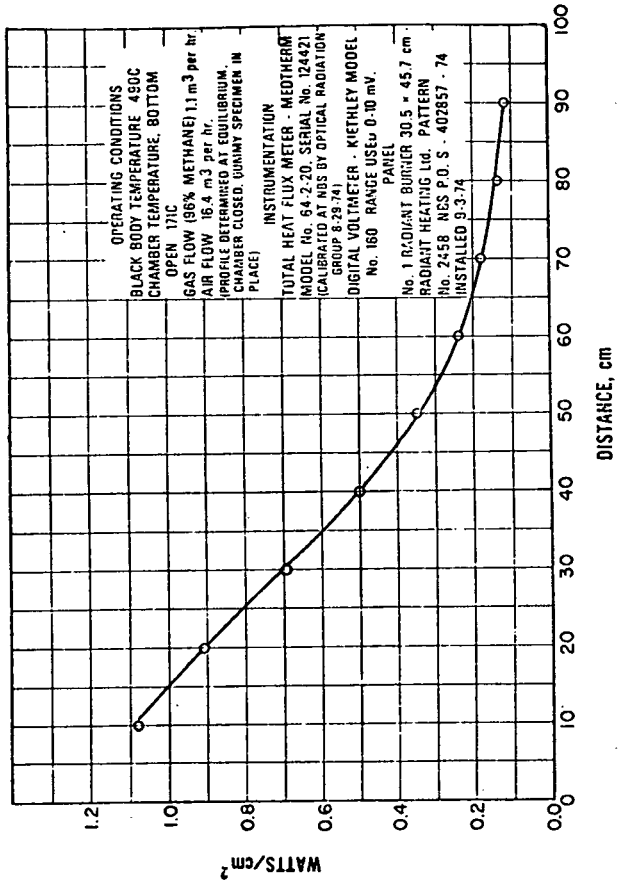

FIGURE 6 STANDARD RADIANT HEAT ENERGY FLUX PROFILE

RADIANT FLUX PROFILE

Date_____

Black Body Temperature_____m.v. _____°C (F)

Gas Flow _____NTPm^{3}H (SCFH) Air Flow _____NTPm^{3}H (SCFH)

Room Temperature _____°C (F)

Air Pressure _____ Gas _____cm. (in.) of H_2O

Flux Meter
Radiometer No. _____

Conversion Factor _____
From Calibration On _____

Distance (cm)	MV	Watts/cm^2
10	_____	_____
20	_____	_____
30	_____	_____
40	_____	_____
50	_____	_____
60	_____	_____
70	_____	_____
80	_____	_____
90	_____	_____

Signed _____

FIGURE 7. Flux Profile Data Log Format

Test Number _____ Date _____ Time _____

Laboratory _____

Specimen Identification/Code No. _____

Test Assembly: _____

Panel: Angle _____° Temperature _____°C (°F)

Flow: Gas _____ $NTPm^3H$ (SCFH) Air _____ $NTPm^3H$ (SCFH)

Pressure, cm. (in.) H_2O: Initial, Air _____ Gas _____;

Chamber Temperature (Initial) _____°C (°F)

Room: Temperature _____°C (°F) Hood Draft _____cm (in.) water

Total Burn Length _____cm (in.)

Critical Radiant Flux watts/cm^2 _____

Flux Profile Reference _____

Observations:

Signed _____

Figure 8. Flooring Radiant Panel Test Data Log Format

Report of the Investigation of the Wincrest Nursing Home Fire on January 30, 1976

Prepared By The Special Panel
Appointed By
Mayor Richard J. Daley
City Of Chicago

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Introduction

Purpose of Investigation

Mayor Richard J. Daley appointed a special panel to investigate and record all facts related to the fire and subsequent deaths which occurred at the Wincrest Nursing Home, 6326 North Winthrop Avenue, Chicago, Illinois on January 30, 1976, and to draw such conclusions as are supported by the facts and to make recommendations to prevent a similar tragedy from recurring.

Panel Members

The following people were named to this special panel:

Fire Commissioner ROBERT J. QUINN (*Chairman*)

Health Commissioner DR. MURRAY C. BROWN

Building Commissioner JOSEPH F. FITZGERALD, F.A.I.A.

MR. JACK D. TRAIN, F.A.I.A., Metz, Train, Olson and Youngren, Incorporated, Architects

MR. ELMER RESKE, P.E., Consultant to Metropolitan Chicago Loss Bureau

CONDITION AT THE TIME OF THE FIRE

BUILDING DESCRIPTION

General Features

The building had been designed as a nursing home for 88 permanent residents in 28 sleeping rooms and was constructed in three stages. The three additions are of fire resistive construction. The original brick building was removed prior to the second stage of construction in 1966.

The three stages of construction were as follows: (See Plan)

In 1959, a 47'-8" x 42'-0", 1,906 square foot fire resistive building consisting of two floors and a garden level, totaling 5,719 square feet, was added to the rear of the existing two story basement and attic brick nursing home. This addition was constructed with precast concrete floor and roof slabs on steel beams and columns. In 1966, the original building was demolished and replaced by a three story and garden level precast concrete floor and roof slab structure with 2,367 square feet of area per floor for a total of 9,466 square feet. At the same time, a third floor was added to the existing two floors and garden level building constructed in 1959. The roof of this third floor addition was of steel bar joist construction and gypsum roof deck with a 5/8" gypsum board suspended ceiling. In 1973, the third addition was added at the rear of the existing building. This addition was 40' x 20' with a connecting 10' corridor having 903 square feet per floor. It consisted of three floors and a garden level, for a total of 3,613 square feet of floor area. The construction was precast concrete floor slabs and metal roof deck on steel bar joists with a suspended 3/4" mineral acoustical ceiling. All partitions are 16" O.C. metal studs, covered with 5/8" thick one hour fire rated plasterboard or masonry with 1/2" plasterboard on 3/4" furring strips.

As each addition was constructed, there were changes in the use of certain areas. At the time of the fire the use consisted of patient care rooms with supporting services such as nursing station, lounges, small kitchens, (no cooking appliances), bedpan closets, bathrooms, toilets and small storage closets on the 1st, 2nd, and 3rd floors. The garden level was a non-resident floor consisting of the entrance and supportive facilities such as laundry room, boiler room, storage rooms, kitchen, dining room, examining room, lounge and offices. A combination chapel-lounge approximately 18' x 32' was located on the 3rd floor of the 1973 addition.

Stairs

There are two enclosed stairwells of two hour fire rated construction. The east stairwell door on the 3rd floor is located 5' from the east end of the corridor. The west stairwell door is located approximately 50' from the west wall of the lounge-chapel. The east stairwell exited at grade on the north side of the building and continued down approximately 4' to the garden level in the front lobby area. The west stairwell exited at grade on the north side of the building and continued down approximately 5' to the garden level floor in the boiler room area.

Elevators

One standard hospital size hydraulic elevator was provided across the corridor from the east stairwell.

Exterior Walls

The exterior walls consist of brick and concrete block backup with gypsum board on furring strips.

Interior Partitions

The interior partitions are 5/8" gypsum board on steel studs.

Structural System

The structural system consists of reinforced concrete foundation walls and footings below grade, floor slabs of 8" thick precast concrete with 2-1/2" of concrete fill, supported on fire protected steel columns and beams. The roof slab of the east section, constructed in 1966, is precast concrete, while the middle section constructed at the same time is gypsum roof deck on steel joists. The roof of the 1973 addition on the west end is also gypsum deck on steel joists.

Doors (third floor)

The doors leading to the two enclosed stairways are both 3'-8" x 6'-8" x 1-3/4" wood, class "B", one-hour rated fire doors with single 10" x 10" wire glass windows, operated by approved hydraulic type door closers.

All other doors, with the exception of one hollow-core door on the small linen closet adjacent to Room 305, are 1-3/4" solid core. The doors to all patient rooms are 3'-8" wide by 6'-8" high.

All doors are mounted on self casing metal frames with integral metal door stops.

Wall Finish Materials (third floor)

The 3rd floor contains five different wall finish materials: paint, ceramic tile, vinyl-fabric wallpaper, vinyl-paper wallpaper and a vinyl-asbestos tile wainscot.

All toilets and bathrooms have 4"x4"x 1/4" ceramic tile set in mastic over plasterboard, extending 4'-4" above the floor. The upper walls of these rooms are both painted and in some cases, covered with vinyl fabric wallpaper.

The walls in the new 1973 lounge-chapel section are all painted, over plasterboard, including the short corridor walls to the lounge-chapel.

All walls in the patient care rooms and the front lounge are covered with a vinyl coated fabric wallpaper.

The entire corridor, up to the 1973 section, is covered with either a vinyl wallpaper or a vinyl fabric type wallpaper, probably "Vinyl Weave."

A vinyl-asbestos tile, 12"x12"x1/16", formed a wainscot, approximately 4' high, adjacent to rooms 305, 306, and the west stairwell. It was covered with the vinyl-fabric wallpaper on the north side of the corridor.

Specifications kept by the management for the 'Vinyl Weave' vinyl fabric-backed wallpaper indicate a flame spread rating of 8, a fuel contribution of 2, and a smoke density of 8. Positive verification of receipts and identification of materials was attempted.

Ceiling Construction (third floor)

The 3rd floor contains 3 different types of ceiling construction: exposed flexicore, suspended plasterboard and suspended acoustical mineral tile.

Exposed (painted) flexicore ceilings cover patient rooms 301, 302, 303 and 304, both stairways, and the front lounge (built in 1966).

The entire corridor up to the 1973 addition, the nurses' station, all closets, toilet rooms, bathroom, janitor's closet, kitchen service areas and rooms 305, 306, 307 and 308 have suspended 5/8", one hour rated, plasterboard ceilings attached with sheet metal screws to metal channels and rails.

The lounge-chapel section and the short corridor leading to it contains a suspended 12"x12"x3/4" acoustical mineral tile ceiling with a one hour fire rating. The tile is set in metal channels, and interconnected with metal spleens. The upper tile surface is suspended approximately 8" from the bottom of the 14" bar joists spanning the lounge-chapel roof.

Floor Finish (third floor)

The entire floor is covered with vinyl-asbestos floor tile laid directly on the concrete deck. This includes all rooms, service areas, corridors and stairwells except for bath and toilet rooms which are covered with 1" x 1" ceramic tile.

The base in every room (except bath and toilet rooms) corridor and stairwell is 4" high rubber base attached to the wall with mastic.

There was no carpeting, throw rugs or runners evident on the 3rd floor.

Heating

With the exception of the 2nd floor recreation room and the 3rd floor lounge-chapel which are also partially heated and cooled by 220 volt G.E. electric 'through-the-wall' units, the entire building is heated by hot water radiant baseboard copper fin radiators supplied from two gas boilers: one supplying the basement only, and the other supplying the 1st, 2nd and 3rd floors.

Hot water is supplied by a high recovery gas-fired water heater. Combustion air is supplied to the boiler room through screened and louvered openings in the west exterior wall.

Ventilation

The 1st, 2nd and 3rd floor patient rooms, lounges and 3rd floor lounge-chapel are ventilated by natural ventilation means, employing sliding type and double-hung windows.

All bath and toilet rooms on the 1st, 2nd and 3rd floors are mechanically ventilated. Sheet metal ducts run horizontally above the dropped corridor ceiling to vertical risers and to the roof mounted exhaust fans.

The garden floor contains the admission and administrators' offices, lounge, nurses' office, examining room, kitchen, dining room and laundry room. All garden floor rooms are mechanically ventilated through the dropped ceiling with a sheet metal ducted air sup-

ply system utilizing a hot water heating coil supplied by the hot water boiler. The kitchen is mechanically exhausted through the kitchen range hood. The hood system is constructed of 14 gauge black iron and runs horizontally, through the west wall and up to the roof level exhaust fan.

Electrical System

The building has a 600 AMP, 3 phase, 4 wire, 220/440 volt service to a main distribution panel located in the basement boiler room, plus a separate 60 AMP, single phase, 3 wire, 120/240 volt emergency service.

Each patient floor has a 100 AMP general purpose circuit breaker panel to handle the floor's electrical load.

Separate circuits are provided for all special equipment such as the seven 220 volt electric heater-air conditioner units in the 1973 addition.

The building also contains the required System II emergency exit sign and corridor lighting system. This system operates on an automatic transfer switch, turning on the emergency corridor lights in the event of failure or power loss in the buildings' normal lighting circuits. This system is wired separately on special fused circuits, from its own separate and remote 60 AMP service.

Although not required, battery-operated emergency lighting was installed in two locations on the 3rd floor, set to illuminate the entire corridor in the event of a failure of the normal lighting and the System II emergency lighting. In the event of a neighborhood 'brown-out' or a total power failure within the building, these units would automatically activate.

Patient Room Furnishings and Contents (third floor)

Each patient is furnished with or shares a specific amount of furniture plus half of one free standing wardrobe.

Each patient is supplied with a bed and a bedside table, and shares one or two 4 drawer chests with other patients.

The rooms are also equipped with one or more movable servicing tables and have from no chairs to 5 chairs. All chairs have vinyl covered cushions (seat and back) on wood or metal frames.

The personal property of patients is limited to necessary clothing, toiletries, pictures, books, magazines and portable television sets and radios.

All of the furniture in Rooms 305, 306 and 307, including the wardrobes and head and foot boards on the beds were of wood construction. Rooms 301, 302, 304 and 308 had a mixture of metal and wood furniture and wardrobes in each room.

Room 303 had all metal furniture including bedboards and two metal wardrobes. There was no chest of drawers in this room.

All windows in the patient rooms, front lounge, corridor and rear lounge-chapel have single panel fibreglass draw drapes extending to the window sills. Each window is also equipped with a vinyl-fabric shade, most of which were in a rolled up position.

Each patient room is equipped with a metal 'through-the-wall' unit air conditioner sleeve under the window. The sleeves were sealed and secured with sheet metal covers. None of the sleeves contain an air conditioner.

Each bed consists of a metal crank-type hospital frame with open metal spring and a 7" thick hospital type, cotton felt, polyurethane and sisal mattress. The mattress is covered with a clear vinyl plastic cover, 3 cotton sheets, 1 or 2 cotton blankets, and 1 or 2 pillows filled with feathers. The pillow cases are cotton, covered with a clear vinyl plastic and cotton pillow cover. One bedspread of quilted nylon or white cotton is provided for each bed.

PRIVATE FIRE PROTECTION AND FIRE ALARM SYSTEM

Fire Alarm

The home was equipped with a manual and automatic fire alarm system that is connected directly to the main fire alarm office of the Chicago Fire Department. The alarm system is designed to give the code or box number of the alarm station activated.

Two manual pull boxes are located on each floor and an exterior city fire alarm box is located in front of the home.

Automatic alarms are transmitted by rate of rise 136 degrees fixed temperature heat detectors placed in areas as required in the Municipal Code. Heat detectors on the 3rd floor were located in the center of the lounge-chapel, small storage closet and in each stairwell.

In addition to the required fire alarm system described above, a local smoke detection system was installed with smoke detectors located at the entrance of

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the chapel-lounge on the 3rd floor, and also the lounge entrance on the 2nd floor. The 3rd floor smoke detector did activate, transmitting a house alarm to the 2nd floor nurses' station.

Private Fire Protection

The 3rd floor is equipped with (3) hand-held fire extinguishers and (2) automatic battery operated emergency lighting units, and a public address loud speaker.

The 3 fire extinguishers are hand held, 2-1/2 gallon, pressurized water type.

The 2 automatic emergency lighting units are dry cell operated, designed to switch on in the event of a power failure in the 3rd floor lighting system. Each have 2 beam type bulbs set to illuminate the entire length of the corridor.

Each floor is equipped with a one way loud speaker located above the closet door adjacent to the front (east) enclosed stairway. The speaker is connected to a public address system at the switch board in the garden level and is used to summon various employees and give messages to staff personnel on each floor.

INSPECTION REPORTS

1. Health Department

This facility was inspected on a monthly basis by the Health Department. The last visit was January 8, 1976. No significant violations of the Municipal Code were found at this time.

2. Fire Department

This building was inspected on a monthly basis by Fire Department lieutenants from the Fire Prevention Bureau. The last inspection was made on December 31, 1975. No violations of the Municipal Fire regulations were found.

3. Building Department

This building is required to be inspected on an annual basis. The last inspection was made on September 8, 1975, by an inspector from the Institutional and Assembly Bureau. No violations of the Municipal Building code were found.

BUILDING CONDITION

The building was well built, well maintained and well operated. The building complied with all city rules and regulations governing its construction and operation. Prior to the fire, this nursing home would be considered a good example of a typical and proper institutional use of this type.

CHRONOLOGY OF THE FIRE

At the time of the fire the building contained 83 permanent residents and was staffed by 3 nurses, 6 nurses' aides, 2 maintenance personnel, 5 office personnel and 4 kitchen and laundry personnel.

Approximately 28 of the residents were attending mass in the third floor lounge-chapel with an approximate total of 40 residents, 5 attendants and a priest on the entire 3rd floor.

Fire was detected in Room 306 at the approximate center of the single corridor which serves the third floor. Fire-fighting attempts were made by the priest and attendants. The fire alarm box was also activated by an attendant.

The initial alarm was received by the Fire Alarm Office at 11:43 A.M., Friday, January 30, 1976. This alarm was transmitted as Fire Alarm Box 31769 and was activated by either of the following two methods:

1. One or more of the heat detectors on the 3rd floor.
2. The fire alarm box located at the entrance to the west stairwell on the third floor.

Note: The fire alarm box was activated by nursing home employees and may have followed or preceded the alarm from the heat activated device..

These 2 devices are on a single circuit. Consequently, the device that operated or sequence of their operation cannot be identified.

The usual institutional box alarm response that is dispatched by the Fire Department to either a school, hospital, nursing home or similar occupancy, was sent. This response consisted of 4 engine companies, 2 hook and ladder companies, a flying squad, a snorkel, a division marshall and 2 battalion chiefs.

The first fire company arrived on the scene 3 minutes and 40 seconds after the initial alarm at 11:46 A.M., and verified the fire. They found the 3rd floor heavily charged with smoke and elderly patients, many in wheel chairs, gasping or unconscious, and in need of immediate evacuation and removal to nearby hospitals for emergency care.

Disaster Plan No. 3 was put into effect at 12:16 P.M., and other organizations, utilities, city officials and city departments, etc., notified by the Fire Alarm Office.

The fire was struck out at 1:28 P.M. Room 306 was completely gutted while the corridor sustained only moderate fire damage but intense to heavy smoke and heat damage. Three other patient care rooms with open doors to corridors suffered moderate to intense smoke and heat damage, while 4 of the 8 patient care rooms suffered no heat or smoke damage because doors to the corridor were closed.

No fire, smoke or heat damage was evident on the 2nd, 1st or garden floors of the building. Water damage was minor.

Total damage from fire, smoke and water was relatively minor.

The death toll from the fire, on the date of this report, 2/20/76, is twenty-three.

INVESTIGATION OF THE FIRE

ORIGIN AND CAUSE

Reports of eyewitnesses who fought the fire initially, indicated that it started in a plywood wardrobe located in the southwest corner of Room 306, on the 3rd floor. The room was occupied by four female patients.

Approximately 28 patients, including those in Room 306, were attending a Roman Catholic mass that was being held in the lounge-chapel at the west end of the 3rd floor and Room 306 was unoccupied at the time the fire was discovered.

Inasmuch as the cause of ignition could not be determined, it is the Committee's considered opinion that this fire was of incendiary origin.

A Police Arson Bureau investigation has resulted in the arrest of a temporary housekeeper who has been charged with multiple counts of murder by arson in connection with this fire.

FIRE AND SMOKE SPREAD

The blackened ceilings and side walls indicate that a large volume of smoke and hot gasses raced through the corridors and entered rooms where doors were left open. Whereas smoke damage was confined mainly to the 3rd floor, some smoke entered the front and rear stairwells as rescue attempts were carried out along with fire fighting operations. Standard fire fighting procedures require the closing of all doors and windows to confine fire and cut off oxygen supply, however, a nurse's aid opened a window in the lounge-chapel at the west end of the building. Due to the wind direction and strength (N.W. at 15-25 M.P.H.) this action appears to have reduced the amount of smoke and gas that would normally have entered the lounge-chapel area and undoubtedly saved lives. The pattern and direction of the heat and smoke are clearly demonstrated in the pictures included with this report.

FIRE FIGHTING OPERATIONS

Nursing Home Personnel

A nurse's aid discovered the fire in Room 306, summoned the priest who was conducting the mass in the lounge-chapel, and activated the pull box which summoned the Fire Department. The priest attacked the fire with a 2-1/2 gallon, pressurized, water type extinguisher, to no avail.

He was joined by the administrator who came from the first floor and two maintenance men from the 2nd floor. All were summoned by the sounding of the local fire alarm system throughout the building which was activated by a pull station or a thermal detector. Also activated was the smoke detector on the third floor which sounded an alarm at the 2nd floor nurses' station.

Each of the other three persons also used a 2-1/2 gallon, pressurized, water type extinguisher. The combined efforts of all four persons failed. Smoke and heat forced retreat and an unsuccessful attempt was made to close the door to Room 306.

Six of the 2-1/2 gallon extinguishers were found at the scene.

All fire extinguishment efforts having failed, efforts were then concentrated on evacuating patients from the lounge-chapel.

Fire Department

At 11:43 A.M. on January 30, 1976, the Chicago Fire Alarm Office (main) received an alarm from station 31769 which is in front of the Wincrest Nursing Home at 6326 North Winthrop. The following units responded on the box alarm: 4 engine companies, 2 hook and ladder companies, 1 flying manpower squad, 1 snorkel, 2 battalion chiefs and 1 division marshal (Deputy District Chief) with a total of 39 men.

The first fire unit on the scene was Battalion 27 arriving in 3 minutes and 40 seconds, with Engine Company 70 arriving a few seconds later from a station one mile to the west. Smoke was seen on the top floor but the fire was not visible from the front of the building because the involved room was located in a setback on the north side of the structure.

At 12:01 hours, 2 flying squads and snorkel squad 1 were dispatched with a total of 18 men.

A second alarm at 12:04 hours brought 4 more engines, 2 trucks, 2 Deputies, Fire Commissioner Quinn,

the Chief of Fire Services, 2 turret squads, 1 helicopter, 2 air bottle trucks, and 1 communication van with a total of 44 men.

Special calls brought 10 ambulances with 27 men, 4 battalion chiefs' cars to be used as ambulances, 8 men and 2 flying manpower squads with 9 men.

Disaster Plan No. 3 was put into effect at 12:16 P.M.

Fire Commissioner Robert J. Quinn responded on the second alarm and assumed command upon his arrival at 12:31 hours.

Victims were transported to 4 hospitals by fire and police vehicles.

CONCLUSIONS

Evidence to date indicates fire of an incendiary origin. No matter what the cause of ignition, this fire demonstrates that a modern, well-built, well-maintained nursing home that complies with present regulations is still vulnerable to a disaster of this magnitude.

Initial fire-fighting efforts by the staff were natural and proper reactions to a fire of this type. The attempts to subdue the fire with the available hand-held extinguishers proved futile and subsequent attempts to close the fire room door were also unsuccessful because of the heat. While these initial attempts to extinguish the fire were being made, heat detectors and/or a pull box alarm notified the Fire Department directly and a smoke detector in the lounge-chapel alarmed the 2nd floor nurses' station.

Fire personnel arrived on the scene and proceeded to rescue the residents and fight the fire without delay. An emergency plan summoned available ambulances for immediate transport of the injured to four local hospitals. The four receiving hospitals, having been notified that a Fire Department "Disaster III" plan was in effect, initiated their own "in-house" emergency action plans to treat the fire victims.

It appears that the opening of the window in the west wall of the lounge-chapel, assisted in reversing the flow of smoke, heat and gas that was moving towards the lounge from the room of origin. This may have saved lives in the lounge area.

There is no evidence of panic. The problem lay with the inability of the elderly residents to evacuate themselves from the fire floor, and the difficulty of moving wheel-chair patients down the available stairs.

Occupancies of this type must be capable of protecting the residents during the course of a fire without relying on evacuation. Toward this goal the following considerations must be kept in mind:

a) Limiting combustible personal items, furniture and bedding would not entirely solve the problem and would be in part dehumanizing;

b) Providing self-closers on corridor doors held in the open position with magnetic hold open devices activated by smoke detectors would be an inadequate form of protection for institutional sleeping rooms. These devices are too subject to various types of failure and could prove dangerous to older people who may accidently bump such a door, releasing the self closer. Facing the practical operational realities, wedges and furniture would very likely be placed to negate the effectiveness of the door closers;

   In addition, self closing devices activated by smoke may trap a number of residents in the fire room making it difficult for them to exit themselves or with attendants' assistance. Also, these devices are by no means an inexpensive solution in both their initial and maintenance costs;

c) Smoke detectors or heat detectors only notify that there is a fire. Many of the people in nursing homes cannot take proper action, themselves, but must then rely on attendants. There are not normally enough attendants to move all threatened residents to a safe enough location to endure the fire, smoke and gasses that may develop in an uncontrolled fire before the arrival of the Fire Department;

d) Smoke barriers in corridors protect the occupants on the non-fire side but are not a solution for those on the fire side;

e) The proper emergency action of attendants is important but again is not a complete solution. Their decision to fight a fire or use that time to remove residents from a dangerous area must be made in split seconds. Should the fire proceed beyond their control, they must have enough time and training to remove all affected people to a safe area. Quite often that time is not available or the training inadequate;

f) Sprinklers detect a fire, give an alarm and either extinguish or hold a fire in check until outside aid arrives. They also control, indirectly, the amount of smoke generated. They would limit a fire to a size that would be controllable by attendants and would also provide the time necessary to remove residents to a safe area. They will not, however, prevent fire nor will they prevent a person in the immediate vicinity of a fire from being affected by that fire. They will, however, protect other residents by controlling the fire and thereby the smoke, gas and heat, and will also give attendants the time necessary to affect the immediate relocation of threatened individuals.

RECOMMENDATIONS

The following list of recommendations have been separated into various parts. The recommendations for immediate code revisions are considered of primary importance. This should not, however, detract from the importance of the other recommendations which will, in certain instances, require extensive deliberations by the Mayor's Advisory Committee on Building-Code Amendments in the consideration of additional code revisions dealing with other aspects of the general category of institutional occupancies. These studies could eventually lead to furnishing combustibility and other standards on a national basis.

The following requirements should immediately be made part of the Building and Fire Ordinances of the City:

1) Sprinkler systems to be installed in all new and existing nursing homes and be electrically interconnected with the fire alarm system for water flow. In addition, local valve supervision shall be provided;

2) Formal Fire Department emergency training to be required for all nursing home personnel every six (6) months to supplement the monthly inspection programs and existing training programs. The nursing homes themselves should also provide emergency training for all personnel at least each month;

3) Dead-end corridors to be disallowed in all new nursing homes.

The following recommendations should be enacted by the Board of Health:

1) Training of nursing home staff should include the following:

   a) The transporting of patients during an emergency;

   b) The keeping of patients not in immediate danger calm and comfortable;

   c) The maintaining of designated areas for family members;

   d) The establishment of a system of 'Round Robin' on-call nursing home personnel to be continually available for emergency duty.

2) Nursing home management shall require pre-employment screening of all employees as defined in the Illinois Department of Public Health Rules and Regulations concerning Long-Term Care Facilities;

3) Disaster plans and dates of drills shall be on file with the Department of Health as well as the Fire Department. Disaster plans are to be in written form, approved by both departments and posted at all nursing stations;

4) All residents shall have identification bands (wrist bands) which shall include name, medical diagnoses and age;

5) Smoking rules are to be enacted by the nursing homes which include the designation of smoking areas and the requirement of strict smoking supervision with a staff member in constant attendance.

Further detailed study and evaluation should be made in the following areas of concern:

1) The allowed location of assembly areas, or what might be utilized as assembly areas should be examined. This analysis should include a review of Section 48-12.2 Auxiliary Uses;

2) Standards for smoke detection and furnishing combustibility should be promulgated and considered for inclusion in institutional occupancy requirements;

3) An analysis of toxic gas emissions emanating from various types of building and furnishing materials as well as fire retardant treated materials should be made which would eventually result in adequate standards.

REPORT #7463
JUNE 1975

FULL-SCALE FIRE TESTS IN A NURSING HOME PATIENT ROOM

HEW CONTRACT #HSA 105-74-116

FINAL REPORT

PREPARED FOR
BUREAU OF QUALITY ASSURANCE
HEALTH SERVICES ADMINISTRATION
U.S. DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE

PREPARED BY
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WITH THE TECHNICAL ASSISTANCE OF
GAGE-BABCOCK & ASSOCIATES AND IIT RESEARCH INSTITUTE

FULL-SCALE FIRE TESTS IN A NURSING HOME PATIENT ROOM

1.0 SUMMARY

A series of 14 full-scale fire tests were conducted to validate provisions of the 1967 Life Safety Code which are applicable to existing nursing homes. This code is the fire safety standard which nursing homes must meet if they are to be certified under the Medicare or Medicaid Programs. Five of these tests were conducted in a fire test laboratory which was representative of a nursing home of fire-resistive construction. Three tests were conducted in a vacated wood-frame nursing home and six in a modified apartment of brick-wood joist construction.

The primary conclusions of this program were that current fire-safety construction standards and corridor wall construction having a 1-hour fire resistance rating provide no significant firesafety function in buildings protected by automatic sprinklers.

The results also suggested that some changes in room door standards may be possible and that interior furnishings can be very significant in non-sprinklered buildings. However, additional experimental work is necessary before any standards can be established in these areas.

6.0 Conclusions

The conclusions of this program are directed to protection against the rapidly developing fire which poses a multiple life loss threat in an existing nursing home. The smoldering fire which generally poses a threat to a single life was not within the scope of the program.

The principal conclusions of the program was that ordinary non-combustible interior finish such as 1/2 in. gypsum board or plaster on wood, metal or gypsum lath commonly found in existing wood-frame and brick, wood-joist buildings, provides adequate fire protection for the combustible structure in sprinklered buildings. Although plaster on wood lath was not used in the test buildings, other fire tests have shown it to perform as good or better than the ordinary gypsum board that was installed, ref. 13. In the early stages, a fire develops and spreads in the same manner in a full fire-resistive building as in a wood-frame building with common non-fire rated gypsum board or plaster interior finish. With automatic sprinklers, the fire does not last long enough for its behavior to be affected even by Class C combustible wall paneling and ceiling tiles. Even in fire tests without sprinklers, the ordinary plaster or gypsum board walls resisted the fires very well.

These tests also indicate that in real room fires other common types of doors may provide a level of protection equivalent to that of the presently required 1-3/4 in. solid core wood door. These tests results are different than would be predicted from a standard ASTM Fire Test. More experimental work is necessary with real room furnishings to establish accurate and sufficient door criteria.

The Library of Congress
Congressional Research Service
Washington, D.C. 20540

August 9, 1976

TO: Subcommittee on Health and Long-term Care
Attn: Alan Zipp

FROM: Education and Public Welfare Division

SUBJECT: Cost estimate of a smoke detector system for a nursing home.

This is in response to your request asking us to obtain an estimate on the cost of purchasing and installing a smoke detector system for a nursing home. We contacted Simplex Time Recorder Company, Gardner, Massachusetts, a firm which installs smoke detector systems and asked them to give us an estimate on equipment and installation costs for a 1-story, 25 bed nursing home; a 2-story, 50 bed nursing home; and a 100-bed, multiple story facility.

Mr. Praskiewiez, Washington, D.C. sales representative for Simplex supplied us with the following estimates.

1-story, 25 bed nursing home: equipment cost--$5,000; installation cost--$5,000; total cost--$10,000.

2-story, 50 bed nursing home: equipment cost--$10,000; installation cost--$10,000; total cost--$20,000.

multiple story (4-6 stories), 100 bed nursing home: equipment cost--$25,000; installation cost--$25,000; total cost--$50,000.

Equipment costs would include the costs for fire alarm equipment, stations, gongs, and smoke detector units.

Mr. Praskiewiez cautioned us that the figures represented only estimated costs and these costs might vary higher or lower depending upon the amount of equipment and system purchased by the home.

We hope this information helps you. Please call if we can provide you with additional assistance.

Janet Kline
426-5863

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