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GAO

Report to Congressional Requesters

July 2004

NURSING HOME FIRE SAFETY

Recent Fires Highlight Weaknesses in Federal Standards and Oversight

GAO-04-660

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Highlights

Highlights of GAO-04-660, a report to congressional requesters

Why GAO Did This Study

In 2003, 31 residents died in nursing home fires in Hartford, Connecticut, and Nashville, Tennessee. Federal fire safety standards enforced by the Centers for Medicare & Medicaid Services (CMS) did not require either home to have automatic sprinklers even though they have proven very effective in reducing the number of multiple deaths from fires. GAO was asked to report on (1) the rationale for not requiring all homes to be sprinklered, (2) the adequacy of federal fire safety standards for nursing homes that lack automatic sprinklers, and (3) the effectiveness of state and federal oversight of nursing home fire safety.

What GAO Recommends

GAO is making several recommendations to the Administrator of CMS to (1) improve oversight of nursing home fire safety, such as reviewing the appropriateness of exemptions to federal standards granted to unsprinklered facilities and (2) strengthen the fire safety standards and ensure thorough investigations of any future multiple-death nursing home fires in order to reevaluate the adequacy of fire safety standards. CMS concurred with GAO's recommendations.

www.gao.gov/cgi-bin/getrpt?GAO-04-660.

To view the full product, including the scope and methodology, click on the link above. For more information, contact Kathryn G. Allen at (202) 512-7118.

What GAO Found

Cost has been a barrier to CMS requiring sprinklers for all older nursing homes even though sprinklers are considered to be the single most effective fire protection feature. There has never been a multiple-death fire in a fully sprinklered nursing home and sprinklers are now required in all new facilities. The decision to allow older, existing facilities to operate without sprinklers is now being reevaluated in light of the 2003 nursing home fires. Although the amount is uncertain, sprinkler retrofit costs remain a concern, and the nursing home industry endorses a transition period for homes to come into compliance with any new requirement. If retrofitting is eventually required, it is likely to be several years before implementation begins.

The nursing home fires in Hartford and Nashville revealed weaknesses in federal nursing home fire safety standards for unsprinklered facilities. For example, federal standards did not require either home to have smoke detectors in resident rooms where the fires originated, and the fire department investigations suggested that their absence may have delayed the notification of staff and activation of the buildings' fire alarms. In light of inadequate staff response to the Hartford fire, the degree to which the standards rely on staff to protect and evacuate residents may be unrealistic. Moreover, many unsprinklered homes are not required to meet all federal fire safety standards if they obtain a waiver or are able to demonstrate that compensating features offer an equivalent level of fire safety. However, some of these exemptions raise a concern about whether resident safety was adequately considered. For example, a large number of unsprinklered homes in at least two states have waivers of standards designed to prevent the spread of smoke during a fire.

State and federal oversight of nursing home fire safety is inadequate. Postfire investigations by Connecticut and Tennessee revealed deficiencies that existed, but were not cited, during prior surveys. For example, a survey conducted of the Hartford home 1 month prior to the fire did not uncover the lack of fire drills on the night shift and, on the night the fire occurred, the staff failed to implement the home's fire plan. The survey was conducted during the daytime and relied on inaccurate documentation that all shifts were conducting fire drills. On the other hand, Tennessee's postfire investigation failed to explore staff response, a deficiency cited on the home's four prior surveys. The limited number of federal fire safety assessments, though inconsistent with the statutory requirement for federal oversight surveys, nonetheless demonstrate that state surveyors either miss or fail to cite all fire safety deficiencies. CMS provides limited oversight of state survey activities to address these fire safety survey concerns. In general, CMS (1) lacks basic data to assess the appropriateness of uncorrected deficiencies, (2) infrequently reviews state trends in citing fire safety deficiencies, and (3) provides insufficient oversight of deficiencies that are waived or that homes do not correct because of asserted compensating fire safety features.

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Abbreviations

AHCA	American Health Care Association
CMS	Centers for Medicare & Medicaid Services
FSES	Fire Safety Evaluation System
HVAC	heating, ventilating, and air-conditioning system
NFPA	National Fire Protection Association
OSCAR	On-Line Survey, Certification, and Reporting system

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United States Government Accountability Office
Washington, DC 20548

July 16, 2004

The Honorable Charles E. Grassley
Chairman
Committee on Finance
United States Senate

The Honorable Bill Frist, MD
United State Senate

Two deadly nursing home fires in 2003 focused considerable attention on the safety of the nation's 1.5 million nursing home residents, a highly vulnerable population of elderly and disabled individuals. The development and enforcement of fire safety standards for nursing homes is critical because many residents have restricted mobility that may be accompanied by cognitive impairments, conditions that can limit their ability to escape if a fire should occur. To ensure the health and safety of nursing home residents, the federal government adopts and enforces standards that all homes serving Medicare or Medicaid beneficiaries must meet, and state survey agencies conduct periodic inspections, known as surveys, to determine whether the standards are being met.[1] The most recent data show that an average of about 2,300 of the nation's approximately 16,300 nursing homes reported a structural fire each year from 1994 through 1999 and that annually, the average number of fire-related nursing home deaths nationwide was about five.[2] Over this same time frame, one multiple-death nursing home fire resulted in three fatalities.[3] In contrast, the fire-related death toll in 2003 was considerably higher—a total of 31 residents died in the nursing home fires in Hartford, Connecticut (16 deaths), and Nashville, Tennessee (15 deaths). Neither home was required to have an automatic sprinkler system even though

[1]Federal fire safety standards for nursing homes are based on requirements developed and periodically updated by the National Fire Protection Association, a nonprofit membership organization.

[2]While cooking and dryers were the leading causes of fires, resident deaths were largely due to smoking, and resident rooms were the leading areas of fire origin. These data, published by the National Fire Protection Association, are based on fires reported to municipal fire departments.

[3]Fire safety experts often focus on fires that result in multiple-deaths (three or more) because they may suggest the need to reevaluate the adequacy of the standards.

such systems have proven very effective in reducing the number of multiple deaths from fires. Federal fire safety standards do not require sprinklers in existing nursing homes of certain noncombustible construction, and it is estimated that 20 to 30 percent of nursing homes nationwide lack full automatic sprinkler protection.

The large number of resident deaths in the Hartford and Nashville fires raised serious questions about nursing home fire safety. You asked us to report on (1) the rationale for not requiring all nursing homes to have sprinklers and the status of any initiatives to change that requirement; (2) the adequacy of federal fire safety standards for, and their application to, nursing homes that lack automatic sprinkler systems; and (3) the effectiveness of state and federal oversight of nursing home fire safety. To do so, we used information related to the Hartford and Nashville fires as a context for addressing these broader issues. In responding to the first two questions, we reviewed federal fire safety standards with a focus on why some homes are not required to install sprinklers and on features in such homes that compensate for the lack of sprinklers. We discussed the process for developing the standards and their evolution over time with officials from the Centers for Medicare & Medicaid Services (CMS), the federal agency responsible for managing Medicare and Medicaid and overseeing compliance with federal nursing home standards, including those related to fire safety; the National Fire Protection Association (NFPA), a nonprofit membership organization that develops and advocates scientifically based consensus standards regarding fire, building, and electrical safety;[4] associations representing nursing homes, state fire marshals, and the sprinkler industry; and officials in selected states that exceed federal requirements because nursing homes were required to install automatic sprinkler systems. CMS and the associations we contacted are either NFPA members or are represented on one of its technical committees that develops criteria for the standards. NFPA shared with us data it collects on significant structural fires, including those in nursing homes. We also reviewed multiple investigative reports on the Hartford and Nashville fires conducted by state and local fire marshals and state survey agencies to determine if they identified any weaknesses

[4]Both NFPA and CMS refer to fire safety standards as the "Life Safety Code." The purpose of the code is to provide minimum requirements for the design, operation, and maintenance of buildings and structures for minimizing danger to life from fire, including smoke, fumes, or panic. The federal code is based on NFPA's life safety code, known as NFPA 101. Throughout this report, we use the term federal fire safety standards when referring to the Life Safety Code.

in the standards for unsprinklered homes. Because nursing homes are allowed to operate in some circumstances without correcting all deficiencies identified during state surveys, we worked with CMS to identify states having both a high proportion of unsprinklered nursing homes and certain uncorrected deficiencies that could contribute to the spread of smoke—a factor that often results in multiple fire fatalities. We then examined the rationale for exemptions from federal standards for a sample of uncorrected deficiencies in unsprinklered homes in four states.

To assess state and federal oversight of nursing home fire safety, we reviewed the investigations of the Hartford and Nashville fires conducted by the respective state survey agencies; examined the fire safety records of the two homes, including the most recent surveys prior to the fires; and discussed oversight issues with officials in both states and their respective CMS regional offices. In addition, we analyzed data in CMS's On-Line Survey, Certification, and Reporting (OSCAR) system on the results of periodic state nursing home surveys for compliance with federal fire safety requirements. We discussed state fire safety compliance with officials at CMS headquarters and in each of CMS's 10 regional offices and collected data on CMS oversight activities, such as the results of federal monitoring surveys, which are conducted to assess the adequacy of state survey activities. We conducted electronic testing of the OSCAR data for completeness and to identify obvious errors. CMS officials generally recognize OSCAR data to be reliable, and throughout the course of our work, we shared our analysis of OSCAR data with CMS officials at both headquarters and the regions to ensure that the data accurately reflected state fire safety activities. Based on these reliability checks, we judged OSCAR to be appropriate for our work. We conducted our review from November 2003 through July 2004 in accordance with generally accepted government auditing standards.

Results in Brief

Although the substantial loss of life in the Hartford and Nashville fires could have been reduced or eliminated by the presence of properly functioning automatic sprinkler systems, the potential retrofit cost has been a barrier to CMS requiring them for all homes nationwide. Older homes, such as the Hartford and Nashville facilities (built in 1970 and 1967, respectively), are generally allowed to operate without sprinklers if they are constructed with noncombustible materials that have a certain minimum ability to resist fire. According to CMS, the decline in multiple-death fires after the adoption of NFPA fire safety standards in 1971 and their subsequent enforcement suggested that the estimated cost to retrofit all older nursing homes nationwide outweighed the benefit. This position

is being reevaluated, however, because of the 2003 nursing homes fires, and the nursing home industry has indicated its support for requiring older homes to install sprinklers. Industry officials believe that there must be a discussion about how to pay for the cost of installing sprinklers and a transition period for homes to come into compliance. It is likely to be several years before all older homes would be required to install sprinklers because of the process and time required for affected stakeholders—including NFPA, CMS, and the nursing home industry—to develop a consensus on and implement such a standard.

The recent nursing home fires in Hartford and Nashville revealed weaknesses in federal fire safety standards and their application in unsprinklered facilities. For example, even in the absence of sprinklers, the standards do not require smoke detectors in most nursing homes, yet investigations of the Hartford and Nashville fires suggested that the lack of smoke detectors in resident rooms where the fires started may have delayed staff response and activation of the buildings' fire alarms. Moreover, walls between resident rooms are not required to resist the passage of smoke, yet residents in rooms adjacent to where the fires originated died from smoke inhalation. In addition, inadequate staff response contributed to the loss of life in the Hartford fire, suggesting that the standards' reliance on staff response as a key component of fire protection may not always be realistic, particularly in an unsprinklered facility. CMS did not conduct its own independent review of the two fires, thus forgoing an opportunity to obtain critical information on which to evaluate the adequacy of the standards. While the surveys of the Hartford and Nashville facilities conducted shortly before the fires found that the facilities met all applicable federal standards, many other unsprinklered nursing homes are not required to meet all standards if they obtain a waiver from CMS or demonstrate a level of fire protection equivalent to the standards. However, we found that the exemption of some unsprinklered facilities from certain standards may jeopardize resident safety. For example, unsprinklered facilities in some states have received CMS waivers of certain ventilation system requirements for preventing the spread of smoke, yet fire safety experts consider such waivers to present an unacceptable hazard. Furthermore, while facilities that demonstrate equivalency are not required to meet all federal standards, in some cases facilities are exempt from important standards, such as that the fire alarm be either monitored or linked directly to the local fire department. We also identified assessments of equivalency in unsprinklered facilities that were not evaluated correctly or not updated as facility conditions changed, placing residents at unnecessary risk.

State and federal oversight of nursing home compliance with fire safety standards is inadequate. Postfire investigations by Connecticut and Tennessee revealed deficiencies that existed, but were not cited, during prior surveys. The Hartford facility was surveyed less than 1 month before the fire, and no violations of federal standards were identified. However, the survey agency's postfire investigation found that the home was not conducting required fire drills during the night shift, and that on the night of the fire the staff failed to follow the facility's fire plan. The agency did not interview night shift staff during its prefire survey and was provided inaccurate documentation of fire drills by the nursing home. During routine fire safety surveys, Tennessee surveyors repeatedly failed to detect a deficiency that would allow smoke to travel between floors—a problem that may have contributed to the spread of smoke to upper floors where one-third of residents who died succumbed to smoke inhalation. Tennessee's postfire investigation did not cite the home for any deficiencies and did not pursue potential deficiencies that may have been present at the time of the fire. For example, surveyors did not determine if the nursing home staff appropriately implemented the home's fire plan during the fire, even though the home had been cited repeatedly for this deficiency on prior surveys. The results of CMS's federal fire safety monitoring surveys conducted during fiscal year 2003 found that state surveyors either missed or failed to cite an average of more than two deficiencies per home surveyed, such as inadequate construction to contain fire and smoke or missing or improperly maintained sprinkler systems. CMS provides insufficient oversight of state survey activities to address these and other fire safety concerns. CMS did not fully comply with the statutory requirement to conduct federal monitoring surveys in at least 5 percent of surveyed nursing homes in each state—a total of over 800 federal surveys annually; only 40 federal surveys conducted in fiscal year 2003 covered fire safety, a required element of both state and federal surveys. No federal assessments of fire safety were conducted in 27 states. Four of CMS's 10 regions did not require states to request waiver renewals or states in those regions did not submit waiver renewals, and 8 of 10 regional offices did not routinely review the accuracy of fire safety equivalency assessments, as CMS requires. Furthermore, CMS lacks data to identify the extent to which facilities have sprinklers, data that would be useful in reviewing the appropriateness of waivers or equivalency assessments.

We are making several recommendations to the Administrator of CMS to (1) improve oversight of federal fire safety standards, such as ensuring that the fire safety component is included in federal monitoring surveys and reviewing the appropriateness of exemptions to federal standards

granted to unsprinklered facilities and (2) strengthen fire safety standards by working with NFPA to reexamine standards for unsprinklered homes and by ensuring thorough investigations of multiple-death nursing home fires in order to reevaluate the adequacy of fire safety standards. In commenting on a draft of this report, CMS concurred with our recommendations and provided examples of steps it is already taking to implement those recommendations. We also provided a draft of this report to the Connecticut and Tennessee state survey agencies and NFPA for comments. CMS, Connecticut, and NFPA provided technical and clarifying comments, which we incorporated as appropriate. Tennessee did not provide comments.

Background

Combined Medicare and Medicaid payments to nursing homes for care provided to vulnerable elderly and disabled beneficiaries totaled about $64 billion in 2002, with a federal share of approximately $45.5 billion. Oversight of nursing home fire safety is a shared federal-state responsibility. Based on statutory requirements, CMS defines standards that nursing homes must meet to participate in the Medicare and Medicaid programs and contracts with states to assess whether homes meet these standards through annual surveys and complaint investigations. CMS is also responsible for monitoring the adequacy of state survey activities.

Fire Safety Standards

Under federal law, CMS does not develop fire safety standards itself but instead adopts standards developed through a consensus process by NFPA, of which CMS is a member. NFPA generally updates the standards every 3 years, but CMS has updated federal standards less frequently. The NFPA standards were first applied by CMS to health care facilities such as hospitals and nursing homes in 1971 when CMS adopted the 1967 NFPA code. The federal standards for nursing homes were subsequently updated when CMS adopted the 1973, 1981, 1985, and 2000 editions of the NFPA code.[5] The agency has the authority to modify or make exceptions to the

[5]CMS proposed updating federal fire safety standards in 1990, but no changes were adopted because of the estimated cost of implementing some of the new requirements.

NFPA standards but has rarely done so.[6] States are free to adopt and apply stricter standards under their state licensure authority.

Nursing home fire safety standards are built on several principles that combine certain construction and operational features along with an acceptable staff response. These principles are a reflection of the mobility and cognitive limitations of many elderly and disabled residents who cannot be easily evacuated in the event of a fire. The principles include (1) appropriate design and construction of the facility, particularly compartmentation to contain both fire and smoke; (2) provision for fire detection, alarm, and extinguishment, such as smoke detectors and sprinkler systems; and (3) fire prevention policies and the testing of plans for staff response, such as steps to isolate the fire and transfer occupants to areas of refuge.

The fire safety standards for nursing homes cover 18 categories ranging from building construction to furnishings. Examples of specific requirements include (1) the use of fire or smoke resistant construction materials for interior walls and doors; (2) installation and testing of fire alarms and smoke detectors; (3) protection of hazardous areas, such as laundry rooms; (4) regulation of smoking by residents; and (5) development and routine testing of a fire emergency plan. The standards differentiate between "existing" and "new" facilities. In the past, whenever a new edition of the NFPA code was adopted by CMS, nursing homes had the option of complying with the new standards or with an earlier edition of the standards. Thus, a nursing home that began serving Medicare and Medicaid residents under the 1967 edition of the standards could have continued to be surveyed under those standards up until 2003. With the implementation of the 2000 edition of the NFPA standards in 2003, however, CMS eliminated the option for facilities to be "grandfathered" under earlier editions. All nursing homes participating in Medicare and Medicaid as of March 2003 must comply with the 2000 standards for existing facilities.

[6]Under federal law, CMS is generally required to specify in regulation which provisions of the NFPA fire safety code are applicable to nursing homes. *See* 42 U.S.C. § 1395i-3(d)(2)(B) (2000). Until 2003, CMS adopted the NFPA standards without any changes. In adopting NFPA's 2000 code, however, CMS modified the application of the code's roller latch requirement in unsprinklered buildings and strengthened requirements for emergency lighting.

State Oversight of Fire Safety

Every nursing home receiving Medicare or Medicaid payment must undergo a standard survey not less than once every 15 months, and the statewide average interval for these surveys must not exceed 12 months.[7] A standard survey is conducted by state survey agency personnel and entails an assessment of both federal quality of care and fire safety requirements.[8] Most states use fire safety specialists within the same department as the state survey agency to conduct fire safety inspections, but 16 states contract with their state fire marshal's offices. The fire safety portion of a standard survey is not always conducted concurrently with the quality of care review, particularly in states that contract with the state fire marshal. All personnel conducting the inspections are required to complete a self-paced, computer-based course before registering for and completing 5 days of classroom training on fire safety standards.

Fire safety inspections focus on the home's compliance with federal requirements for health care facilities. When a deficiency is found, it is assigned to 1 of 12 categories according to its scope (the number of residents potentially or actually affected) and its severity. An A-level deficiency is the least serious and is isolated in scope, while an L-level deficiency is the most serious and is considered to be a widespread problem involving immediate jeopardy (see table 1).[9] States are required to enter information about surveys and complaint investigations, including the scope and severity of deficiencies identified, in CMS's OSCAR database.

[7]See 42 U.S.C. § 1395i-3(g)(2) and 42 U.S.C. § 1396r(g)(2). Among other things, these statutory provisions require standard surveys to include assessments of the physical environment, which is defined by CMS to include fire safety standards. See 42 C.F.R. § 483.70(a) (2003).

[8]See 42 C.F.R. § 488.110. CMS guidance also contains a specific reference to the fire safety component of a standard survey.

[9]Most fire safety deficiencies identified during routine inspections are cited at less than actual harm because actual harm is reserved for fire-related injuries. Nationwide, only 43 deficiencies on current fire safety surveys as of December 1, 2003, were cited at the actual harm or higher level. A somewhat higher proportion of deficiencies were cited at the D–F level (57 percent) than at the A–C level (43 percent).

Table 1: Scope and Severity of Deficiencies Identified during Nursing Home Surveys

	Scope[a]		
Severity	**Isolated**	**Pattern**	**Widespread**
Immediate jeopardy[b]	J	K	L
Actual harm	G	H	I
Potential for more than minimal harm	D	E	F
Potential for minimal harm[c]	A	B	C

Source: CMS.

[a]CMS defines the scope levels as follows: isolated—affecting a single or a very limited number of residents; pattern—affecting more than a very limited number of residents; and widespread—affecting or having the potential to affect a large portion of or all residents.

[b]Actual or potential for death/serious injury.

[c]Nursing home is considered to be in "substantial compliance."

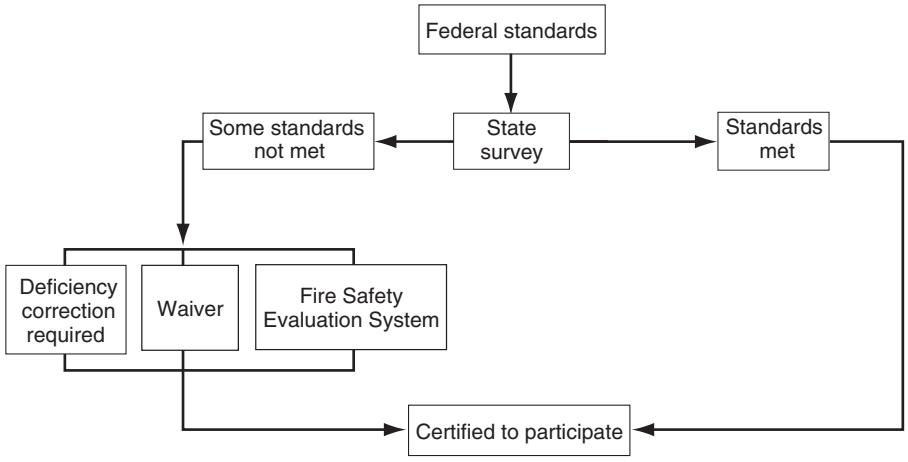
If a deficiency is cited, a nursing home may have three alternatives (see fig. 1). First, a home may be required to prepare a plan of correction that eliminates an identified fire safety deficiency, a fact that may be verified on a subsequent revisit. Second, a home may request a waiver from compliance with the requirement through the state survey agency if the cost of correcting the deficiency would place a financial or other undue hardship on the facility and the health and safety of the residents would not be at risk if the deficiency remains uncorrected. In general, waivers are limited to deficiencies cited at less than actual harm. Waivers must be reviewed and approved by one of CMS's regional offices. Waivers may be temporary—to allow a home to develop and obtain approval of a construction plan—or longer term in nature.

Third, as an alternative to correcting or receiving a waiver for deficiencies identified on a standard survey, a home may undergo an assessment using the Fire Safety Evaluation System (FSES). FSES was developed by the Department of Commerce's National Institute of Standards and Technology to provide a means for providers who participate in the Medicare and Medicaid programs to meet the fire safety objectives of the standards without necessarily being in full compliance with every standard.[10] FSES uses a grading system to compare the overall level of fire safety in a specific facility to a hypothetical facility that exactly matches

[10]The institute was formerly known as the National Bureau of Standards.

each requirement of the fire safety standards.[11] FSES may be conducted by either the state or the facility, but CMS requires both the state survey agency and the regional office to review the results. Once a facility has been certified using FSES, it can continue to be certified on that basis in subsequent years provided there are no significant changes that might alter the FSES score. However, an annual survey must still be conducted.

Figure 1: How Nursing Homes May Address Fire Safety Deficiencies



Source: GAO analysis of CMS guidance.

Federal Oversight of State Survey Agencies

CMS is responsible for assessing the adequacy of state survey activities to ensure nursing home compliance with federal fire safety requirements. To assess the adequacy of state surveys, CMS is required by statute to conduct federal monitoring surveys annually in at least 5 percent of the Medicare and Medicaid nursing homes surveyed by each state with a minimum of five facilities per state.[12] The federal monitoring surveys are required to include an assessment of the fire safety component of states'

[11]Point values are assigned to various fire safety features, such as sprinklers, smoke detectors, construction types, and corridor doors. A facility passes FSES if its point score meets or exceeds that of the hypothetical facility.

[12]See 42 U.S.C. § 1395i-3(g)(3) and 42 U.S.C. § 1396r(g)(3).

standard surveys.[13] Federal monitoring surveys can be either comparative or observational. Comparative surveys involve a federal survey team conducting a complete, independent survey of a home within 2 months of the completion of the state's survey in order to compare and contrast the findings. In an observational survey, one or more federal surveyors accompany a state survey team to a nursing home to observe the team's performance. CMS also analyzes the results of state surveys to identify trends or anomalies, such as a failure to cite certain types of deficiencies or citation of deficiencies at an inappropriate scope and severity level. As noted earlier, regional office staff are required to review and approve state requests to waive fire safety standards and to review the results of FSES assessments.

Hartford and Nashville Nursing Home Fires

Table 2 provides key facts about the circumstances of the 2003 Hartford and Nashville fires in which 31 residents lost their lives. As with earlier multiple-death fires (1) the homes were constructed of noncombustible materials and therefore were not required to be sprinklered; (2) the fires occurred at night, when staffing is at the lowest level; and (3) each fire broke out in a resident's room. The cause of the fire in Nashville remains undetermined, while the Hartford investigations concluded that a 23-year-old cognitively impaired resident set the fire.[14] As shown in table 2, both nursing homes had undergone their annual safety survey within 1 to 4 months of the fires. Most of the deaths in the Hartford and Nashville fires were due to smoke inhalation rather than burns. According to CMS officials, state survey agencies are required to treat a fire-related death in a nursing home as a complaint and must conduct a complaint investigation.

[13]The monitoring surveys must be sufficient in number to allow inferences about the adequacy of the states' surveys. CMS is required to conduct monitoring surveys using the same protocols as states are required to use in their surveys. In addition, CMS may determine that a nursing home does not meet applicable requirements, including fire safety requirements.

[14]Various authorities, including the state fire marshal's office, the local fire departments, and the state survey agencies, conducted investigations of these two nursing home fires.

In the case of a multiple-death fire, CMS staff from a regional office or from central office may also be involved in the investigation.[15]

Table 2: Key Facts about the Hartford and Nashville Nursing Home Fires

Key facts	Hartford	Nashville
Date and time of fire	February 26, 2003; alarm received by fire department at 2:38 a.m.	September 25, 2003; alarm received by fire department at 10:18 p.m.
Date of last fire safety inspection	January 29, 2003	May 27, 2003
Number of residents	148	118
Fire department response	6 minutes after notification	9 minutes after notification
Origin of fire	Resident's room	Resident's room
Nursing home staff on duty	12	12
Construction type	Noncombustible with 1-hour fire-rated exterior walls and structural frame. Unsprinklered.	Noncombustible with 2-hour fire-rated exterior walls and structural frame. Unsprinklered.
Year(s) of construction	1970 and 1974	1967
Number of floors in facility	1	4
Number of deaths	16, primarily in vicinity of room where fire broke out.	15; 10 residents died on 2nd floor where fire originated. Five residents died on 3rd and 4th floors.
Cause of fire	Arson by cognitively impaired resident with a history of self-inflicted cigarette burns.	Undetermined.

Sources: Hartford and Nashville Fire Departments and Connecticut and Tennessee State Fire Marshals.

[15]On March 11, 2004, CMS issued new guidance outlining procedures to be followed by state survey agencies, CMS regional offices, and the CMS central office in the event of a fire resulting in serious injury or death in a Medicare- or Medicaid-certified health facility. The guidance directs the state survey agency to inform the CMS regional office and to conduct an on-site fire safety survey of the facility as part of its investigation. Regional office and central office staff are available to consult and may, at their discretion, accompany state survey agency staff during their on-site survey. The CMS central office is directed to consult with the regional office following the state survey agency investigation to determine if further investigation is warranted concerning the adequacy and application of current standards.

Despite Effectiveness, Cost Has Been a Barrier to Requiring Sprinklers for All Older Nursing Homes

Although there has never been a multiple-death fire in a fully sprinklered nursing home, cost has been an impediment to requiring all homes to install automatic sprinklers. Newly constructed homes must incorporate sprinkler systems; however, older homes that meet certain construction standards are not required to install sprinklers in part because of the cost of retrofitting such structures. The decline in multiple-death fires with the introduction and enforcement of fire safety standards was also a rationale for not requiring sprinklers for older structures. The Hartford and Nashville fires, however, have reopened the debate about the need to retrofit older nursing homes.

As the fire safety code evolved over time, a properly functioning, automatic sprinkler system came to be regarded as the single most effective fire protection feature. From 1994 through 1998, NFPA data show an 82 percent reduction in the chances of death occurring in a sprinklered nursing home: 1.9 deaths per 1,000 fires in sprinklered facilities versus 10.8 deaths per 1,000 fires in unsprinklered homes. In general, if a facility is fully sprinklered, the standards allow a less stringent set of requirements to apply for building construction, smoke and fire containment, and protection of hazardous areas. In 1991, the NFPA code began requiring full sprinkler coverage for newly constructed nursing homes or for any portion of a home that underwent a substantial renovation. CMS adopted this requirement for new construction when it began using the 2000 edition of the NFPA fire safety code in 2003. Although CMS has the authority to require sprinklers for any facility that serves Medicare and Medicaid beneficiaries, it generally follows the NFPA fire safety code.

CMS does not require certain older nursing homes of noncombustible construction to install sprinklers (see table 3). While combustible facilities are typically built of wood, the materials used in noncombustible nursing homes include concrete, steel, or brick. Whether a noncombustible nursing home requires sprinklers depends on a combination of factors: (1) the ability of exterior walls, the structural frame, and flooring to resist fire, known as fire resistance rating, and (2) the number of floors. A facility is referred to as “protected” if the construction materials are rated to withstand a fire for a minimum of 1 hour, while a home with less than 1-hour fire-rated construction is considered to be “unprotected.” For example, a noncombustible nursing home with one story and a fire resistance rating of 1 hour, such as the Hartford facility, need not be sprinklered. Because of the difficulty of evacuating nursing home residents, a comparable structure that is more than one story requires sprinklers. The four-story Nashville facility, however, had 2-hour fire-rated walls and flooring and thus did not require sprinklers.

Table 3: Sprinkler Requirements for Existing Nursing Homes, by Construction Type

Construction type	Fire resistance rating of exterior walls, the structural frame, and flooring (in hours)	Number of floors (maximum)
Sprinklers required		
Noncombustible	0-1	2-3
Mixed combustible/noncombustible	2	1-2
Combustible (heavy timber)	2[a]	2
Combustible	0-1	1-2
Sprinklers not required		
Noncombustible	2-4[b]	No limit
Noncombustible	1	1

Sources: CMS and NFPA.

Note: These requirements are based on the current federal fire safety standards that were updated in 2003.

[a]The 2-hour fire resistance rating applies to exterior walls only. Heavy timber is permitted for the construction of the structural frame and flooring.

[b]For buildings with 3 to 4 hour fire-rated walls, the fire resistance rating for flooring is 2 to 3 hours.

NFPA considered requiring sprinklers for all existing nursing homes on several occasions in the past. Improvements in the fire safety record of nursing homes, however, suggested that such a requirement was not cost effective. When the federal government first adopted the NFPA fire safety standards in 1971, the number of multiple-death fires in nursing homes was about 15 to 18 per year. With the adoption and enforcement of these standards, including the requirement for sprinklers in homes that were not highly fire resistant, the number of fire-related nursing home fatalities dropped dramatically. Though infrequent, multiple-death nursing home fires have led some states to require nursing homes to be retrofitted with sprinklers, such as Virginia after 12 residents died in a 1989 fire.[16] From

[16]States can enforce such requirements because facilities must obtain a state license in order to operate. During the course of our work, we contacted state survey agencies and fire marshals in several states that were reported to have required existing nursing homes to install sprinklers. We were able to confirm that the following states had required homes to be retrofitted with sprinklers: Ohio, Utah, Virginia, Vermont, and West Virginia. In addition, a 1990 New Jersey statute required many, but not all, existing homes to install sprinklers.

1990 through 2002, there were no major nursing home fires with such a high number of fatalities.[17]

The Hartford and Nashville fires reopened the issue of requiring the retrofitting of existing nursing homes with sprinklers. In the aftermath of these fires, both Connecticut and Tennessee passed laws requiring all nursing homes to install sprinkler systems.[18] In addition, the International Fire Marshals' Association proposed amending the 2003 NFPA code on an emergency basis. According to an NFPA official, this proposal was not adopted because committee members had not seen the results of the Hartford and Nashville fire investigations and because it lacked a transition period for homes to come into compliance. However, the NFPA technical committee responsible for health care facilities voted in February 2004 to revise the code to require existing homes to be retrofitted with sprinklers.[19] If the technical committee's recommendation is upheld, the change would be effective with the 2006 NFPA code update, but would not be incorporated into federal nursing home fire safety standards until formally adopted by CMS.[20] The American Health Care Association (AHCA), the association representing primarily for-profit nursing homes, has also endorsed requiring all homes to be sprinklered. AHCA, however, believes that there must be (1) some discussion about how to pay for sprinklers and (2) a transition period of from 3 years to 5 years for homes to come into compliance.[21]

[17]In Arkansas and Mississippi, nursing home fires in 1990 and 1995, respectively, resulted in the deaths of three residents in each facility.

[18]To determine the sprinkler status of facilities, Connecticut state survey officials relied on data collected during prior surveys and, if there was a question, sent a surveyor out to the home. Of Connecticut's 254 nursing homes, 206 are fully sprinklered, 31 are partially sprinklered, and 17 have no sprinklers. In contrast, state survey officials in Tennessee visited each nursing home. Of Tennessee's 343 nursing homes, 229 are fully sprinklered, 90 are partially sprinklered, and 24 have no sprinklers.

[19]In the NFPA code development process, the proposal will be reviewed again in November 2004 and presented to the NFPA membership in June 2005.

[20]To update federal fire safety standards, CMS must publish and solicit comments on the proposed new standards in the *Federal Register*. After reviewing public comments, CMS publishes a final version of its standards with an effective date. The process of adopting NFPA's 2000 standards in 2003 took CMS about 16 months.

[21]Although it may vary from state to state, a portion of the cost of installing sprinklers, equal to a home's percentage of Medicaid beneficiaries, may be eligible for reimbursement as a capital improvement under the Medicaid program.

Although concerns about cost have been a barrier to requiring all homes to install sprinklers, CMS has not developed its own cost estimate for retrofitting older nursing homes. An October 2003 estimate developed for AHCA by a fire-safety consulting firm suggested that the cost of installing sprinklers in all nursing homes would be about $1 billion. However, there is considerable uncertainty about the assumptions on which the estimate is based. For example, the estimate assumed that about 25 percent of nursing homes are unsprinklered, treating partially sprinklered facilities as unsprinklered. We found that the term "partially sprinklered" covers homes that have very few sprinklers as well as homes that are almost completely sprinklered.[22] Furthermore, CMS as well as states lack complete and reliable data on the extent to which homes are partially sprinklered.[23] Other uncertainties in the AHCA cost estimate involve the square footage requiring sprinkler coverage and the cost per square foot. AHCA assumed that the average unsprinklered home is 40,000 square feet and that the cost of retrofitting sprinklers in such homes was approximately $7 per square foot. A 2004 survey by the Tennessee state survey agency found that the average unsprinklered square footage of state nursing homes was about half that of the AHCA estimate. In addition, the $7 per square foot estimate could be higher or lower depending on circumstances, such as whether asbestos abatement is required or whether a home has to install storage tanks or pumps to compensate for inadequate municipal water supplies. Moreover, a Connecticut state survey agency official identified other costs that may be associated with sprinkler installation, such as potential lost revenue if admissions need to be suspended or residents need to be moved to a different facility during the construction.

[22]For example, a partially sprinklered home could have sprinklers in hazardous areas only (laundry rooms and storage areas), lack sprinklers only in areas such as attics or closets in residents' rooms, or have sprinklers in only one wing of a multiwing facility.

[23]Neither of the informal CMS or AHCA surveys conducted after the 2003 fires asked for data on partially sprinklered homes. CMS asked for the number of sprinklered and unsprinklered homes in each state, while the AHCA survey of its state affiliates requested data on the proportion of homes fully sprinklered. CMS obtained information for 30 states, and 33 state affiliates responded to the AHCA survey. Since AHCA represents primarily for-profit nursing homes, its state affiliates' survey excludes many not-for-profit nursing homes.

Federal Fire Safety Requirements for Unsprinklered Nursing Homes Are Weak

The nursing home fires in Hartford and Nashville during 2003 as well as our review of waivers and FSES results revealed weaknesses in federal fire safety standards and their application to unsprinklered nursing homes. Neither home was required to have automatic sprinklers because of their noncombustible type of construction. Federal standards, however, allowed these homes to operate without several basic fire safety features, such as smoke detectors in resident rooms that could have helped to compensate for the lack of sprinklers. While the surveys of the Hartford and Nashville facilities conducted shortly before the fires either found compliance with federal standards or required corrective action, many other unsprinklered homes, including some constructed of combustible materials, are not required to meet all federal standards if they obtain a waiver from CMS or demonstrate an equivalent level of fire protection using FSES. Our review of selected waivers and FSES results, however, found that resident safety was sometimes jeopardized by inappropriate use of these alternatives to actual compliance.

2003 Fires Revealed Weaknesses in Federal Nursing Home Fire Safety Standards

State and local fire investigators looking into the causes and origins of the Hartford and Nashville fires identified a variety of factors that may have contributed to the substantial loss of life, including some that reflect potential weaknesses in federal fire safety standards (see table 4). Because both nursing homes were constructed of noncombustible material with the minimum fire ratings required by their height (number of floors), neither was required to have automatic sprinklers in order to meet federal fire safety standards. In the absence of sprinklers, however, they were highly dependent on a variety of other building features and systems, as well as staff response, for fire detection and containment. Contrary to actions taken in previous multiple-death nursing home fires, neither CMS nor NFPA investigated the Hartford or Nashville fires to assess the adequacy of the current fire safety standards.[24] Consequently, they lack the firsthand information needed to determine the degree to which the multiple-deaths were due to weaknesses in federal fire safety standards and to make recommendations for future revisions to the standards.

[24]NFPA was on-site following the Harford fire but did not conduct a full investigation or publish its own investigation report. Although the Connecticut and Tennessee state survey agencies each conducted complaint investigations after the fires in their respective states, the objective of such complaint surveys is to determine whether the homes had failed to comply with any federal fire safety standards, not to assess the adequacy of the standards.

Table 4: Potential Weaknesses in Federal Standards Contributing to Multiple Deaths in Hartford and Nashville Nursing Home Fires

		Potential weaknesses	
	Federal standard	**Hartford nursing home**	**Nashville nursing home**
Smoke detectors	Depending on date of construction, smoke detectors may be required in corridors or resident rooms.[a]	Smoke detectors not required. No smoke detectors in resident rooms.	Smoke detectors not required. No smoke detectors in resident rooms.
Fire and smoke barriers	Complete fire and smoke barriers required between corridor and resident rooms; not required between resident rooms.	Residents in room adjacent to room of origin died from smoke inhalation. Smoke and fire spread through space above false ceiling.	Residents in room adjacent to room of origin died from smoke inhalation. Investigative reports do not indicate if fire spread through space above false ceilings.
Heating, ventilating, and air-conditioning (HVAC) system	Depending on date of construction, dampers may be required in ductwork to prevent the spread of fire and smoke.	Not applicable.[b]	Under the 1967 standards, the home was not required to have dampers in ductwork. Ductwork did not have dampers, allowing smoke to spread to upper floors of building.
Staff response	The staff is expected to implement the written plan for the protection of all residents, such as taking steps to contain the fire and evacuate residents.	Staff may have failed to close all resident room doors, and all designated staff did not respond to assist in containment and evacuation of residents as called for in fire plan.	Not clear from available investigations.

Sources: GAO analysis of information provided by state and local fire investigations in Hartford and Nashville, and by CMS and NFPA.

[a]Although both homes had corridor smoke detectors, they were not required. The requirement for smoke detectors in either corridors or resident rooms was added to federal standards in 1981 and only for new facilities constructed after that date. Older, existing facilities, such as the Hartford and Nashville nursing homes, were exempt from this requirement.

[b]The facility did not have a central heating and cooling system with ductwork but rather relied on wall-mounted heat pumps in each resident's room.

The fire safety standards applicable to these two nursing homes did not require smoke detectors in resident rooms and neither home had them. Although federal standards for most nursing homes do not require smoke detectors, the two facilities did have smoke detectors in the corridors. Only nursing homes surveyed under federal standards for new construction since 1981 were required to have either corridor or in-room smoke detectors. According to fire department investigators and state officials, the lack of smoke detectors in resident rooms may have contributed to a delay in both staff response and fire department notification; earlier detection of these fires may have helped to limit the

number of fatalities.[25] In the Nashville fire, the fire alarm was activated by corridor smoke detectors. The Tennessee fire marshal's office concluded that there was evidence of heavy smoke production in the room where the fire originated prior to discovery of the fire. The fire marshal's report indicated that a large gap between the top of the doorway and the ceiling created a large airspace that delayed smoke from entering the hallway and activating the smoke alarm until the space was filled to capacity. In the Hartford fire, it is unclear whether the alarm was first activated by the corridor smoke detector or manually by the staff member who first attempted to extinguish the fire. According to the Hartford fire department, the absence of smoke detectors in resident rooms contributed to a delay of up to 5 minutes or more. However, an NFPA official questioned the basis for this estimate given the lack of a detailed timeline of the events prior to activation of the home's fire alarm. In recognition of the importance of smoke detectors, Tennessee is now requiring all newly licensed nursing homes to have smoke detectors in resident rooms and the Hartford facility is voluntarily installing smoke detectors in all resident rooms.[26]

Another potential weakness in federal standards, particularly in an unsprinklered facility, is that resident rooms are not required to be separated from each other by fire or smoke barriers. According to Connecticut survey agency officials, the open doors rather than the lack of a complete smoke barrier was the primary factor contributing to the spread of smoke. Investigative reports from the Hartford fire indicated that fire and smoke also spread from the room of origin to the adjacent room through the space above the false ceiling. However, even if all doors had been closed, as called for in the nursing home's fire plan, smoke could still have spread to the adjacent room through space above the false ceiling. In addition, the 1967 standards applied to the Nashville facility did not require smoke dampers in the ventilation ductwork to prevent the

[25]In contrast, the presence of smoke detectors in resident rooms made a significant difference in a December 2003 nursing home fire in Nevada. A resident smoking in bed while on oxygen started a fire at 2:20 a.m. Staff were alerted by the in-room smoke detector, and the fire was extinguished before it caused a significant amount of damage. While the resident who started the fire subsequently died as a result of the fire, no other deaths were reported. Although the facility was equipped with automatic sprinklers, the buildup of heat from the fire had not reached a level sufficient to activate the sprinklers.

[26]Although it was not enacted, the bill originally required all unsprinklered nursing homes to install smoke detectors in resident rooms if a sprinkler system had not been installed within 1 year of the legislation's effective date.

spread of smoke, although subsequent editions of the standards do require such dampers.[27]

According to NFPA officials, the fire safety standards' heavy reliance on appropriate staff response in a nursing home fire may not always be realistic, suggesting the need to reevaluate the policy of allowing some nursing homes to operate without automatic sprinkler systems.[28] The multiple deaths in these fires resulted most directly from a failure to contain the spread of smoke. The primary factor contributing to the spread of smoke in the Hartford fire was human error. Staff may have failed to follow the facility fire plan and close all resident room doors and all designated staff did not respond with fire extinguishers as called for in the fire plan.

CMS's 2003 adoption of the 2000 NFPA standards is likely to have little effect on fire detection or containment in existing nursing homes, such as those in Hartford and Nashville. Only one of the potential weaknesses discussed above is addressed by the new standards. Smoke dampers will now be required where ductwork passes through a smoke barrier, and older homes, such as the Nashville facility, will no longer be "grandfathered" under earlier editions of the standards that do not include such a requirement. However, a facility that lacks dampers in ductwork as required by current federal standards could still be certified for Medicare or Medicaid by obtaining a waiver of this requirement from CMS. The new standards make no change to requirements for existing facilities regarding smoke detectors or separation of resident rooms. However, CMS guidance still requires smoke detectors in resident rooms and fire-rated separation of resident rooms as compensating features when considering waivers for some unsprinklered one-story, wood-frame facilities.

In past cases of multiple-death nursing home fires, both CMS and NFPA have conducted their own investigations and issued reports on the fires, in addition to investigations conducted by state and local authorities into fire cause and origin and by state survey agencies that examine a facility's

[27]Because the facility was originally certified when the 1967 federal fire safety standards were in effect, it was grandfathered and continued to be surveyed under the 1967 standards.

[28]Even though the fire safety standards call for closing all doors in the event of a fire, an NFPA official acknowledged it can be difficult for staff to abandon a resident who cannot be evacuated from the room of fire origin in order to focus on the safety of other residents.

compliance with current fire safety standards.[29] According to a CMS official, fires are a test of the standards designed to safeguard life and property, providing an opportunity to identify strengths and weaknesses. The purpose of such a postfire review is to determine whether modifications to the standards or their implementation are needed to prevent similar occurrences in the future. The findings of such reviews can then be taken into consideration by NFPA as part of its code revision process. In the case of the Hartford and Nashville fires, however, no such reviews were conducted.[30] An NFPA official told us that the Nashville fire authorities turned down NFPA's request to investigate the fire. In the absence of such reviews, both CMS and NFPA lack access to critical firsthand information on which to judge the need for revisions to federal fire safety standards.

Exemptions from Federal Fire Safety Standards Are a Concern in Some Unsprinklered Nursing Homes

Our review of waiver and FSES results found that resident safety may be compromised in some unsprinklered nursing homes that were granted exceptions to federal fire safety standards.[31] While the Hartford and Nashville facilities were determined to have met all federal standards prior to the fires, many other unsprinklered nursing homes are exempt from meeting certain provisions of the standards if they obtain a waiver from CMS or demonstrate an equivalent level of fire protection using FSES. Waivers and FSES allow homes to avoid costly renovations, but homes are required to demonstrate that resident safety would not be compromised. Approximately one in five nursing homes nationwide (1) receives a waiver of one or more fire safety standards, (2) obtains a passing score on FSES, or (3) uses a combination of waivers and FSES.

[29]Multiple-death nursing home fires investigated by CMS, NFPA, or both included fires in Ocean Springs, Mississippi (1995); Dardanelle, Arkansas (1990); Norfolk, Virginia (1989); Memphis, Tennessee (1988); and Little Rock, Arkansas (1984).

[30]An NFPA official told us that the organization did work on-site with Hartford authorities but did not conduct a full investigation or issue a report. However, NFPA did publish an article on the fire in the May/June 2003 *Fire Journal*.

[31]We focused on examining waivers and FSES results in four states reported by CMS to have high proportions of unsprinklered nursing homes: Arkansas, Iowa, Pennsylvania, and Wisconsin. We examined waiver and FSES documentation for selected facilities that were not fully sprinklered and had deficiencies that could contribute to the spread of smoke, the factor that led to most of the deaths in the Hartford and Nashville nursing home fires.

Waivers of Federal Fire Safety Standards Pose a Serious Hazard in Some Unsprinklered Nursing Homes

Some waivers of federal fire safety standards, or combinations of waivers, pose a significant risk to resident safety in some unsprinklered facilities. In our view, CMS's ability to exempt facilities from selected standards through waivers is equivalent to exercising a standard-setting role.[32] In some cases, waivers of sprinkler requirements were granted for many years even though the facilities lacked adequate compensating fire detection and containment features. As of December 2003, 15 percent of nursing homes in 30 states operated with waivers of certain federal fire standards. However, the proportion of homes that have applied for and received waivers varies widely, from less than 1 percent of homes in California, Florida, and Maine to more than 57 percent in Ohio as of 2003.

The most frequently waived requirement that may pose a risk to residents is that the HVAC system meets applicable codes and is constructed to restrict the spread of smoke and fire within the building. As of December 2003, 10 percent of all nursing homes nationwide (1,556 of 16,334) were cited for deficiencies in this area on their most recent surveys; half of these subsequently received waivers of this standard and were not required to make corrections. In Arkansas, however, 26 percent of nursing homes (64 of 242) operate with waivers of this requirement. According to a CMS regional office official, at least 50 of these nursing homes are unsprinklered and use the corridor as part of the air return system. Similarly, 60 nursing homes in Wisconsin have a waiver of this same standard, primarily for using the corridor as part of the air return system; according to state officials, some of these homes are not fully sprinklered. Federal fire safety standards have always prohibited the use of facility corridors as an air return in lieu of individual air return vents in resident rooms because such an arrangement could accelerate the spread of smoke during a fire, particularly in an unsprinklered facility. CMS guidance permits a waiver of this requirement in an unsprinklered facility if it has compensating features, such as a complete corridor smoke detection system, and its air handling system is designed to shut down automatically upon activation of the smoke detectors or fire alarm. However, an NFPA official told us that these features were insufficient and that there are no compensating features permitting a nursing home to operate safely with such a deficiency, irrespective of the home's sprinkler status. Such

[32]CMS officials disagreed with this characterization, emphasizing that a waiver is granted to a specific home and therefore is not applicable to other nursing homes. However, we identified CMS program guidance that set out criteria for granting specific types of waivers, demonstrating that waivers have been used to set across-the-board nursing home fire safety standards.

facilities, he indicated, should be required to correct the deficiency and discontinue the use of the corridor as an air return.

According to OSCAR data, standards for allowable construction type and sprinkler installation are also frequently not met.[33] As of December 2003, approximately 15 percent of nursing homes nationwide (2,440 of 16,334) were cited for failure to meet one or both of these standards on their most recent surveys, and about one in six were not required to correct the deficiency by virtue of a waiver. While only about 2 percent of nursing homes nationally operate with construction-type or sprinkler waivers, these percentages are much higher in some states. In Iowa, for example, 15 percent of all nursing homes (68) have waivers of construction-type and/or sprinkler standards. According to a CMS official, many of these facilities are unsprinklered one-story buildings of unprotected noncombustible or protected wood-frame construction—homes that federal fire safety standards require to be sprinklered.[34] However, CMS guidelines allow a waiver of the sprinkler requirement in such facilities if (1) all hazardous areas are sprinklered; (2) an automatic fire detection system is provided throughout the building, which is designed to activate an alarm and close all doors in fire partitions; (3) resident rooms are separated from each other by at least 1-hour fire-rated construction; and (4) the response time and capability of the local fire department is adequate.

According to a CMS official, many of these Iowa facilities received construction-type and sprinkler waivers for many years even though some lacked the adequate fire detection and containment features required by federal fires safety standards, posing a serious fire hazard for residents:

- One protected wood-frame Iowa facility had waivers for construction type and sprinklers even though it lacked smoke detectors throughout and resident rooms were not adequately separated from each other as called for in CMS guidelines. In addition, the facility was cited for a deficiency and subsequently received a waiver for a lack of corridor smoke detectors, which were required by the applicable edition of federal standards. The

[33]Construction type refers to whether combustible or noncombustible materials were used to build a facility and to the number of floors. An unsprinklered facility that is required to be fully sprinklered might be cited for a deficiency of construction standards, sprinkler standards, or both.

[34]"Protected" refers to construction materials designed or rated to withstand fire for a minimum of 1 hour.

facility currently has a temporary waiver to complete installation of a sprinkler system.

- Another one-story wood frame facility had construction-type and sprinkler waivers despite a lack of smoke detection in both corridors and resident rooms.[35] In addition, the facility received a temporary waiver of HVAC requirements in order to consult with an engineer about ventilation system modifications. The basement corridor was used as part of the return air system, and exhaust fans in three of four wings of the building were not properly ducted to the outside.

We also found that inappropriate combinations of waivers, which could pose a serious risk for residents, are sometimes granted. For example, the older unprotected section of a noncombustible facility in Wisconsin was granted waivers for (1) a lack of sprinklers in a construction type that required sprinklers, (2) use of the corridor as an air supply, (3) corridor walls that did not extend to the roof deck, and (4) incomplete smoke barrier walls. Such a combination of structural features could greatly facilitate the spread of smoke in the event of fire. Waiver application materials for this facility inaccurately indicated the presence of complete smoke barrier walls, which was used as a partial justification of waivers of construction type and corridor-wall deficiencies.

Some FSES-Certified Nursing Homes Lack Adequate Compensating Features for Sprinklers

Some FSES-certified nursing homes lack adequate compensating features for the absence of sprinklers, posing a significant risk to resident safety in the event of a fire. As of December 2003, 7 percent of all nursing homes nationwide (1,138) were certified using FSES. These homes were located in 30 states. According to a CMS official, FSES is used by many nursing homes as a means of demonstrating an equivalent level of fire protection in order to avoid costly corrective measures, such as the installation of sprinklers, which would otherwise be required for the facility to meet all the prescriptive provisions of the code. Compensating features that may allow an unsprinklered home to meet the overall fire protection requirements include (1) higher- than-required fire resistance rating of interior construction and finish, (2) smoke detectors and alarms in individual resident rooms in addition to corridors, (3) multiple routes of

[35]The type of construction was unclear from the available documentation. While the statement of deficiencies from the facility survey indicated the one-story facility was of protected wood-frame construction, the FSES documentation identified it as unprotected wood-frame construction. According to CMS guidance, no waiver of sprinkler requirements may be granted for unprotected wood construction.

evacuation from resident rooms, or (4) mechanically assisted smoke control systems.

We identified cases of FSES assessments in unsprinklered facilities that were (1) not evaluated correctly by the state survey agency, (2) not updated as facility conditions changed, and (3) used inappropriately in combination with waivers. According to an NFPA official, FSES should not be used in combination with waivers.

- An unsprinklered Pennsylvania facility was certified based on an FSES assessment conducted in January of 2004, using the new 2000 federal standards. The building was assessed on FSES as a one-story unprotected noncombustible construction type. However, the facility is a two-story structure that should not have received a passing score on FSES, according to federal guidelines. The facility should have been required to install sprinklers or seek a waiver from CMS.
- Another unsprinklered facility in Pennsylvania continued to be certified for several years based on FSES even though uncorrected deficiencies identified on state surveys should have caused the facility to receive a failing score.[36] The facility originally failed FSES in 1995, but indicated fire-rated corridor doors would be added in certain areas and the number of evacuation routes would be increased in order to achieve a passing score. Although it was subsequently cited for deficiencies in resident evacuation and corridor openings that would have generated a failing score on FSES, the facility continued to be certified based on this evaluation. According to CMS guidelines, a new FSES is required when facility conditions change.
- At one unsprinklered Iowa facility, state surveys identified multiple deficiencies for nonallowable construction type; failure to maintain fire rating of corridor walls; incomplete smoke barriers; and lack of sprinklers that the facility attempted to address through a combination of corrective action, temporary waivers, and FSES. Although the facility failed FSES in 2003, the statement of deficiencies indicated that certain deficiencies would not have to be corrected because the home had achieved a passing score on FSES. Although the facility was subsequently required to install a complete sprinkler system in 2004, the combination of fire safety deficiencies had clearly posed a risk to resident safety for many years.

[36]This facility was of unprotected noncombustible construction, requiring sprinkler protection according to federal standards.

State and Federal Oversight of Nursing Home Fire Safety Is Inadequate

State and federal oversight of nursing home fire safety is inadequate. Postfire investigations by Connecticut and Tennessee revealed deficiencies that existed, but were not cited, during prior surveys. Those deficiencies were cited during Connecticut's but not during Tennessee's postfire investigation. Nationally, the wide variability among states in reported fire safety deficiencies suggests that other states may also be missing or failing to cite deficiencies, and the results of federal comparative fire safety surveys demonstrate that state surveyors either miss or fail to cite all fire safety deficiencies. While CMS provides oversight information to the public on its Nursing Home Compare Web site, the Web site currently lacks data on fire safety deficiencies or the sprinkler status of homes. CMS provides limited oversight of state survey activities to address the fire safety survey inconsistencies we identified. CMS regional offices (1) do not fully comply with the statutory requirement to conduct a minimum number of federal monitoring surveys to assess state surveyors' performance on the fire safety component of state surveys, (2) lack basic data to assess the appropriateness of uncorrected deficiencies, (3) infrequently review state trends in citing fire safety deficiencies, and (4) provide insufficient oversight of deficiencies that are waived or that homes need not correct because of claimed compensating fire safety features.

Connecticut and Tennessee Surveyors Did Not Identify Deficiencies that Existed Prior to Fires

Postfire investigations by the Connecticut and Tennessee state survey agencies revealed deficiencies that state surveyors did not identify on prior surveys (see table 5). As part of its postfire investigation, the Connecticut survey agency identified two fire safety deficiencies not cited during a survey just 1 month before the fire that found the home to be deficiency free. First, the home failed to control and monitor smoking for 21 of the approximately 48 residents who were included in the sample during the state's postfire investigation, including the resident who allegedly started the fire. Although surveyors did not review the records of this resident prior to the fire, they subsequently determined that she was inappropriately classified as an independent smoker even though she was cognitively impaired and had a history of burning herself. In addition, of the 21 residents identified with smoking-related deficiencies after the fire, 3 of these residents were included in the resident sample during the

prefire survey, but no problems were identified at that time.[37] During the prefire survey, surveyors checked to determine if the facility had a policy in place to conduct a smoking assessment of each resident but did not systematically verify the accuracy of such assessments. Connecticut officials told us that if surveyors happen to observe potential problems, such as unsafe smoking during the course of a survey, they ensure that the residents involved are accurately assessed for smoking and that appropriate supervision is being provided. Otherwise, surveyors assume that resident assessments have been conducted accurately and that smoking supervision is adequate. Second, staff interviews conducted after the fire to determine where each nursing home staff person was when the fire began and how each responded revealed that (1) the staff did not implement the home's fire plan on the night of the fire, and (2) the home failed to conduct required quarterly fire drills during the night shift, relying instead on a review of written procedures.[38] The prior survey was based on inaccurate documentation provided by the nursing home and was conducted during the daytime when night shift staff were not available for interviews. The state survey agency concluded that these serious deficiencies contributed to the deaths of 16 residents and cited the Hartford nursing home with two actual harm fire safety deficiencies after the fire. Connecticut officials stated that the investigation following the fire was much more extensive than a routine fire safety survey and focused on specific issues that surfaced soon after the fire. In addition, while Connecticut surveyors spend on average about 5 hours on-site during a standard fire safety survey, the state agency was on-site for 4 days following the fire and continued to interview staff throughout its 3-month investigation.

[37]During the prefire survey, Connecticut surveyors reviewed the records of 25 residents, including smokers and non-smokers and residents with and without cognitive impairments. Following the fire, approximately 48 residents were a part of the state's investigation—focusing specifically on residents who smoked and had cognitive impairments.

[38]While not a federal requirement, Connecticut and Tennessee fire safety surveyors routinely pull the fire alarm during fire safety surveys to determine if staff follow the home's fire plan.

Table 5: Violations of Federal Standards in Hartford and Nashville Nursing Home Fires Not Identified during Prior Surveys

		Violations	
	Federal standard	**Hartford nursing home**	**Nashville nursing home**
Smoking policy	Smoking by residents classified as not responsible shall be prohibited except when under direct supervision.	Facility failed to control and monitor smoking for 21 residents—including 3 whose records were reviewed during the prior survey, but no violations were identified at that time.	Not applicable.
Staff response	Fire drills are conducted quarterly on all shifts, and all staff are familiar with facility fire plan and appropriate procedures.	Staff may have failed to close all resident room doors, and all designated staff did not respond with fire extinguishers as called for in the fire plan.	Not clear from available investigations.
HVAC system	Air handling system is required to shut down automatically when fire alarm is triggered to prevent the spread of smoke.	Not applicable.[a]	Air handling system may have failed to shut down as required, contributing to spread of smoke.
Vertical openings	Vertical openings or penetrations between floors are required to be protected (fire rated and resistant to the passage of smoke).	Not applicable.[b]	Unprotected vertical opening in group shower room ceiling where penetrated by plumbing allowed smoke to migrate to upper floors of the building.

Sources: GAO analysis of information provided by Connecticut and Tennessee state survey agencies.

[a]The facility did not have a central heating and cooling system with ductwork but rather relied on wall-mounted heat pumps in each resident's room.

[b]The facility is only one-story.

In contrast to Connecticut's investigation, the Tennessee state survey agency's investigation was less thorough and did not cite any deficiencies following the fire. A Tennessee fire safety surveyor who conducted a walk-through of the facility the day after the fire identified, but did not follow up on, a number of potential deficiencies that may have contributed to the

loss of life.[39] During his walk-through, the fire safety surveyor noted that the fire had been largely contained to the second floor area where it originated and that a large amount of smoke had traveled to the upper two floors—where one-third of the residents died as a result of smoke inhalation. He concluded, based on the smoke stains on the heating and cooling registers and around other openings, that some of the smoke traveled through the ventilation system to individual resident rooms and through openings around shower room plumbing that ran between floors. Although he suspected that the ventilation system might not have shut down as required when the fire alarm was activated, he never investigated to determine if a deficiency should have been cited, and according to CMS fire safety specialists, the unprotected vertical opening around the shower room pipes should have been cited by the state on previous surveys and corrected years ago.[40]

Although the Nashville home was cited for poor implementation of its fire plan on each of its four most recent surveys, the state survey agency never interviewed nursing home staff directly to determine if this recurring problem contributed to the loss of life during the fire. According to CMS and NFPA officials who have investigated serious fires, one of the critical initial steps is to separately interview staff who were present during the fire to determine whether they followed the home's fire plan. Instead, a Tennessee state surveyor obtained a description of how the staff responded from the nursing home's administrator and a corporate vice president who were not inside the building when the fire began. Thus, the state agency never established a clear chronology of the staff's response, including whether they closed resident room doors to contain the fire and

[39]Tennessee survey agency officials said that their investigation was limited because the fire was treated as a crime scene An official with the Nashville Fire Department told us that the facility was treated as a crime scene with restricted access for less than 24 hours. Once the restriction was lifted, he indicated, nothing prevented the state survey agency from following up on concerns identified during its walk-through.

[40]Federal fire safety survey protocols do not require state surveyors to test the ventilation shut-off safety feature during fire safety surveys by pulling the fire alarm to see if ventilation systems shut down as required. Because Tennessee typically only checks such a fire safety feature on initial surveys, it may not have been reviewed by the state survey agency since the home began operating in 1967.

smoke.[41] CMS officials were unaware of the limited nature of the Tennessee state survey agency's fire investigation even though it is CMS's responsibility to monitor state fire safety survey performance.

Wide Interstate Variability in Reported Deficiencies as well as Results of Federal Surveys Suggest that Fire Safety Deficiencies Are Understated

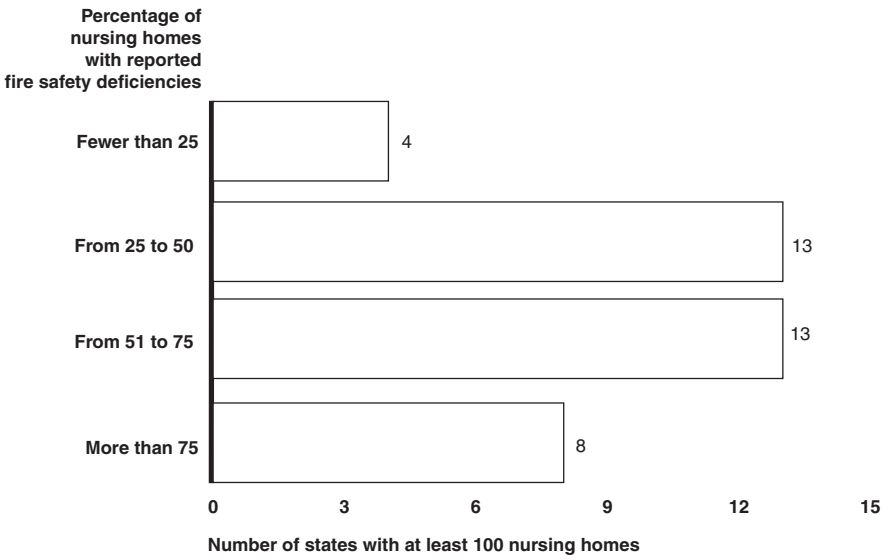
The wide interstate variability in reported fire safety deficiencies and the results of federal monitoring surveys suggest that the understatement of deficiencies during fire safety surveys may not be limited to Connecticut and Tennessee. As shown in appendix I, about 59 percent of all nursing homes nationwide were cited for fire safety deficiencies on their most recent surveys, but this proportion ranged from about 10 percent in Kentucky to 99 percent in North Dakota.[42] Figure 2 shows the considerable variation that exists in states with at least 100 nursing homes.[43]

[41]The nursing home's fire plan also called for staff to shut off blowers, fans, and air conditioners during a fire to prevent the spread of fire and smoke. In addition, staff were expected to prevent residents from reentering the building during a fire. With the exception of the resident who died in the room where the fire began, all the victims died as a result of smoke inhalation, and one resident was severely injured upon reentering the building after having been safely evacuated. Because of the limited investigation, it is unclear to what extent the nursing home staff followed these two fire plan procedures designed to minimize the loss of life.

[42]Because actual harm is reserved for fire-related injuries, most fire safety deficiencies are cited at less than actual harm. Of the approximately 39,000 fire safety deficiencies cited nationally during the most recent nursing home surveys, 19 states cited a total of 43 deficiencies at the level of actual harm or higher.

[43]We excluded 12 states and the District of Columbia from our analysis because they had fewer than 100 homes, and even a small number of homes with fire safety deficiencies produces a relatively large percentage of homes with such deficiencies. The 12 states excluded were Alaska, Delaware, Hawaii, Idaho, Nevada, New Hampshire, New Mexico, North Dakota, Rhode Island, Utah, Vermont, and Wyoming.

Figure 2: Percentage of Nursing Homes Reported to Have Fire Safety Deficiencies on Their Most Recent Surveys in States with at Least 100 Homes



Source: GAO analysis of OSCAR data as of December 1, 2003.

We discussed this variability with officials in CMS's central office and each of its 10 regions. A CMS central office fire safety specialist told us that some states enforce the federal standards more rigorously than other states and that the variability in survey deficiencies suggests that some states do not cite all the deficiencies they find. Officials in 6 of the 10 CMS regions confirmed that state surveyors do not always cite the deficiencies identified during surveys. We were told that state surveyors had (1) allowed nursing homes to correct identified problems without documenting the deficiencies, (2) granted unofficial waivers by not citing deficiencies and not requiring the homes to correct the deficiencies, and (3) cited deficiencies under state licensure authority but failed to cite them as federal deficiencies. For example, for over 2 years, surveyors in one state were whiting-out deficiencies on the survey forms and reporting that

the homes had no fire safety deficiencies. Some of the state's survey forms read "per fire marshal, do not cite."[44]

The results of federal comparative fire safety surveys also demonstrate that state surveyors either miss or fail to cite all fire safety deficiencies. A comparative survey involves a federal survey team conducting a complete, independent survey of a home shortly after a state's survey to compare and contrast the findings. Of the 40 comparative surveys that assessed fire safety standards in fiscal year 2003, federal surveyors identified on average more than two fire safety deficiencies per home that were either missed or not cited by state surveyors, but in one region the average number of such deficiencies was about five.[45] Some of the deficiencies found by federal surveyors were potentially serious, including the absence of required sprinkler systems, improper maintenance of sprinkler systems, inadequate building construction to contain fire and smoke during a fire, and failure to conduct routine fire drills.[46] Some of the same deficiencies not cited by Connecticut and Tennessee surveyors prior to the fires likely contributed to the spread of smoke during the two nursing home fires in 2003. Appendix II identifies examples of deficiencies identified during fiscal year 2003 federal comparative fire safety surveys that were either missed or not cited by state surveyors on standard surveys. While several regional office officials stated that comparative fire safety surveys could be used to reduce the variability in how states conduct fire safety surveys, CMS central office does not review comparative survey results nationally to identify training and refresher topics for state surveyors.

[44]As a result of a CMS regional office investigation, a state official was ultimately charged with falsifying fire safety survey forms. While the official admitted to misrepresenting information on fire safety survey forms, a federal jury acquitted her in February 2004. According to a CMS regional office official, criminal intent could not be proven.

[45]In some cases, state surveyors identified deficiencies that federal surveyors did not cite. Several regions stated that this situation typically occurs when homes correct deficiencies identified by the state before federal surveyors arrive to conduct their survey.

[46]Our examination of quality-of-care comparative surveys has consistently found that federal surveyors find serious deficiencies missed or not cited by state surveyors in a sizeable percentage of surveys conducted. See U.S. General Accounting Office, *Nursing Home Quality: Prevalence of Serious Problems, While Declining, Reinforces Importance of Enhanced Oversight*, GAO-03-561 (Washington, D.C.: July 15, 2003).

In some cases, the deficiencies missed or not cited during state surveys were so basic that they raise a question about the preparation or training of state surveyors or the thoroughness of state surveys:

- State surveyors incorrectly classified nursing home construction types, thus failing to identify buildings that were required to be sprinklered under federal standards.
- State surveyors failed to identify the lack of a fire-rated ceiling that would resist the spread of fire for 1 hour in a one-story wood-frame nursing home.
- State surveyors failed to identify that approximately 80 percent of a home's resident rooms had sidewall-mounted sprinkler heads that would not work in the event of a fire because they were blocked by privacy curtains hanging in the room.
- State surveyors incorrectly surveyed additions and major renovations in facilities across the state by using less stringent federal standards that applied to the original nursing home structures.
- State surveyors missed obvious fire safety deficiencies, such as the use of plywood rather than drywall for corridor walls, unprotected hazardous areas, hollow core doors that were required to be solid, and facilities lacking fire alarms.[47]

A CMS fire safety specialist who identified some of these missed deficiencies told us that they were overlooked because of a lack of rigor on the part of state surveyors.[48] According to this official, conducting a fire safety survey involves more than simply walking through a nursing home. Because floors, walls, and ceilings mask many building construction features, surveyors need to take additional steps to verify that a home meets federal standards. Such steps could include (1) removing electrical switch plates to verify the thickness and type of material used for walls; (2) using a ladder to look above a false ceiling to ensure that there are no hidden openings in the corridor walls that would allow smoke to enter resident rooms; and (3) checking attics to ensure that they contain sprinklers, as required. Moreover, we were told it is important during each annual survey to thoroughly examine a building's fire safety elements

[47]Homes completely lacking fire alarm systems are to be cited for immediate jeopardy.

[48]A Connecticut survey agency official stated that missed deficiencies can also be attributed to the lack of surveyor training and the infrequency of fire safety training courses offered by CMS. In addition, while we did not look at this issue in depth, officials in several regional offices stated that inadequate surveyor training and lack of experience may explain some of the interstate variability in reported fire safety deficiencies.

because features do change over time due to routine maintenance and renovation. For example, homes may replace their false ceilings with non-fire-rated material, add new light fixtures that block sprinkler coverage, or install ceiling fans that interfere with the operation of smoke detectors. In addition, mechanical systems may not always work as intended and should be checked routinely during state surveys.

OSCAR data on the duration of on-site fire safety surveys also raised questions about the thoroughness of some state fire safety surveys. For current surveys, the average amount of time spent on-site conducting a fire safety survey is about 5 hours, nationally. In 16 states, 25 percent or more of homes' current surveys occurred in 2 hours or less (see table 6).[49] According to CMS officials, a survey of 2 hours or less may be adequate because of surveyor familiarity with a facility, the small size of some facilities, or the existence of sprinklers that mitigate certain deficiencies. However, regional office officials identified concerns in at least five states where surveyors may not be spending enough time in facilities to adequately assess their compliance with federal standards.

Table 6: States with Large Proportions of Current Fire Safety Surveys Conducted in 2 hours or Less

Percentage of homes surveyed in 2 hours or less	States
From 25 to 50 percent	Colorado, Indiana, Maine, Minnesota, Oklahoma, South Carolina, and Virginia
From 51 to 75 percent	Georgia, Iowa, Kentucky, Nebraska, Vermont, and Washington
More than 75 percent	Maryland, Oregon, and Rhode Island

Source: GAO analysis of OSCAR data as of January 22, 2004.

The CMS Web site that provides information on the results of nursing home quality-of-care oversight lacks fire safety data. Since 1998, CMS has shown a strong commitment to providing the public with information on nursing homes through its Nursing Home Compare Web site.[50] The Web site includes information on state quality-of-care surveys, other measures of quality based on resident assessment data, complaint investigations, and staffing levels for individual nursing homes. Although fire safety

[49]However, in 22 states, fewer than 5 percent of homes have such quick surveys.

[50]See http://www.medicare.gov/NHCompare.

deficiency data available to the public were initially included on CMS's Web site, they were subsequently removed because of concern over how to portray deficiencies that remain uncorrected because of waivers or FSES. However, one state survey agency (Pennsylvania) found a way to clearly indicate whether deficiencies had to be corrected.[51] In addition, the CMS Web site contains no information on whether a nursing home has automatic sprinklers or smoke detectors in resident rooms.

CMS Oversight of State Fire Safety Activities Is Insufficient

CMS provides insufficient oversight of state survey activities to address the fire safety survey inconsistencies we identified. In general, CMS regional offices (1) do not fully comply with the statutory requirement to conduct federal monitoring surveys; (2) lack basic data to assess the appropriateness of waivers and FSES, especially in unsprinklered facilities; (3) infrequently review state trends in citing fire safety deficiencies; and (4) provide insufficient oversight of deficiencies that are waived or that homes need not correct because of compensating fire safety features.

Evaluation of State Surveyors' Performance Is Limited

CMS's evaluation of state surveyors' performance has not routinely included fire safety as part of the statutory requirement to annually conduct federal monitoring surveys in at least 5 percent of surveyed nursing homes in each state.[52] Table 7 contrasts the number and type of annual federal monitoring surveys that included quality-of-care and fire safety standards. While 871 federal monitoring surveys focused on quality-of-care standards in fiscal year 2003, only 40 such surveys assessed fire safety—all of them comparative.[53] Six of the 10 CMS regional offices included fire safety as part of federal monitoring surveys in fiscal year 2003, but the number of such fire safety assessments varied from four per state to none. Overall, 27 states had no federal assessments of fire safety in this time period. Officials in all 6 of the regional offices that assessed fire

[51]See http://app2.health.state.pa.us/commonpoc/nhlocatorie.asp.

[52]A federal monitoring survey may be either comparative or observational. A comparative survey is conducted within 2 months of the state survey and provides an independent evaluation of whether state surveyors identified all deficiencies of federal standards and an observational survey allows federal surveyors who accompany a state survey team to observe the team's performance.

[53]Some regions conducted informal fire safety training surveys with state surveyors. In addition, while one region does not conduct fire safety comparative surveys, its fire safety specialist does cite fire safety deficiencies noted while on-site during quality-of-care comparative surveys.

safety told us that they lacked sufficient staff to increase the number of surveys that included fire safety. While acknowledging that CMS guidance does not specifically direct regions to assess compliance with fire safety standards when conducting federal monitoring surveys, CMS officials agreed that such assessments are mandatory and that they need to clarify this matter with regional offices.

Table 7: Comparison of the Number and Type of Federal Monitoring Surveys Including Quality-of-Care and Fire Safety Standards, Fiscal Year 2003

	Federal monitoring surveys	
	Quality-of-care	**Fire safety**
Total surveys	871	40[a]
Proportion of homes surveyed	More than 5 percent	About .2 percent
Number of states in which federal monitoring surveys were conducted	All states plus the District of Columbia	23 states plus the District of Columbia
Proportion comparative[b]	20 percent	All
Proportion observational	80 percent	None

Source: CMS.

[a]Our analysis excluded 15 surveys in four of the six regions that were conducted either before the state survey or more than 60 days after the state survey. We excluded these surveys because by statute a federal survey must begin within 2 months of the state's survey to ensure a valid comparison.

[b]We noted in 1999 that comparative surveys, though insufficient in number, were the most effective technique for assessing state agencies' abilities to identify deficiencies in nursing homes because they constitute an independent evaluation of the state survey. See U.S. General Accounting Office, *Nursing Home Care: Enhanced HCFA Oversight of State Programs Would Better Ensure Quality*, GAO/HEHS-00-6 (Washington, D.C.: Nov. 4, 1999).

Data Limitations and Inconsistent Use of Available Information Hamper CMS Oversight

OSCAR data limitations and inconsistent use of available information by CMS regions hamper CMS's efforts to oversee state fire safety activities. While OSCAR identifies homes cited for deficiencies on fire safety surveys, it is unable to distinguish between deficiencies cited for sprinklered and unsprinklered homes.[54] As previously discussed, information on the extent of sprinkler coverage at a home is important both when initially considering allowing uncorrected deficiencies through waivers and FSES and when reevaluating the appropriateness of uncorrected deficiencies—

[54]There is no data field in OSCAR to capture the sprinkler status of nursing homes. Another CMS database has the capacity to store nursing home sprinkler coverage information; however, CMS does not require states to report such data.

especially in unsprinklered nursing homes. Such information is also needed to develop a reliable estimate of the cost of retrofitting older homes with sprinklers. During the course of our work, we shared our concern about the lack of such data and, as a result, CMS officials told us that they are in the process of developing a new data field on sprinkler coverage for the form used by surveyors to collect data on a facility's compliance with federal fire safety standards.

Despite the variability in fire safety deficiency patterns across states, CMS makes limited use of OSCAR data to identify potential problems in state adherence to federal requirements and the need for training. CMS central office does not review fire safety deficiency patterns, and only 3 of the 10 regions routinely review state-level OSCAR data on fire safety deficiencies for the states in their regions. During such reviews, 1 region discovered that surveyors in a particular state had cited only five fire safety deficiencies at the 100 homes surveyed. The region used the data as an opportunity to review federal fire safety requirements with state surveyors and, as a result, the state surveyors are now citing deficiencies that had previously been missed or not cited. Another region noticed that state surveyors were improperly citing potentially serious deficiencies at the lowest scope and severity level. While facilities are expected to address fire safety deficiencies at all levels, a regional office official stated that homes with low scope and severity levels might receive less scrutiny than facilities with higher levels. Since CMS discussed the matter with the state, state surveyors cite deficiencies at levels that more appropriately reflect the extent and seriousness of the problems identified. The region also uses OSCAR data to identify specific state surveyors who may need additional training.

Routinely reviewing OSCAR data would also help CMS ensure that state surveys, including assessments of fire safety, are taking place within the time frames required by statute. For example, we found that 31 percent of a state's surveys in one region and 9 percent of all surveys in a different region were not conducted within 15 months of the prior fire safety survey, as required by statute. Neither of the regions overseeing these states nor CMS central office routinely examined OSCAR data to determine if fire safety surveys occurred within statutory time frames.

CMS Does Not Review All Waiver Renewal Requests and FSES Results

CMS regional office staff are not reviewing and approving all renewal requests for waivers of federal fire safety standards nor are they reviewing the results of FSES, as required by CMS guidance. Moreover, half of the 10 regions do not have fire safety specialists on staff and some regions allow nonspecialists to conduct waiver reviews. Although a regional office may

waive certain requirements and allow deficiencies to remain uncorrected, such deficiencies must be identified on subsequent surveys and any waivers must be periodically renewed and reviewed. We found that four regions either did not require states to submit requests for waiver renewals or that states in those regions did not submit waiver renewal requests.[55] Since the circumstances that led to the approval of a waiver may change, periodic renewal of waivers is important. For example, based on the lessons of the Tennessee nursing home fire in September 2003, the Atlanta regional office raised a question about the renewal of waivers for at least 50 homes in Arkansas. For many years, these unsprinklered homes had received a waiver for a ventilation system requirement that could allow smoke to spread to resident rooms during a fire.

We also found considerable variability in the expertise of CMS regional office staff tasked with reviewing waiver requests. Overall, 5 of the 10 regional offices currently have fire safety specialists who are either civil or mechanical engineers or have a significant amount of fire safety experience or training.[56] NFPA commented that civil or mechanical engineers are not necessarily qualified in fire safety and that fire protection engineers would be a good addition to CMS staff. In contrast, 2 regions have either public health or health insurance specialists conduct waiver reviews, whereas a third region has its waivers reviewed by a fire safety specialist in another CMS regional office. In a fourth region, two of the three health insurance specialists who conduct waiver reviews have not taken CMS's basic fire safety training. According to the staff, they generally accept the state's recommendation with little independent review. Until one regional office decided to hire its own fire safety specialist in 2002, waiver review was treated as a clerical function. According to CMS officials, the decision not to have a full-time fire safety specialist in each region was made in the early 1980s and was based on resource constraints. They pointed out that regions lacking sufficient fire

[55]One CMS regional office did not require a particular state to submit waiver requests or FSES results because the state was operating under a later edition of the fire safety code. From February 1997 through September 2003, CMS allowed the state to implement the 1994 NFPA life safety code in lieu of the older federal standards, which were based on NFPA's 1985 code. During these 6 years, there was no federal oversight of the state's enforcement of fire safety standards for nursing homes.

[56]Three of the specialists in these five regions devote all of their time to fire safety oversight activities while the other two are part-time fire safety specialists. As of April 2004, a sixth region was working to fill a vacancy due to the retirement of its fire safety specialist. A civil engineer is trained in the design and construction of public works, including buildings, roads, and bridges.

safety expertise may obtain assistance from specialists either in CMS central office or in other regions.

Eight of 10 regional offices do not adhere to CMS's policy that requires regions to review FSES results as an alternative way for nursing homes to comply with federal fire safety standards. Five regions currently lack a fire safety specialist to conduct the reviews. According to an NFPA technical expert, it is critical for the individuals who review FSES results to have both an extensive knowledge of the standards and the ability to distinguish among different construction types and materials. We believe that this is particularly important in homes that lack sprinkler protection but claim to have compensating construction features. A regional office fire safety specialist who does not routinely review FSES results told us that he was aware of two unsprinklered homes where the passing scores determined by the state were incorrect. After he discovered the errors, one home agreed to install a sprinkler system, and the other moved residents to a facility with sprinkler protection.

Conclusions

Our examination of the lessons learned from the Hartford and Nashville nursing home fires in which 31 residents died found systemic problems with the adequacy and enforcement of federal fire safety standards that go well beyond these two tragic events. As a result of these fires, NFPA is now actively considering incorporating a sprinkler retrofit requirement into its 2006 update of the standards, a move supported by the nursing home industry. Given industry concerns about the cost and the need for a transition period for homes to come into compliance, older homes will likely continue to operate without sprinklers for several years. Because of the uncertainty concerning whether or when the fire safety standards will be revised and implemented, we believe that certain actions are needed now to better protect residents in the event of a fire in an unsprinklered nursing home.

Federal oversight of state fire safety activities is currently inadequate to ensure that existing standards are being enforced. For example, CMS does not routinely include the fire safety component as part of its statutory mandate to conduct annual federal monitoring surveys intended to assess state survey agency performance, particularly in unsprinklered facilities. Moreover, CMS's review of deficiencies that nursing homes do not correct because of waivers or FSES is weak. Because it lacks data on the extent to which facilities have sprinklers, it is currently unable to quickly focus its attention on uncorrected deficiencies in unsprinklered facilities. Despite the availability of information on oversight of nursing home quality

through CMS's Nursing Home Compare Web site, no comparable information on fire safety is currently available. Thus, consumers lack a complete picture of a home's compliance with federal health and safety requirements when selecting a facility, including information on whether the home has automatic sprinklers or smoke detectors in resident rooms.

Action by CMS is required to ensure that an appropriate balance is struck between resident safety and a concern about costs when updating federal fire safety standards. For example, although commonsense features such as smoke detectors in resident rooms have been shown to be effective in alerting staff to a fire while it is still relatively manageable, smoke detectors are not required in unsprinklered nursing homes. Furthermore, CMS has not yet developed a reliable cost estimate for retrofitting older homes with sprinklers, a critical issue as NFPA considers requiring all homes to have sprinklers. Finally, CMS acknowledges that fires are a test of the standards designed to safeguard both life and property, providing an opportunity to identify strengths and weaknesses. However, the agency missed an opportunity to obtain critical information on which to base decisions regarding future revisions to the standards when it did not conduct its own independent investigations of the Hartford and Nashville fires, as it has done in past multiple-death fires.

Recommendations for Executive Action

To improve federal oversight of state fire safety activities, provide the public with important information about the fire safety status of nursing homes, and better ensure the adequacy of fire safety standards, we recommend that the Administrator of CMS take the following seven actions.

- Ensure that CMS regional offices fully comply with the statutory requirement to conduct annual federal monitoring surveys by including an assessment of the fire safety component of states' standard surveys, with an emphasis on unsprinklered homes.
- Ensure that data on sprinkler coverage in nursing homes are consistently obtained and reflected in the CMS database.
- Until sprinkler coverage data are routinely available in CMS's database, work with state survey agencies to identify the extent to which each nursing home is sprinklered or not sprinklered.
- On an expedited basis, review all waivers and FSES assessments for homes that are not fully sprinklered to determine their appropriateness.
- Make information on fire safety deficiencies available to the public via the Nursing Home Compare Web site, including information on whether a home has automatic sprinklers.

- Work with NFPA to strengthen fire safety standards for unsprinklered nursing homes, such as requiring smoke detectors in resident rooms, exploring the feasibility of requiring sprinklers in all nursing homes, and developing a strategy for financing such requirements.
- Ensure that thorough investigations are conducted following multiple-death nursing home fires so that fire safety standards can be reevaluated and modified where appropriate.

Agency, State, and NFPA Comments and Our Evaluation

We provided a draft of this report to CMS, the Connecticut and Tennessee state survey agencies, and NFPA. CMS concurred with our findings and recommendations, stating that it has undertaken several initiatives to improve federal oversight of state fire safety surveys. (CMS's comments are reproduced in app. III.)

CMS commented that because protecting nursing home residents from fire hazards was an important goal, it conducted its own analysis of nursing home fire risk at the same time our study was underway. As a result, CMS has already taken steps to implement all seven of our recommendations. For example, CMS stated that because it is important for every resident room to have a smoke detector, it will pursue a regulatory change requiring their installation. Similarly, CMS plans to confirm the sprinkler status of each home during upcoming facility surveys and to enter this information in CMS's database. CMS also plans to make both the sprinkler status and fire safety survey results available to the public on its Medicare Compare Web site by the summer of 2005. Finally, to fulfill the statutory requirement for annual federal monitoring surveys designed to assess the effectiveness of state fire safety surveys, CMS has reprioritized resources for a five-fold increase in comparative surveys to about 200 during fiscal year 2005, with a focus on unsprinklered nursing homes. Its goal is to accomplish the remaining approximately 700 observational surveys by redesigning regional office workplans. CMS also provided technical comments which we incorporated as appropriate.

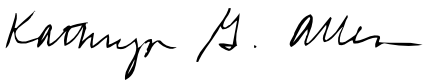
The Connecticut state survey agency provided technical comments, which we incorporated as appropriate. In discussing the state's comments with survey agency officials, we were told that the agency now (1) reminds facilities that fire drills on all shifts must be more than a paper review of a home's fire plan and (2) pays more attention to smoking-related issues during fire safety surveys, including obtaining a list of all smokers at the beginning of a survey. Based on our prior work, we believe that Connecticut's, and likely other states', experience underscores the risks of

relying on documentation without systematically verifying its accuracy through interviews and observation.[57]

NFPA provided technical comments, which we incorporated as appropriate. The Tennessee state survey agency did not comment on our draft.

As arranged with your offices, unless you publicly announce its contents earlier, we plan no further distribution of this report until 30 days after its issue date. At that time, we will send copies to the Administrator of the Centers for Medicare & Medicaid Services and appropriate congressional committees. We also will make copies available to others upon request. In addition, the report will be available at no charge on the GAO Web site at http://www.gao.gov.

Please contact me at (202) 512-7118 or Walter Ochinko, Assistant Director, at (202) 512-7157 if you or your staffs have any questions. GAO staff who contributed to this report include Eric Anderson, Dean Mohs, and Paul M. Thomas.



Kathryn G. Allen
Director, Health Care—Medicaid
and Private Health Insurance Issues

[57]Our prior work found that nursing home records can contain misleading information or omit important data, making it difficult for surveyors to identify deficiencies during their on-site reviews. See U.S. General Accounting Office, *California Nursing Homes: Care Problems Persist Despite Federal and State Oversight*, GAO/HEHS-98-202 (Washington, D.C.: July 27, 1998).

Appendix I: Percentage of Surveyed Nursing Homes Cited with Fire Safety Deficiencies on Their Most Recent Surveys, by State

State	Number of homes surveyed	Percentage of surveyed homes with fire safety deficiencies
North Dakota	84	98.8
Montana	101	97.0
Utah	90	96.7
Wyoming	39	94.9
Nevada	44	93.2
Michigan	431	92.1
South Dakota	113	88.5
Kansas	374	86.6
Texas	1,143	84.4
Pennsylvania	740	82.3
Iowa	454	79.7
Tennessee	337	78.6
New Mexico	81	76.5
Louisiana	314	74.5
Delaware	42	73.8
Arizona	135	73.3
Illinois	831	71.4
District of Columbia	21	71.4
Ohio	990	70.8
Georgia	360	70.8
Oregon	141	68.8
Alaska	14	64.3
Alabama	228	61.0
Florida	694	60.5
Nation	**16,334**	**58.9**
Wisconsin	408	56.4
North Carolina	423	56.3
Arkansas	242	56.2
Virginia	278	53.2
California	1,342	51.0
Mississippi	204	49.5
Colorado	216	48.2
New Jersey	356	48.0
Massachusetts	481	47.6
West Virginia	136	45.6

State	Number of homes surveyed	Percentage of surveyed homes with fire safety deficiencies
New York	671	45.6
Washington	260	45.0
Missouri	534	44.0
Indiana	527	43.5
Maryland	243	40.7
Oklahoma	370	30.5
Rhode Island	95	28.4
Connecticut	252	26.6
Minnesota	425	25.7
New Hampshire	81	23.5
Vermont	43	23.3
Hawaii	45	22.2
Maine	119	21.9
Nebraska	228	21.5
Idaho	80	20.0
South Carolina	178	14.0
Kentucky	296	9.8

Source: GAO analysis of most recent state surveys in OSCAR as of December 1, 2003.

Appendix II: Federal Comparative Survey Results for Fiscal Year 2003—Examples of Fire Safety Deficiencies Missed or Not Cited

CMS regional office (state)	Federal fire safety standard	Fire safety deficiencies missed or not cited by state surveyors
Atlanta (Georgia)	Corridor walls must be fire-rated, extend from the floor to the roof deck or floor above, and resist the passage of smoke. In a fully sprinklered facility, corridor walls may terminate at the underside of the ceiling, need not be fire-rated, and must only resist the passage of smoke.	• Not all corridor walls extended to the roof deck to provide the minimum fire resistance rating. • Smoke walls extending from the corridor to the exterior walls were incomplete, with openings in the wall that would allow smoke to move from one side of the smoke wall to the other.
	Depending on construction type and number of stories, sprinklers required throughout home.	• Approximately 95 percent of the building was not protected by an automatic sprinkler system, even though the building construction type required complete sprinkler protection.
Boston (Connecticut, Massachusetts, and New Hampshire)	Depending on construction type and number of stories, sprinklers required throughout home.	• Wood roof overhang used as a screened porch was not protected by sprinkler system. • Home failed to provide complete sprinkler protection for a three-story wood frame building. • Beauty salon closet was missing sprinkler.
	Sprinkler system is operational and properly maintained.	• Sprinkler in storage area was obstructed.
	Doors are provided with latching devices, which will keep the doors tightly closed in their frames.	• Home failed to maintain corridor doors so that they closed tightly to resist the passage of smoke. • Two resident room doors had obstructions that did not allow them to close completely.
	Vertical openings or penetrations between floors are required to be protected (fire-rated and resistant to the passage of smoke).	• Linen chute did not have a fire-resistance rating of at least 1 hour.
	Fire drills are conducted quarterly on all shifts, and all staff are familiar with facility fire plan and appropriate procedures.	• Home failed to conduct fire drill on third shift (from 11 p.m. to 7 a.m.
Chicago (Illinois, Michigan, Minnesota, Ohio, and Wisconsin)	Depending on construction type and number of stories, sprinklers required throughout home.	• Two exterior combustible canopies were not sprinklered. • Soiled-linen room in the basement contained unprotected steel framing for the floor above, which required the building to have complete sprinkler protection.
	Sprinkler system is operational and properly maintained.	• Home failed to properly maintain sprinkler system. • Home did not replace six sprinklers on known recall list.
	Hazardous areas have an approved fire extinguishing system or a 1-hour fire-rated construction. Doors shall be self-closing.	• Hazardous area not separated with 1-hour fire-rated construction. • Employee lockers were not properly separated by a 1-hour fire-rated construction from the means of egress. • Mechanical room ceiling had a large opening and unprotected hole.

CMS regional office (state)	Federal fire safety standard	Fire safety deficiencies missed or not cited by state surveyors
	Corridor walls must be fire-rated, extend from the floor to the roof deck or floor above, and resist the passage of smoke. In a fully sprinklered facility, corridor walls may terminate at the underside of the ceiling, need not be fire-rated, and must only resist the passage of smoke.	• Smoke barrier above the ceiling at the corridor doors was open the entire width of corridor.
	Doors are provided with latching devices, which will keep the doors tightly closed in their frames.	• Corridor doors separating the second floor dining room from the corridor had been removed.
	Vertical openings or penetrations between floors are required to be protected (fire-rated and resistant to the passage of smoke).	• Linen chute discharge door was not self-closing and remained open.
Dallas (Louisiana and New Mexico)	Corridor walls must be fire-rated, extend from the floor to the roof deck or floor above, and resist the passage of smoke. In a fully sprinklered facility, corridor walls may terminate at the underside of the ceiling, need not be fire-rated, and must only resist the passage of smoke.	• Home failed to ensure that the corridor walls formed a smoke-tight barrier between the corridor and other areas of the facility. • Home failed to ensure that smoke barriers were maintained, which would ensure appropriate resistance to the passage of smoke by making penetrations smoke-tight. • Two separate holes in the smoke barrier were identified above the doors outside the staff conference room. • Home had a hole in the smoke barrier above the ceiling between the cardiac clinic equipment and the nursing home conference room.
	Fire drills are conducted quarterly on all shifts, and all staff are familiar with facility fire plan and appropriate procedures.	• Home failed to ensure that fire drills were carried out at least quarterly for day and evening shifts to ensure staff competence in the event of a fire.
	Sprinkler system is operational and properly maintained.	• Home failed to ensure that there were no obstructions to the water flow of installed sprinklers. • Home failed to ensure that replacement sprinklers and a wrench of appropriate size were available in the main sprinkler room.
	HVAC system shall comply with fire safety standards and be installed in accordance with the manufacturer's specifications.	• Corridor was used as a part of the return air system, which would allow the spread of smoke to resident rooms during a fire.
	Doors in fire separation walls, hazardous area enclosures, horizontal exits, or smoke partitions may be held open only by devices arranged to automatically close all such doors by zone or throughout the facility upon activation of fire detection systems.	• One of the exit doors had panic hardware that did not permit the door to close to form a tight seal that would resist the passage of fire and smoke.

CMS regional office (state)	Federal fire safety standard	Fire safety deficiencies missed or not cited by state surveyors
Denver (Colorado, North Dakota, South Dakota, Utah, and Wyoming)	Sprinkler system is operational and properly maintained.	• Several sprinklers on known recall list were not replaced. • Four large coffee pots on the top shelf of the store room could obstruct the spray pattern of the adjacent sprinkler. • Two hoses from the floor-cleaning machine were hanging on the sprinkler piping in the basement housekeeping room.
	Hazardous areas have an approved fire extinguishing system or a 1-hour fire-rated construction. Doors shall be self-closing.	• Double doors to the clean linen side of the laundry and to the soiled-linen holding room were damaged and unable to resist the passage of smoke. • Boiler room doors to the corridor were missing self-closing devices. • Boiler room door was lacking a strike plate to complete the required latch. • Door to the clean linen room of the basement laundry was sagging so that it did not fit its frame. Also, the latch was not engaging its strike plate.
	Corridor walls must be fire-rated, extend from the floor to the roof deck or floor above, and resist the passage of smoke. In a fully sprinklered facility, corridor walls may terminate at the underside of the ceiling, need not be fire-rated, and must only resist the passage of smoke.	• Three pipes penetrated a wall with a 2-inch opening around the pipes. • There was an opening 1 inch in diameter larger than a pipe penetrating a smoke barrier. • Smoke barrier had open flutes above the wall and had an opening around two pipes 2 inches in diameter larger than the pipes. • Openings were observed that were approximately 2 inches larger than the size of all 26 electrical conduits where they passed through the basement ceiling. • A TV lounge was not separated from the corridor with a smoke-resistant wall.
	Doors are provided with latching devices, which will keep the doors tightly closed in their frames.	• Door to a conference room was held open with a wastebasket during the entire survey. • A resident room door had a piece of duct tape over the strike plate, which made the latch inoperative. • One resident room had no door latch and the roller latches for three resident rooms were not engaging their strike plates. • The door to the TV room did not close to a positive latch. • A resident room door was obstructed from closing due to a hook over the door holding a decoration.

CMS regional office (state)	Federal fire safety standard	Fire safety deficiencies missed or not cited by state surveyors
	Vertical openings or penetrations between floors are required to be protected (fire-rated and resistant to the passage of smoke).	• Stair leading from the basement to the first floor did not have a fire-rated construction between it and the elevator equipment room. • A metal grate in the floor behind the walk-in freezer and cooler in the kitchen opened into a shaft located in the basement, consisting of 8-inch-by-12-inch access holes. These access holes were not closed with a fire-rated material. • The door at the top of the basement stair did not have a self-closing device. • Basement stair door was missing its latch. • All three stairway doors were not at least 1-hour fire-rated.
	Approved smoke detectors are installed, approved, maintained, inspected, and tested in accordance with the manufacturer's specifications.	• TV lounge did not have a smoke detection system. • Smoke detectors were located only on one side of all six smoke barrier doors.
Philadelphia (Delaware and Pennsylvania)	Hazardous areas have an approved fire extinguishing system or a 1-hour fire-rated construction. Doors shall be self-closing.	• Soiled utility room had a door without a self-closing mechanism. • Two soiled utility rooms had doors that were not self-closing.
	Complete fire and smoke barriers required on each floor and between corridor and resident rooms. Doors are provided with latching devices, which will keep the doors tightly closed in their frames.	• Wall separating personal care area and the nursing home had unsealed penetrations around pipes above the exit door. • A resident room door could not be closed and latched at all times.

Source: GAO analysis of federal comparative and corresponding state surveys.

Appendix III: Comments from the Centers for Medicare & Medicaid Services

DEPARTMENT OF HEALTH & HUMAN SERVICES

Centers for Medicare & Medicaid Service

Administrator
Washington, DC 20201

DATE: JUN 29 2004

TO: Kathryn G. Allen
Director, Health Care-Medicaid
And Private Health Insurance Issues

FROM: Mark B. McClellan, MD, PHD
Administrator

SUBJECT: General Accounting Office Draft Report: "NURSING HOME FIRE SAFETY: Recent Fires Highlight Weaknesses in Federal Standards and Oversight" (GAO-04-660)

Thank you for the opportunity to review and comment on the above report.

Protecting nursing home residents from fire hazards is an important goal for CMS. We therefore conducted our own analysis of nursing home fire risk at the same time as the General Accounting Office (GAO) study has been underway.

Among the actions we have already initiated as a consequence of our CMS review are the following:

Five-fold Increase in CMS Validation Surveys: We re-prioritized contract resources within the Survey & Certification budget to increase in FFY 2005 the number of validation surveys CMS conducts to monitor the adequacy of state life-safety code surveys. When combined with additional future actions described later in this letter, we believe we will substantially address GAO recommendation #1.

Data Improvements: We changed CMS data forms and re-programmed our automated information systems to ensure that the sprinkler status of each nursing home is reflected in the electronic information available to all surveyors. This means that GAO recommendations #2 and #3 have already been addressed.

Strengthen Review of Waivers: New CMS procedures require that all requests from nursing homes for any permitted waivers of life-safety code matters are first reviewed by the CMS regional office (in addition to state review). This addresses GAO recommendation #4.

Strengthening Fire Protection Standards: Our regulatory agenda now includes plans to strengthen fire protection standards for nursing homes. This exceeds the GAO general recommendation #6.

Fire Investigations: We issued new instructions to states and CMS regional offices to ensure prompt investigation of all fires that involve injury.

State Up-to-Date Knowledge: We issued to each state agency a complete, up-to-date set of all national life-safety code manuals to ensure that states are fully informed of all applicable standards.

We appreciate the added information that GAO has contributed. The GAO findings, together with other findings from our own review of the issues, are helping us to develop additional action steps that can improve the safety of nursing home residents.

The GAO report examines (1) the rationale for not requiring all nursing homes to have sprinklers and the status of initiatives to change that requirement, (2) the adequacy of federal fire safety standards for, and their application to, nursing homes that lack automatic sprinkler systems, and (3) the effectiveness of state and federal oversight of nursing home fire safety.

The GAO draft report makes several recommendations to (1) improve CMS oversight of nursing home fire safety, such as reviewing the appropriateness of exemptions to federal standards granted to unsprinklered facilities, and (2) strengthen the fire safety standards and ensure thorough investigations of any future multiple-death nursing home fires in order to reevaluate the adequacy of fire safety standards.

Detailed responses to each of the GAO recommendations are provided below. We are also providing some technical comments on the report itself.

Background

In 2003, 31 residents died in nursing home fires in Hartford, CT and Nashville, TN. Federal standards did not require either home to have sprinklers installed. Senators Grassley and Frist asked the GAO to report on:

- The rationale for not requiring nursing homes to be sprinklered;
- Adequacy of federal fire safety standards for nursing homes that lack automatic sprinklers;
- Effectiveness of state and federal oversight of fire safety in nursing homes.

To ensure the health and safety of nursing home residents, the Centers for Medicare & Medicaid Services (CMS) adopts and enforces standards that all nursing homes serving Medicare or Medicaid beneficiaries must meet, and state survey agencies conduct periodic (annual) inspections. The purpose of these inspections, known as surveys, is to determine whether nursing homes meet applicable standards. The current standard is the 2000 edition of the National Fire Protection Association's (NFPA), Life Safety Code 101

(LSC), as adopted by regulation by CMS. CMS regional office staff also conduct surveys on a sample of nursing homes within 60 days of a state survey, for the purpose of assessing the adequacy of the state survey. This quality control function is called a "CMS validation survey."

Not all nursing homes are required to have sprinklers installed. The LSC makes exceptions for facilities that have been constructed of certain non-combustible or fire resistive materials and are considered to meet the requirements of the LSC by CMS. Even so, we encourage all facilities to be sprinklered because there has never been a multiple death fire in a fully sprinklered health care facility.

GAO Recommendation

1) Ensure that CMS regional offices fully comply with the statutory requirement to conduct annual federal monitoring surveys by including an assessment of the fire safety component of states' standard surveys, with an emphasis on unsprinklered homes.

Comment

By the end of FFY 2005 CMS will have completed life safety code validation (monitoring) surveys in sufficient numbers to fulfill the statutory requirement, with priority attention to unsprinklered facilities (estimated to be about 30% of all facilities).

We have already re-prioritized contract resources within the Survey & Certification budget to accomplish a five-fold increase in the number of validation surveys CMS conducts in FFY 2005 to monitor the adequacy of state life-safety code surveys. CMS regional offices are in the process of redesigning workplans to accomplish the remainder of the added validation surveys that will be required to address the above recommendation.

We will need to phase in some of the added work in order to stay within existing resources and avoid too much impairment of our ability to fulfill other responsibilities as we seek to accomplish the substantial increase in CMS life safety code validation surveys that the GAO report recommends. In such phase-in efforts, we will follow the GAO recommendation to give priority to unsprinklered facilities.

2) Ensure that data on sprinkler coverage in nursing homes are consistently obtained and reflected in the CMS database.

Comment

We concur and have already undertaken such action. We have implemented changes to all Fire Safety Survey Report forms used in the LSC surveys to capture the status of sprinkler systems in all health care provider types, not limited to nursing homes. Currently the revised forms are available to all surveyors on the CMS forms website. (See www.cms.hhs.gov/forms). Further, we have re-programmed the automated information systems operated by CMS to ensure that the sprinkler status of each nursing home is reflected in the electronic information available to all surveyors.

GAO Recommendation

3) Until sprinkler coverage data are routinely available in CMS's database, work with state survey agencies to identify the extent to which each nursing home is sprinklered or not sprinklered.

Comment

We concur and have already undertaken such action. CMS estimates that 70% of the nation's nursing homes are fully sprinklered. This information will be confirmed on an individual basis during facility surveys. Upon confirmation by survey, this information will be entered into CMS electronic data systems as it is obtained.

GAO Recommendation

4) On an expedited basis, review all waivers and FSES assessments for homes that are not fully sprinklered to determine their appropriateness.

Comment

We concur and have already taken such action. CMS has instructed Regional Offices and State Agencies to submit all waiver requests from facilities to the Regional Offices for review and disposition. As facilities seek to renew their waivers, this means that over the course of a year almost all waivered facilities will be subject to this higher level of review. Further, we will separately examine any existing waiver that is not subject to annual review.

CMS has also instructed the Regional Offices and State Agencies to submit FSES assessments on an annual basis to the Regional Office. (See memo S&C-04-33 dated 5/13/04 and State Operations Manual sections 2470, 2478, and 7410F.)

GAO Recommendation

5) Make information on fire safety deficiencies available to the public via the Nursing Home Compare Web site, including information on whether a home has automatic sprinklers.

Comment

We concur and have already made such arrangements. LSC deficiencies and information concerning whether a nursing home is sprinklered will be included on the Nursing Home Compare Web site as data becomes available. We expect that LSC deficiency information will be available on line in June-August, 2005 and sprinkler information will be available soon thereafter.

GAO Recommendation

6) Work with the NFPA to strengthen fire safety standards for unsprinklered nursing homes, such as requiring smoke detectors in resident rooms, exploring the feasibility of requiring sprinklers in all nursing homes, and developing a strategy for financing such requirements.

Comment

We have placed on our regulatory agenda plans to strengthen fire protection standards for nursing homes. In particular, we think it is important that every resident room have a fire and smoke detector (battery-operated or hard-wired). We will pursue a regulatory change to this effect, as well as explore the feasibility of further action (including the type of exploration suggested by GAO).

In addition, CMS has membership on several NFPA committees including: 1) Healthcare; 2) Board and Care; and 3) Technical Correlating of NFPA 99, Health Care Facilities. These committees oversee changes to several chapters of the Life Safety Code and related documents. We will continue to work with NFPA to strengthen fire safety standards in all health care facilities.

GAO Recommendation

7) Ensure that thorough investigations are conducted following multiple-death nursing home fires so that fire safety standards can be reevaluated and modified where appropriate.

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Comment

We have already instructed State Agencies to consider nursing home fires with injuries to be investigated using CMS complaint policies and procedures for the level of "immediate and serious jeopardy" requiring investigation within 2 days. (See memo S&C-04-23 dated 3/11/04). Regional Offices and State Agencies communicate findings with each other to determine an appropriate response to the situation.

Information concerning these complaints will also be entered into the complaint database (ASPEN Complaint/Incidents Tracking System) for tracking purposes.

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