

In general, the sample was a stratified multi-stage cluster design comprised of 357 sampling areas including every county and some independent cities in the United States. The disabled persons were selected from all 357 strata, the non-disabled and recently disabled groups were chosen from a special subset of 105 strata. The sample was designed to represent the noninstitutionalized civilian population of the United States aged 18-64 as of April 1970.

## DEFINITION OF DISABILITY

Disability is defined in this study as a limitation in the kind or amount of work (or housework) resulting from a chronic health condition or impairment lasting 3 months or longer. The disability classification is based on the extent of

the individual's capacity for work, as reported by the respondent in a set of work-qualification questions. Data on employment and on functional capacities—such as mobility, activities of daily living, personal care needs, and functional activity limitations—were also collected to evaluate further the nature and severity of disability.

The severity of disability was classified by the extent of work limitations as

*Severely disabled*—unable to work altogether or unable to work regularly

*Occupationally disabled*—able to work regularly but unable to do the same work as before the onset of disability or unable to work full time

*Secondary work limitations*—able to work full time, regularly, and at the same work but with limitations in the kind or amount of work they can perform, women with limitations in keeping house but not in paid work are included as having secondary work limitations

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# Notes and Brief Reports

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## Research Grants Studies

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Sections 702 and 1110 of the Social Security Act authorize extramural research projects in the broad area of social security. The Social Security Administration provides funding through grants to nonprofit organizations and through contracts with both nonprofit and profitmaking organizations. From time to time, as projects are completed, the *BULLETIN* publishes summaries of research findings. The summaries that follow are based, in turn, on projects funded under Contract No. 73-242, Grant No. 57331, and Grant No. 57524.

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### EFFECT OF HOSPITAL MANAGEMENT PRACTICES ON HOSPITAL PERFORMANCE

This study of hospital management practices and their effect on performance was conducted

by Selwyn W. Becker and Stephen M. Shortell, of the University of Chicago, and Duncan Neuhauser, of Harvard University. Forty-two of the 58 short-term, nonteaching, voluntary hospitals in Massachusetts participated in the project.

Data were collected on costs, utilization, quality of care, and organizational variables such as work specification, mechanisms of coordination, and visibility of consequences (the degree to which elites in the organization are aware of organization outcomes). Some of the secondary sources included the American Hospital Association, Aetna, the Joint Commission for the Accreditation of Hospitals, the Massachusetts Blue Cross Plan, the Massachusetts Department of Public Health, the Massachusetts Rate Setting Commission, and Medicare cost reports from the Social Security Administration. Other information was collected in the participating hospitals, either from their financial and medical records or from interviews with hospital board members, administrators, chiefs of staff, department heads, and employees.

The data were analyzed by means of multiple regression techniques. Casemix severity was used as a control variable in all equations and a quality-of-care variable was added as a control in the cost and utilization equations.

## Findings

The following were among the more significant findings

### *Work procedures*

—The greater the extent to which the heads of the nonmedical support departments perceive freedom to determine what they do and when and how they do it (that is, low work specification), the shorter the average length of stay for patients

—The greater the extent to which medical staff leaders—the chief of staff and the section heads for internal medicine, surgery, obstetrics-gynecology, and family practice—perceive that the medical staff as a group is free to determine the clinical activities of the hospital, the shorter the preoperative length of stay for Medicare patients

—The greater the extent to which medical staff leaders perceive that individual physicians (as opposed to the medical staff as a group) have autonomy in clinical activities, the longer the average length of stay for Medicare patients

—The greater the extent of elective surgery on Saturdays and Sundays, the lesser the deviation from the predicted length of stay under the Social Security Administration Medicare Analysis of Days of Care (MADOC)

—The greater the number of physicians with influence over decisions involving the purchase of hospital equipment, the lower the cost per case

### *Visibility*

—The greater the number of reports prepared by the hospital, the higher the hospital's medical surgical death rate and the higher the nonmedical support department costs

—The higher the percentage of reports sent to the hospital's board of trustees, the lower the hospital's costs per patient day for its nonmedical support departments, the lower the cost per case, and the lower the medical surgical death rate

—Hospitals whose administrators are voting members of the board of trustees experience lower non-medical support department costs and lower medical-surgical death rates

### *Actual visibility of consequences*

—The greater the extent to which the hospital administrator and chief of staff lack knowledge of hospital operating statistics or cannot compare their hospital's operating statistics with those of other hospitals in the area, the higher the medical support department costs per patient day, the higher the non-medical support department costs, the higher the cost per case, the higher the medical-surgical death rate, and the longer the average length of stay

—The greater the extent to which the chief of staff lacks knowledge of hospital operating statistics, the higher the hospital's overall cost per case and the higher the medical support department costs

### *Methods of coordination*

—The higher the ratio of programmed to nonpro-

grammed coordination among the medical support departments of the hospital, the longer the hospital's average length of stay for Medicare patients and the lower the complication rate

—The greater the extent of face-to-face coordination among the hospital's radiology, laboratory, and nursing-service departments, the lower the costs per patient day for its medical support departments

—The use of preadmission testing reduces preoperative length of stay by an average of one-half day, but further savings could subsequently be achieved by a more efficient scheduling of operations

### *Effects of other variables*

—Hospitals participating in the industrial engineering program of the Massachusetts Hospital Association experienced a shorter average length of stay for Medicare patients

—Hospitals operating in areas characterized by a larger number of nursing home beds per capita actually had greater deviations of actual from predicted lengths of stay and a longer overall average length of stay

## Relationships Between Quality of Care, Efficiency, and Utilization

The data obtained in the study support the study prediction that higher quality care is related to greater efficiency and lower utilization rates. A higher medical-surgical death rate was found to be associated with higher costs per case, a longer length of stay for Medicare patients, greater deviations of actual length of stay from that predicted by MADOC, and a longer preoperative length of stay for Medicare patients. Hospitals with higher medical-surgical death rates tend to have higher costs per standardized unit of output and a greater deviation of actual length of stay under Medicare from that predicted. Hospitals with higher postsurgical complication rates and those with higher overall costs per case tend to have longer average lengths of stay for Medicare patients.

## LIVING ARRANGEMENTS OF THE WIDOWED

This project (Grant No 57331), conducted by J Henry Korson and Albert Chevan of the University of Massachusetts, is an outgrowth of an earlier study, published by the authors in 1972. That study found that the proportion of widowed persons in the United States living alone had increased dramatically from approximately 20

percent to 50 percent in one generation, from 1940 to 1970. This significant change in the structure of the American family dictated an examination in greater depth of the data from the 1960 and 1970 censuses. The earlier censuses were not sufficiently uniform to provide similar data for comparison. Furthermore, the 1960 and 1970 censuses provided tapes from the "one-in-a-hundred" Public Use Sample and thus permitted a more detailed examination of some of the changes in family structure.

The literature amply demonstrates the decline in the kin ties manifested by strong extended-family relationships and the rise of individualism that relates to increased freedom of choice in living arrangements for the widowed. Since widowhood is the last stage of the family life cycle, it is inevitable that the surviving member (usually the widow) will be confronted with the problem of living arrangements, either alone or with others. Although the research on this project is not yet completed, it is evident that amount of income and level of educational achievement are among the major variables contributing to the decision on the part of widows to live alone.

This study had focused on widows as reported in the United States Censuses of 1960 and 1970. Changes in the structure of the widowed population in the period 1960-70 could have contributed to changes in living arrangements of such persons. Living alone appears to peak at about age 70, and a relative increase in widows of older ages could account for some of the change. Similarly, a relative increase in widows who are native born, white, childless, or of higher educational attainment could have the same effect. Preliminary analysis indicates that from 20 percent to 30 percent of the change in living arrangements stems from changes in the demographic structure of the widowed population.

Changes in income or income structure could make it possible for more widows to live alone. It has previously been shown that the widows of 1960 could live alone on little more than a subsistence income. A shift to regular and dependable (or increased) sources of income such as pensions and social security benefits might allow many widows to live alone. This shift seems to have occurred between 1960 and 1970.

Changes in the housing market could affect both the widowed population and those persons

most likely to live with widows. An increase in the availability of small housing units seems to be a contributing factor. The housing market appears to have gone in this direction between 1960 and 1970, but more analysis is needed before this can be established.

Increased migration of the widowed from their home communities to warmer climates would decrease the potential for living with family members. Widowhood may occur after migration to such States as Florida, California, and Arizona, but the effect of migration would be to leave the widowed living alone. Population shift appears to have affected the potential of widows to live with family members.

If various social theorists are correct about the relationship between social mobility and the weakening of family ties, then increased mobility among children would lead to more of the widowed living alone or in institutions. Status changes of another sort—an increase in the timing or popularity of remarriage—could also have the same effect. Analysis in this area, based on study of 345 county groups in 1970, is planned.

The diffusion of living-arrangement patterns from groups with a "modern" to those with a more "traditional" outlook could have resulted in the change seen between 1960 and 1970. The homogenization of the widowed population would not require any change in the most modernized groups. In fact, it appears that all groups have become more modern in this respect.

Changes in family values during the period 1960-70 may account for some of the change in living arrangements. Family-help patterns that flow from family values may be changing in form from help offered within the household to aid offered from outside the household—the larger community. Steps have been taken to obtain a national 1957 survey with family-value questions that match those in a 1973 national survey already on hand. Such an acquisition will permit analysis of the attitudinal component of living arrangements.

#### **SURGICAL-CONSULTATION BENEFIT FOR NEW YORK STATE EMPLOYEES**

This project evaluated the importance of a second physician's opinion in cases where non-

emergency hospital inpatient surgery had been recommended. It was conducted by the Albany Medical College and evaluated by Dr. Gordon H. Hatcher, professor of community medicine at that institution.

Approximately 15 million persons in New York State are insured under the health insurance program for State and local government employees and their dependents at an annual cost of about \$250 million. In 1973, benefits included hospitalization, physicians' services, and major-medical coverage. Complete coverage for physicians' office visits and consultations, however, was not available unless a special operative or diagnostic procedure was performed.

In August 1973, a surgical-consultation benefit was introduced as a result of collective bargaining between the Civil Service Employees Association and the State. The chairman of the department of surgery at Albany Medical College appointed a panel of surgical specialists, including both academic and private practitioners, to examine patients who had been advised by another physician to have nonemergency hospital inpatient surgery. A second opinion was to be given as to whether the surgery was needed or whether some delay or alternative therapy was preferable. The decision to seek or not seek the consultation and to accept or reject the second physician's advice was left to the patient. The Albany Blue Shield Plan pays in full for the second opinion.

After limited publicity, some county medical societies began vigorous opposition to the new benefit that gained the concurrence of the Medical Society of New York State. As a result, certain modifications were adopted. Authority for naming the members of an expanded panel was divided between the Albany County Medical Society and the health service in the New York Department of Civil Service, which screens the requests of patients for consultations and sets them up. The program also was limited to a pilot project in the Albany region. Insured persons in other parts of the State could take advantage of the benefit only if they traveled at their own expense to Albany, only three plan members did so in the first year of the program's operation. Halfway through that period, a survey showed that 57 percent of the insured persons in the Albany region and 82 percent of

those in the western part of the State had not heard of the program. It later became apparent that many surgeons outside the Albany region were unaware that the program had been modified.

Specific rates for all hospital inpatient surgical procedures and for 11 operations were calculated separately by age and sex. These data were for all State employees and their dependents in two regions (the 13 counties around Albany and 23 counties in the western part of the State) during the year before the introduction of the second-opinion benefit and the first year that it was available. Each of the groups contained approximately 100,000 insured persons.

Between the pre-benefit year (1972-73) and the first year the second opinions were offered (1973-74), surgical hospitalizations under Blue Cross were reduced from 91 to 86 per thousand insured persons in the Albany region, and from 141 to 111 per thousand in western New York. Similar reductions were found for nearly all age groups except persons aged 65 and over, for whom small numbers and the availability of Medicare make interpretation of the results difficult. Hospital admission rates for nonsurgical cases and the average length of stay for surgical cases both increased, however, so no comparable savings were achieved in hospital insurance costs based on total days of care.

With ambulatory and inpatient cases combined, the rate for total surgical claims under Blue Shield also increased slightly (2-3 percent) in both regions. This finding suggests that "uncontrolled" care was substituted when controls were exercised over some kinds of surgery. More procedures may also have been billed for each hospital admission.

Hospital surgical rates for various procedures in the study years are based on Blue Shield surgical claims, not on Blue Cross hospitalization claims. The pattern is mixed: some procedures were performed at an increased rate, others at a lower rate.

A comparison of the study data was made with data for the neighboring Canadian provinces of Ontario and Quebec, where universal free health care provided by physicians reimbursed on a fee-for-service basis was expected to show higher surgical-utilization rates. Tonsillectomy rates were significantly higher in these

provinces The insured population in New York State had rates twice as high as those in Canada for such surgical procedures as D & C's, hysterectomies, and mastectomies

Surgical rates were similarly calculated for the prepaid group practice plans operated by the Kaiser-Permanente program in Northern California Kaiser surgical rates were about one-third as high as those of the insured groups in New York Kaiser physicians are paid by salary, and only enough of them are employed to provide the necessary care

Relatively few consultations were actually provided under the New York State program In the first 2 years of the program, fewer than 400 requests for second opinions were reported by the health service of the New York State Department of Civil Service About half of the persons involved were refused a consultation or cancelled their appointments, usually after being asked to get a form filled out by the first physician About one-third of the consultations did not confirm the need for surgery A majority of those whose consultation appointments were cancelled decided on their own against surgery, apparently often with the concurrence of the first physician It appears that the mere prospect of a second surgical opinion can substantially reduce inpatient surgical rates

Proposals to follow up this group of patients and to study further the factors that lead to a successful—or unsuccessful—second-opinion benefit were not favorably considered New York

*Copies of the final reports of these completed research projects are in the Social Security Administration Library, 571 Altmeyer Building, 6401 Security Blvd., Baltimore, Md 21235, and in the Library of the Office of Research and Statistics, Room 320-O, Universal North Building, 1875 Connecticut Ave, NW, Washington, DC 20009 Copies of the reports may be obtained through interlibrary loan (Also in these libraries are copies of more than 50 other project reports that have been completed since 1963 Most of these reports were listed in the May 1974 BULLETIN )*

State has since introduced a mandatory surgical-consultation program for Medicaid patients, and New York City has introduced a voluntary program for city employees Several Blue Cross plans are also offering the benefit on a voluntary

basis In 1976 the New York State legislature mandated a second-opinion benefit for all voluntary health insurance carriers, but the legislation is silent on the method to be used

Factors that require further investigation include the manner in which the consultants are chosen, the efforts directed toward publicizing the program to patients, and the management of the patients' requests for consultation Anecdotal and interview data from this study suggest that the New York State Employees health insurance program should modify its surgical-consultation program in each of these three critical areas The same problem areas are present in more recent second-opinion programs

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## Recent Publications\*

### EMPLOYMENT AND UNEMPLOYMENT

BREGGER, JOHN E "Establishment of a New Employment Statistics Review Commission" *Monthly Labor Review*, Washington, vol 100, March 1977, pp 14-20 \$20 a year \$2 40 single issue

Presents law and background leading to establishment of commission on employment and unemployment statistics

GROSSMAN, ALLYSON SHERMAN "The Labor-Force Patterns of Divorced and Separated Women" *Monthly Labor Review*, Washington, vol 100, January 1977, pp 48-53 \$20 a year \$2 40 single issue

HICKEY, JOSEPH A "State Unemployment Insurance Legislative Changes in 1976" *Monthly Labor Review*, Washington, vol 100, February 1977, pp 46-51 \$20 a year \$2 40 single issue

### HEALTH AND MEDICAL CARE

AMERICAN HOSPITAL ASSOCIATION *Comparative Statistics on Health Facilities and Population Metropolitan and Nonmetropolitan Areas* Chicago The Association, 1977 60 pp \$6

Includes data on hospitals by size, types and utilization of services, ownership, inpatient and outpatient activity, expenses and assets, and availability of services

\* Prepared in cooperation with the Office of Research and Statistics Library, Social Security Administration Orders for items listed should be directed to publishers and booksellers, Federal publications for which prices are listed should be ordered from the Superintendent of Documents, U S Government Printing Office, Washington, DC 20402