Statistical Trends in Utilization Review in Extended Care Facilities

DOROTHY KLEFFEL, RN, MPH

THE Medicare legislation of 1965 required that extended care facilities perform utilization review as a condition of participation in the program (*1*). This paper reports statistical trends for 3 years of Medicare. The data were based on information abstracted from reports of extended care facilities in Pennsylvania and pertain to Medicare patients whose cases were reviewed by utilization review committees.

The Hospital Utilization Project (H.U.P.) was developed in January 1963. Its purpose was to help utilization review committees screen and select patients' medical records for study and analysis by the use of centralized data processing. H.U.P. has developed, implemented, and evaluated utilization review programs for hospitals, rehabilitation centers, psychiatric facilities, and home care programs as well as extended care facilities.

Before Medicare was implemented, H.U.P. and the medical advisory committee of the Pennsylvania Medical Society recognized that a number of issues unique to extended care facilities would be highlighted by the requirements of utilization review. The Public Health Service expressed an interest in the development and evaluation of a utilization review program for extended care facilities.

H.U.P. was requested by the medical advisory committee to undertake development of a program aimed at providing a solution to the issues and problems. A project proposal titled "Demonstration and Study of Utilization Review in Extended Care Facilities" was submitted and subsequently approved in June 1967.

Abstracted medical record data on each discharged Medicare patient were sent by participating extended care facilities to H.U.P. for 3 years. The data were summarized every 6 months into a series of statistical reports. The reports contained information on patients from each facility as well as summary information on all patients. Some of the most significant statistical trends and patterns are discussed in this paper.

Ownership of Reporting Facilities

The number of Medicare-certified extended care facilities submitting abstracts for the 3-year period June 1967–June 1970 varied as facilities joined and dropped the program. Table 1 shows the number and type of ownership of extended care facilities from information submitted for June 1967 and June 1970. The table does not show the largest number of participating agencies during the 3 years. Fifty agencies were participating in December 1968.

Although the number of facilities in the program varied, the vast majority were proprietary during the 3 years of the program. In descending numbers, the other facilities were church related, hospital affiliated, or county administered.

Length Of Stay

The average length of stay of patients receiving Medicare benefits continually decreased throughout the study period, and all indications are that this trend will continue. The average length of stay at all facilities in December 1967 was 63.4 days. By June 1970 the average length of stay decreased to 37.6 days (table 2).

This pattern of decreasing length of stay is

Ms. Kleffel was director, extended care facility and home care programs, Hospital Utilization Project, Pittsburgh, Pa., when this paper was written. Data for this study were acquired under contract PH 110–148 with the Health Services and Mental Health Administration. Tearsheet requests to Dorothy Kleffel, 1307 9th St., Santa Monica, Calif. 90401.

also indicated by analysis of average stay by facility. Without exception, the average stay shortened in every participating facility. These decreases in individual facilities ranged from 65 to 25 days.

Number Of Patients

During the 3 years, 8,849 abstracts were submitted for patients insured under Medicare. It was extremely difficult to analyze trends relative to volume because of changes in the number and type of participating facilities.

However, the average number of patients under Medicare decreased significantly per facility. Table 3 shows that in December 1967 the average number of Medicare patients per facility was 73. By June 1970 this average had decreased to 44.

Diagnoses

Throughout the study the primary diagnoses of the patients' conditions were in three major diagnostic categories (2). The categories were "Diseases of the Circulatory System," "Diseases of the Nervous System," and cases classified as "Injuries and Adverse Effects of Chemical and Other External Causes." These three categories of primary diagnoses prompted the admission of 64 percent of the Medicare patients (table 4).

It should be noted that cerebral vascular accidents were included in "Diseases of the Nervous System" and all types of fractures were included in "Injuries and Adverse Effects of Chemical and Other External Causes."

Table 1. Type of ownership of participating extended care facilities for June 1967 and June 1970

Type of ownership	June 1967	June 1970
Proprietary	14	24
Hospital affiliated	5	6
Church related	7	11
County administered	3	2
Total	29	43

Table 2. Average length of stay under Medicare benefits

Time period [1]	Medicare patients	Days	Average length of stay (days)
July–December 1967	1,821	115,606	63.4
January–June 1968	1,206	64,963	53.8
July–December 1968	1,553	78,415	50.5
January–June 1969	1,888	81,885	43 3
July–December 1969	1,310	52,836	40.3
January–June 1970	1,071	40,187	37.6
Total	8,849	433,892	49.0

[1] The average length of stay was determined by adding the number of days from the day of admission to the day of discharge of all patients and dividing by the number of patients.

Table 3. Average number of Medicare patients in reporting extended care facilities

Time period	Number of facilities reporting [1]	Discharges of Medicare patients	Average number of Medicare patients per facility [2]
July–December 1967	25	1,821	73
January–June 1968	25	1,206	48
July–December 1968	36	1,553	43
January–June 1969	35	1,888	54
July–December 1969	32	1,310	41
January–June 1970	24	1,071	44

[1] Facilities submitting less than 5 medical record abstracts were deleted from the study.

[2] The average number of Medicare patients per facility was determined by dividing the number of facilities submitting information into the number of Medicare patients of all facilities.

Characteristics of Patients

The breakdown of patients by sex was 63 percent female and 37 percent male. The marital status of the patients varied little during the 3 years. Approximately 56 percent of the patients were widowed. The average age of the patients decreased from 80 to 78 years during the 3 years.

Patients' usual living conditions were relatively constant. Approximately 30 percent of the Medicare patients lived alone. Sixty-one percent lived either with their spouse, relatives, or friends. Five percent of the Medicare patients were identified as living in an institution or foster home. Data were not available for 4 percent of the patients.

Admission and Discharge Data

The number of diagnoses specified upon admission increased during the 3 years of the study. In December 1968, 52 percent of the patients had three or more illnesses diagnosed on admission. The percentage of patients with at least three or more diagnosed illnesses increased to 63 percent by June 1970. This increase seemed to reflect an

improvement in the quality of information rather than actual increases in the number of diagnoses.

The percentage of patients who died ranged from 17 percent to 21 percent during the reporting periods over the 3-year period.

The patients' mobility status on admission showed little change during the course of study. Approximately 32 percent of the patients were ambulatory (with or without assistance) at time of admission, while approximately 44 percent were classified as either bedfast or confined to a wheelchair which was pushed. At time of discharge, 36 percent were ambulatory (with or without assistance) while 25 percent were either bedfast or pushed in a wheelchair.

There was little change in the classification of the patients' mental status upon admission. Approximately 47 percent of the patients were classified as mentally clear, 30 percent were occasionally disoriented, and 14 percent were disoriented most or all of the time. Data were not available for 9 percent of the patients. At discharge 43 percent were mentally clear, 25 percent were occasionally disoriented, and 13 percent were disoriented most or all of the time. Data were not available for 19 percent of the patients.

The level of care required upon admission indicated approximately 6 percent of the Medicare patients required custodial or general nursing care rather than skilled care. Since patients were not eligible for Medicare benefits unless skilled care was required, this situation presented an inconsistency which was noted throughout the study.

The discharge status of patients was remarkably constant over the 3-year period. Eighteen percent of the patients were discharged either well or reaching maximum rehabilitation. Forty-five percent were either partially rehabilitated, or their condition was considered unlikely to change. Thirteen percent of the patients were discharged in a deteriorating condition. Twenty percent of the patients in the study died; data were not available for 4 percent.

A significant change occurred in the number of patients who required the use of an indwelling catheter upon admission to a facility. In December 1968, 8 percent of the patients required an indwelling catheter at the time of admission, and 16 percent at discharge. By June 1970, patients needing an indwelling catheter increased to 29 percent upon admission and decreased to 15 percent upon discharge. This change in pattern warranted investigation by utilization review committees.

Table 4. Primary diagnostic grouping upon admission of 8,849 Medicare patients discharged from extended care facilities, July 1967–June 1970

Diagnostic grouping	Number	Percent
Infective and parasitic diseases	75	0.8
Neoplasms	950	11.0
Allergic, endocrine system, metabolic and nutritional diseases	307	3.0
Diseases of blood and blood forming organs	69	.8
Mental, psychoneurotic, and personality disorders	179	2.0
Diseases of the nervous system and sense organs	**1,811**	**20.0**
Diseases of the circulatory system	**2,157**	**24.0**
Diseases of the digestive system	441	5.0
Diseases of the respiratory system	312	4.0
Diseases of the genitourinary system	231	3.0
Diseases of the skin and cellular tissues	67	.8
Diseases of the bones and organs of movement	277	3.0
Symptoms, senility, and ill-defined conditions	149	2.0
Injuries and adverse effects of chemical and other external causes	**1,789**	**20.0**
Data not available	35	.4
Total	8,849	99.8

Discussion

Statistical trends showed a continued decrease in the number of Medicare patients admitted to extended care facilities and a decrease in the average length of stay. These trends existed in every participating facility, and all indications show that they will continue. The reasons for the decrease in patients' average length of stay seem to be related to better utilization review activities and more stringent interpretation of the Social Security Administration's regulations concerning the type of Medicare patients (those needing skilled care) admitted to extended care facilities. It is also possible that there was a backlog of unmet medical needs in the over-65 population which ended when some of the financial barriers were eliminated by the Medicare program.

Previous to the illnesses for which the patients were hospitalized and then received care in an extended care facility, only 5 percent lived in an institution or foster home. The others lived either alone or with relatives or friends. The percentage of patients who normally lived in a nonhome setting was lower than expected; people assume

that large numbers of the elderly are institutionalized.

Statistical indicators showed that extended care facility patients were being rehabilitated to some degree. There was statistical documentation of patients' improvement of mobility status and a decrease in the need of indwelling catheters from time of admission to time of discharge. The mental status of patients decreased slightly overall. These indicators are encouraging as the prevalent image seems to be that patients admitted to extended care facilities deteriorate or die.

Statistics such as those which H.U.P. supplies show trends, patterns, and comparisons in a manner that extended care facilities cannot provide for themselves. Changing patterns indicate to the facility that these changes should be investigated by its utilization review committee. Based on these findings, professional and administrative changes can be made to improve use of extended care facilities and quality of care. For example, continual emphasis was placed on having those patients who were classified on admission as requiring general nursing care or custodial care reviewed for the appropriateness of admission by utilization review committees at the time of admission. Another example was the use of indwelling catheters mentioned previously.

Discharge indicators reflected a stable pattern which will probably continue under the existing Medicare benefits and the availability of resources. However, different statistical trends may occur in the future as legislative and regulatory changes are made.

REFERENCES

(1) U.S. Social Security Administration: Conditions of participation; extended care facilities, Federal health insurance for the aged, p. 405.1137, HIR–11 (2/68).

(2) U.S. Public Health Service: Seventh revision, International classification of diseases, adapted for use in United States. PHS Publication No. 719. U.S. Government Printing Office, Washington, D.C., 1962.

KLEFFEL, DOROTHY (Hospital Utilization Project, Pittsburgh, Pa.): *Statistical trends in utilization review of extended care facilities. After 3 years of Medicare. Health Services Reports, Vol. 88, March 1973, pp. 271–274.*

Twenty-nine to 50 extended care facilities submitted abstracted medical record information on patients receiving Medicare benefits to the Hospital Utilization Project (H.U.P.) for 3 years. The information was summarized every 6 months into a series of statistical reports.

Two significant trends were noted throughout the 3 years. The average number of patients per facility under Medicare decreased from 73 to 44. The average length of stay of patients receiving Medicare benefits decreased from 63.4 to 37.6 days. These trends existed in every participating facility.

The major primary diagnostic classifications of conditions of patients admitted to extended care facilities were diseases of the circulatory system, 24 percent; diseases of the nervous system, 20 percent; and injuries and adverse effects of chemical and other external causes, 20 percent.

Sixty-three percent of the patients were female and 37 percent male. More than half of the patients were widowed, and 61 percent usually lived with their spouse, relatives, or friends. Thirty-one percent lived alone. Five percent lived in institutions or foster homes, and no data were available on the remainder. Patients' average age ranged from 78 to 80 years during the study period.

Admission and discharge data showed some evidence of rehabilitation of patients. Thirty-two percent were ambulatory at the time of admission; 36 percent were ambulatory when discharged. Approximately 47 percent were mentally clear at admission; 43 percent were mentally clear when discharged.

Eighteen percent of the patients were discharged either well or reaching maximum rehabilitation. Forty-five percent were either partially rehabilitated or their condition was considered unlikely to change. Twenty percent of the patients died.

The statistical reports yielded data useful to the facilities' utilization review committees. Information on the use of indwelling catheters was cited as an example. In December 1968, 8 percent of the patients required an indwelling catheter when admitted to the facility; by June 1970, the proportion increased to 29 percent.

Changing statistical patterns are indicators that should be investigated by utilization review committees. Professional and administrative changes based on committee findings can improve utilization of extended care facilities and quality of patient care.