# Cost of Medical Care for the AGED



GRADUATE SCHOOL
OF BUSINESS
Stanford University
Stanford, California

# COST OF MEDICAL CARE FOR THE AGED

## (A Case Study Covering Experience in the Masonic Home at Decoto, California in 1952)

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BUSINESS RESEARCH SERIES
No. 7

GRADUATE SCHOOL OF BUSINESS
STANFORD UNIVERSITY, STANFORD, CALIFORNIA
[1955]

PRINTED AND BOUND IN THE UNITED STATES
OF AMERICA BY STANFORD UNIVERSITY PRESS

Price, 75 cents

# FOREWORD

Most studies in business relate management to manufacturing, mercantile, and public utility enterprises. They give minor and, in many cases, only passing attention to the business problems associated with the operation of governmental and semi-public institutions. The present study of the cost of medical care of the aged is a contribution to the knowledge of one of the most important business factors in the institutional care of such persons.

Previous studies of the institutional care of aged persons have been limited largely to such phases as the medical, psychological, and sociological aspects of their care. Research has given only minor consideration to the costs of administering such care. This study may, therefore, be considered a pilot project in such research.

There is a tendency among persons in academic environments to limit their interests to their own separate fields; such over-specialization is likely to narrow their scholastic interests to the detriment of progress. Since the present study is one of co-operation between the fields of medicine and business, it is also a demonstration of one of the types of research needed in modern society.

Although the Graduate School of Business has sponsored the publication of this study, it remains a product of the personal efforts of the writers. A grant of funds from the Palo Alto Medical Research Foundation covered a portion of the cost of gathering the information for this report.

The findings contained in this report should be of interest not only to those dealing with geriatrics but also to those who wrestle with the managerial problems of institutional care for the aged, problems that are becoming increasingly important as the age composition of our population shifts to an increased proportion of older persons.

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STANFORD UNIVERSITY
March 25, 1955

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# INTRODUCTION

The following report stems from an attempt to secure reliable information about the cost of medical care of those elderly people who are members of the Masonic Home for the Aged in Decoto, California. The opportunity to do so occurred when the Palo Alto Clinic of Palo Alto, California, undertook the medical care of that group, effective January 1, 1952. This report is based upon the full calendar year ended December 31, 1952.

Recent extensive studies regarding health needs of the nation have revealed a paucity of reliable statistical material regarding both the incidence of disease in the elderly and the size of their medical needs as measured in physicians' hours and nurses' time, hospital charges, and medical equipment and supplies. The writers hope that this case study may aid in determining a more useful direction for future studies. It is important to emphasize that any evaluation of the quantity or quality of the medical care needed by these patients is beyond the scope of this study, although every effort was directed toward giving patients the best medical and surgical care possible, the full support of the clinical laboratory and tissue pathologists, and the benefit of free and unhindered consultations.

During 1952, physicians and surgeons of the Palo Alto Clinic made regular visits five days a week to see patients who were either ambulatory or confined to the Home's infirmary. Emergency calls were made as needed, and patients requiring the attention of specialists or various ancillary services were transported to the offices of the Palo Alto Clinic. Patients seriously ill or needing major surgery were treated by the same staff at the Palo Alto Hospital. The records of these activities have been used in the preparation of this report. The Office of the Superintendent has also given the writers access to the Home's records on dental and optical services, which were performed outside of the arrangements with the Clinic. Finally, the Superintendent's office has been able to supply data on costs of the medicine used in the Home's infirmary itself and of medicine made available to individual members upon prescription.

The co-operation of the Superintendent offered an opportunity to study the mortality and morbidity during one calendar year and to make quantitative estimates of the amount of time

needed from physicians and surgeons in order to provide adequate modern medical care for this institutionalized group of elderly people of both sexes. The writers recognize that this group may not be representative of elderly people as a population. Our findings can be applied properly only if attention is given to the selective factors that have led the members of this group to their voluntary acceptance of the institutional life. It is also important to recognize that this report covers only one year. The plan is to extend this study to cover additional years of experience.

This introduction is followed by sections on the problem of group medical care for the aged, the nature of the members of the group that was studied, and the type of medical care supplied to them. The fifth and main section of this report deals with the findings of the study, and a sixth section gives certain average costs and indicates their limitations.

The main text is followed by four appendixes. The final appendix is a bibliography of writings on medical care; these writings either (1) cover cost problems of medical care in general or (2) deal with medical care for the aged with only incidental attention to costs.

# THE PROBLEM OF GROUP MEDICAL CARE FOR THE AGED

The lengthening span of human life has caused increased interest in medical care for the aged. Many elderly people are dependent to a complete or partial extent; for such people, the cost of medical care is critical, and the importance of determining that cost is evident. Ray Lyman Wilbur pointed out more than twenty years ago that it is easy to think of costs of medical care in terms of fees to physicians and surgeons, but that it is also important to recognize other significant elements of cost.[1]

Since the President's Commission on the Health Needs of the Nation met difficulty in its search for reports on the costs of medical care for elderly people, its published report was able to provide only limited information on costs of health service per couple for those couples past the age of 65 who were recipients of Old-Age and Survivors Insurance benefits. In this relatively small number of older people, the costs per couple were shown to average about $160 per year. The report of the Commission also indicates that, according to studies conducted in 1946 and 1949, "Only about one out of every eight of the couples in these studies had any form of hospital or medical care insurance."[2] The relative lack of insurance protection resulted from the fact that these persons are poor insurance risks and, therefore, insurable only at premiums high enough to be beyond their financial means.

The difficulties encountered by the President's Commission confirmed the widespread need for support of cost studies in this area.

## *Limited Literature on Cost of Medical Care for the Aged*

Significant publications on this subject include the article by Geiger, Miller, and Welke on "Chronically Ill and Convalescent Patients: Their Care in Institutions."[3] Written in 1938, this ar-

[1] Ray Lyman Wilbur, "Facts to Face the Future—The Task of the Committee on the Cost of Medical Care," *Survey Graphic*, Vol. XVI, No. 4, January 1930, pp. 429–30.

[2] The President's Commission on the Health Needs of the Nation, *Building America's Health*, Vol. 1 (Washington, D.C.: U.S. Government Printing Office, 1951), p. 72.

[3] J. C. Geiger, Roslyn Miller, and Hilda F. Welke, "Chronically Ill and

ticle is based on a study of San Francisco's Laguna Honda Home for indigent persons. Since of these people only 60 percent were more than 60 years of age, since some of them were afflicted with diseases not necessarily related to old age (such as venereal diseases, diabetes, and alcoholism), and since their diseases probably contributed to their admission rather than to their exclusion, the Laguna Honda situation differs materially from the one at Decoto. Persons admitted at Decoto must possess a certain degree of physical well-being and also have some emotional stability; neither of these requirements is made of the patients at the Laguna Honda Home.

A book of considerable interest was published by Robert T. Monroe in 1951, under the title *Diseases in Old Age.*[4] Monroe's study covered 7,940 persons over 61 years of age who received treatment at the Peter Bent Brigham Hospital in Boston. This hospital was established primarily to care for the indigent sick of Suffolk County, Massachusetts. Although all its patients have not been in financial need, there has been a weighting toward the underprivileged class. Monroe's work is comparable to this present study in that he samples people from a limited locality. The studies differ, however, in that the present one is confined to persons with no remaining means of support. In other words, it applies to persons who do not enter into the records until their personal means of support are exhausted. This is not necessarily true of the patients in Monroe's sample. Another difference between the present and the Boston study is that the latter was extracted from a situation not designed especially for aged people. Monroe gives special emphasis to the nature and incidence of disease and only slight attention to costs.

Another work of significance, this one compiled by a number of outstanding physicians, was published in 1949 by Edward J. Stieglitz under the title *Geriatric Medicine: The Care of the Aging and the Aged.*[5] This study is largely a description of the nature, incidence, and treatment of various diseases affecting mankind in old age. The costs of treatment are not explored.

Another study, published in 1953 by the National Committee on the Aging, of the National Social Welfare Assembly,

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Convalescent Patients: Their Care in Institutions," *California and Western Medicine*, Vol. IL, No. 6, December 1938, pp. 430–36.

[4] Cambridge: Harvard University Press, 1951.

[5] Philadelphia: W. B. Saunders Co., 1949.

was entitled "Standards of Care for Older People in Institutions." In Section I, "Suggested Standard for Homes for the Aged and Nursing Homes," is a challenging statement of the social needs of aged persons. It covers such matters as medical attention, education and recreation, the work needed to maintain vigor, and the religious atmosphere needed by elderly persons. It deals with their fears of disease, of separation from their families, and of a changed way of life.

The authors of this study also discuss such matters as nutrition, daily hygiene, preventive medicine, infirmaries, isolation rooms, and nursing care. Their study is particularly interesting in that it touches upon maintaining health and vigor by recreation and work. Although attention is given to the duties and qualifications of personnel required to help care for the aged, again only incidental and limited attention is given to costs.

A recent study by a group of professors at Pomona College makes its contribution by covering an interesting array of matters relative to the care of needy aged persons, especially in California. Although these scholars rank the need for medical care first in their list of "specified unmet needs" of aged persons in California,[6] they give only passing attention to the costs of meeting this outstanding need.[7]

*Emphasis on Costs in This Study*

The purpose of the present study is to provide information needed to clarify the cost aspects of medical care for the aged. The costs described in the present study include all those directly traceable to the care of the aged at the Masonic Home at Decoto. The emphasis is on the dollar outlay to the Home, and this outlay is broken down by major elements of cost. No attempt is made to cover such indirect and nontraceable costs as those for buildings and grounds sunk into the general care of the aged.[8] Furthermore, no attempt has been made to measure the costs *to an institution* of providing medical care—for example, the costs incurred by the Palo Alto Clinic in making its services

[6] Floyd A. Bond, Ray E. Baber, John A. Vieg, Louis B. Perry, Alvin H. Scaff, and Luther J. Lee, Jr., *Our Needy Aged: A California Study of a National Problem* (New York: Henry Holt and Company, 1954), p. 34.

[7] *Ibid.*, pp. 163–65.

[8] The concept of sunk costs used here applies to those expenditures irrevocably committed to their specific use.

available. We indicate only the fee received by the Palo Alto Clinic, except in so far as we have indicated the contribution of physicians' and surgeons' time. Likewise, we express the costs of hospitalization outside of the Home in terms of the regular rates assessed by the Palo Alto Hospital, but we do not try to determine what it costs the hospital to render its service.

## THE NATURE OF THE MEMBERSHIP AT DECOTO

The elderly persons who live in the Masonic Home for the Aged at Decoto are members of the Masonic Order or are wives or widows of Masons. Presumably they have no means of support. Admission is by sponsorship of the applicant's local lodge. When admitted to the Home, members come under the guardianship of the Board of Trustees. This arrangement permits appropriate care for them if relatives are not available to assume responsibility when emergencies occur.

All members of the Home must be ambulatory at the time of admission. Admission is for a probationary period of six months; during this time the prospective member can appraise the desirability of his becoming a permanent resident of the Home and demonstrate to the management and to the other members that he will fit into the community. The candidate becomes a "member" of the Home after he has successfully passed this six-month test. A member who successfully qualifies is presumed to have some degree of good health at the time of entry, considering his age. It is also anticipated that his health is not likely to be impaired by emotional maladjustments induced by his new environment.

There is no attempt to maintain any predetermined ratio of the sexes. In the early years of the Home's history there was a preponderance of men. At the present time women are in the majority (Exhibit A). This increase in the proportion of women

EXHIBIT A
CHANGES IN MEMBERSHIP DURING 1952

| | Total | Male | Female |
|---|---|---|---|
| Members in Home, December 31, 1951 | 292 | 122 | 170 |
| Entered Home during 1952 | 61 | 28 | 33 |
| Subtotal | 353 | 150 | 203 |
| Died during 1952 | 44 | 25 | 19 |
| Members in Home, December 31, 1952 | 309 | 125 | 184 |
| *Percent male and female:* | | | |
| December 31, 1951 | 100.0 | 41.8 | 58.2 |
| December 31, 1952 | 100.0 | 40.5 | 59.5 |

continued during 1952 (from 58.2 percent on December 31, 1951 to 59.5 percent on December 31, 1952).

Members of the Home are well fed and clothed. Their rooms are comfortable and they are allowed a certain amount of spending money for tobacco and other small luxuries. There are no specific work requirements, although a few light jobs are available for some of the members. An experienced, devoted, and highly efficient resident nursing staff, constantly on duty, serves the membership. In addition to providing preventive, diagnostic, and therapeutic medical care (described in the next section), the management is aiming at a continued improvement in recreational conditions for the members. The management encourages various lodges to present entertainment; motion pictures are provided once a week; and visitors to members receive a gracious welcome which encourages them to return.

"Comprehensive health service includes the positive promotion of health, the prevention of disease, the diagnosis and treatment of disease, [and] the rehabilitation of the disabled. . . ."[9] Rehabilitation, the last of these phases, is still inadequate at Decoto. It must be recognized that providing occupational therapy in such a home is difficult because many of the members lack sufficient energy to engage in any sort of work. It is theoretically possible, however, to provide some sort of work for most of the members when they enter the Home. This method of preventing illness has not yet received enough attention, but an expert in rehabilitation (a physician) began to visit the Home regularly in 1953.

[9] The President's Commission on the Health Needs of the Nation, *Building America's Health*, Vol. 1 (Washington, D.C.: U.S. Government Printing Office, 1951), p. 3.

## THE NATURE OF MEDICAL CARE

The medical care provided at Decoto includes both treatment and preventive medicine. Physicians call at the Home for consultation with patients. Several physicians take turns in making these calls, so that the members have an opportunity to see a doctor of their own choice. They await the visits of their "own doctor" for a large share of their needs. This type of therapeutic and preventive medicine is supplemented by visits to the Palo Alto Clinic for X-ray therapy or examination or some other specialized service. In addition, observation, medical treatment, and surgery are available at the Palo Alto Hospital. Members receive such care as can be given without the complete facilities of a general hospital in the infirmary of the Home. In addition, members receive dental treatment and the services of an optometrist.

### *Nonrandom Nature of Medical Care*

In certain respects the medical attention which the members of the Home receive is not random in character. There is a great deal of suggestion in the desire for medical care. With members being relatively unoccupied, many are inclined to desire the same treatment that other members of the Home receive. Members feel the need for medical care more than they would if they were gainfully employed during the day. The infirmities of old age are likely to be numerous and chronic, and they are not infrequently complicated by depression and somatic preoccupation.

## DIRECT COSTS OF MEDICAL CARE

The costs of medical care which are covered in this report are the clearly determinable out-of-pocket costs of all the services listed in the previous section. Included are salaries of nurses and other personnel in the infirmary of the Home, costs of pharmaceutical products purchased either in bulk or by individual prescription, fees paid to the Palo Alto Clinic for consultation and surgery (at the rate of five dollars per member per month), amounts paid to the Palo Alto Hospital for hospitalization, fees paid to dentists and optometrists, and costs of filling prescriptions for glasses. Costs not included are such out-of-pocket costs as the cost of maintenance and repair of the infirmary at Decoto; the fixed charges on the property, such as insurance; and the sunk costs, such as depreciation on that portion of buildings and equipment which is used for the infirmary. Food for patients in the infirmary is excluded, although the board costs at the Palo Alto Hospital appear in costs of hospitalization. Thus, the costs included are of a direct and identifiable nature. Minor leads and lags between dates of illness and expenditure are ignored.

The costs exclude those incurred for care of members sent to mental institutions, since records show these as having been transferred out of the Home. Likewise, the effect of such persons (who are few in number) upon the typical life span of persons in the Home is lost. No data were available for this study on costs incurred for psychiatric treatment of those requiring state institutional care.

### *Cost Summary*

The total direct costs incurred for medical care at the Home at Decoto during 1952 were almost $69,000 (Exhibit B). The largest single item was the approximate $31,000 for salaries of nurses and other personnel working in the infirmary. Next in magnitude was the $16,140 paid to the Palo Alto Clinic for the services of physicians and surgeons at the Home, consultations at the Clinic, and treatment at the Palo Alto Hospital. Third in importance was the cost of hospitalization at the Palo Alto Hospital of almost $8,700. These three major items accounted for over 80 percent of the Home's direct expenses for medical care. The next two items were (1) outlays for infirmary supplies, such

as dressings, pans, sterilizers, and (2) payments for drugs and prescriptions, which amounted respectively to $5,100 and $4,900. Next came the approximate $1,500 spent for refractions and eye glasses. This is followed by about $1,100 for dental work. Minor items for ambulances, special nurses, and anesthetists amounted to about $600.

EXHIBIT B
DIRECT COSTS OF MEDICAL CARE, 1952

| Item | Amount | Percent of Total |
|---|---|---|
| Payroll, nurses, etc., in infirmary | $30,823.96 | 44.8 |
| Fees—Palo Alto Clinic | 16,140.00 | 23.4 |
| Hospital | 8,698.98 | 12.6 |
| Surgical supplies | 5,053.15 | 7.4 |
| Drugs and prescriptions | 4,890.73 | 7.1 |
| Refractions and glasses | 1,532.88 | 2.2 |
| Dental expense | 1,062.50 | 1.6 |
| Special nurses | 305.50 | .4 |
| Anesthetists | 175.00 | .3 |
| Ambulance | 111.50 | .2 |
| *Total direct costs* | $68,794.20 | 100.0 |

*Payrolls for Nurses and Assistants in the Infirmary*

The total cost of nurses and other personnel employed in the infirmary, which amounted to almost $31,000, constituted 45 percent of the total direct cost of medical care as defined for this study. The monthly figures remain fairly constant, not varying more than $200 from the highest to the lowest months.

*Payments to Physicians and Surgeons*

Fees paid to the Palo Alto Clinic, which amounted to slightly more than $16,000, or 23.4 percent of all direct medical costs, were geared to the membership changes and varied between the limits of $1,400 and $1,500 per month.

These fees include payments for consultation at both the Home and the Clinic and for hospital care and surgery. They represent joint costs determined by contractual relationship between the Home and the Clinic and cannot be differentiated except upon some arbitrary basis. If an arbitrary allocation were to be made, the major breakdown would be between surgery and

medical consultation, but such an allocation would probably be without significance.

*Costs of Hospitalization*

The cost of hospitalization, just under $8,700, constituted 12.6 percent of the Home's direct medical expenses in 1952. Of this amount 73 percent, or slightly more than $6,300, was for hospitalization related to major surgery (Table 1); the remainder, slightly more than $2,300, was for hospitalization related to observation or treatment other than surgical (Table 1). There is no clearly defined seasonality with respect to the hospital costs, although the higher costs were in the nonsummer months.

Of the hospital costs of slightly more than $6,300, which related to surgery, about $3,400, or 53 percent, were for room charges. Next in order were operating room, $700; drugs, $700; blood, $469. The remaining items applied to laboratory and miscellaneous charges (Table 2).

Hospitalization for reasons other than surgery (Tables 3 and 5) accounted for slightly more than $2,300; $1,400 went for room charges, $300 for blood, $200 for drugs, and the remainder largely for X-ray and laboratory fees.

The major portion of hospitalization costs related to surgery was for surgery on the prostate (Table 4). This is not unexpected, since most of the days of hospitalization are for men and one of their common illnesses is benign hypertrophy of the prostate. Next in order is hospitalization for bone injuries.

*Surgical Supplies; Drugs and Prescriptions; Minor Items*

So-called surgical supplies, which cost over $5,000, include a variety of items to meet the needs of the Home's infirmary (Exhibit B). Of the $4,900 spent for drugs and prescriptions, $4,300 went for bulk purchases of drugs and related items and only about $600 for filling of prescriptions. Minor items amounted to just under $600 (Exhibit B).

*Dental Expense; Refractions and Glasses*

Dentistry, not supplied in the contract with the Palo Alto Clinic, amounted to approximately $1,100.

Refractions are performed by an optometrist and do not come within the contract with the Palo Alto Clinic. The combined

cost for both refractions and glasses was about $1,530, or 2.2 percent of the total direct cost (Exhibit B).

*Kind of Illness Treated*

It is apparent from Exhibit C that most of the hospitalization is in the infirmary at Decoto. There were almost 20,000 infirmary days, or one-fifth of the time of the entire group was spent in the infirmary. In addition, the small number of 316 hospital days were spent in the Palo Alto Hospital. It is also apparent from Exhibit C that care of women accounted for about three-fourths of the days spent in the infirmary, whereas about two-thirds of the days spent at the Palo Alto Hospital were accounted for by men.

EXHIBIT C

PROFESSIONAL CONSULTATION AND HOSPITALIZATION, 1952

| | Total | Male | Female |
|---|---|---|---|
| Visits by patients to doctors who called at the Home: | | | |
| Number of visits | 4,755 | 1,971 | 2,784 |
| Number of patients | 342 | 150 | 192 |
| Average visits per patient | 13.9 | 13.1 | 14.5 |
| Visits by patients to Palo Alto Clinic: | | | |
| Number of visits | 384 | 277 | 107 |
| Number of patients | 96 | 49 | 47 |
| Average visits per patient | 4.0 | 5.7 | 2.3 |
| Use of Palo Alto Hospital: | | | |
| Number of patient days | 316 | 210 | 106 |
| Number of patients | 24 | 14 | 10 |
| Average days per patient | 13.2 | 15.0 | 10.6 |
| Use of infirmary at the Home: | | | |
| Number of patient days | 19,832 | 4,858 | 14,974 |
| Number of patients | 204 | 90 | 114 |
| Average days per patient | 97.2 | 54.0 | 131.4 |

NOTE: These data came from nurses' records of individual patients and might contain duplication, but indication of differences between sexes in use of different kinds of medical care is reliable. The nature of the source enabled us to make a distinction between male and female patients that we could not make elsewhere.

The physicians made about 4,700 visits to members at the Home, while only 384 visits were made by the members to the doctors at the Palo Alto Clinic. Of the visits at the Home, the

majority were by women; the visits to the Clinic were made mostly by men (Exhibit C).

Physicians made 253 trips to the Home during 1952 (Table 6). These trips required about 600 hours of professional time, including 250 hours for travel and 350 hours for actual consultation. The figures on the visits to the patients at the Home do not permit classification by diagnosis. One cannot be sure of how much of the work was routine examination of those without complaints.

Records are available, however, on the types of specialists called upon at the Palo Alto Clinic. This information in turn indicates the types of disorder which have caused difficulty (Table 7). More visits were made by males to the Clinic's urology department than to any other. These were for treatment of disease of the prostate. Next in order is the ophthalmology department for diseases of the eyes; these services are, of course, exclusive of refractions. The dermatology department is third in order. These three specialties account respectively for 121, 72, and 56 of the 384 visits made to the Clinic.

## AVERAGE COSTS

Certain arithmetic averages compiled from data in this study are supplied below as a means of summarization. They are determined by dividing costs from Exhibit B by the average membership of the Home during the year under review.

| | |
|---|---|
| Average payroll cost per member for nurses and helpers in the infirmary | $103.00 |
| Annual fee to the Palo Alto Clinic (actual contractual rate is $5.00 per member per month) | 54.00 |
| Hospitalization costs | 29.00 |
| Surgical supplies | 17.00 |
| Drugs and prescriptions | 16.00 |
| Refractions and glasses | 5.00 |
| Dental expense | 3.00 |
| Other direct costs | 2.00 |
| *Total direct costs* | $229.00 |

Averages such as these have a number of limitations. Among them is the fact that many institutions which care for old people might not have the same health and dependency factors as apply at Decoto. Also, the type of medical care might differ. Furthermore, in the cost of some of the rarer diseases of old age their incidence or lack of incidence in a single year of study would materially influence the per capita averages. Another home might also have a different old age composition or might provide a different degree of occupational therapy.

However, in another home with similar health and living situations and similar provisions for medical care, the direct costs of medical care should tend to resemble those presented in this study.

## Appendix A

# THE PROBLEM OF THE AGED IN INSTITUTIONS

In many of the difficulties of old age, economic problems assume prominence. Since old age is part of normal life, it seems proper to say that most old people are normal. From the point of view of the physician, however, apparent freedom from disease usually means undiscovered disease. The physicians who have participated in this year's work at the Home frequently sensed in their patients a degree of apprehension with respect to disease, disability, and waning financial resources. These anxieties are well founded. It is possible that fear influenced the entrance into the Home of the group now under study. Lessened anxiety may contribute to longevity.

At the moment it is not known how much activity elderly people should have. As viewed by the active person in middle age, members of this home seem to have too few avocations. At the same time (and like everybody else), old people like to control their own activities and act at their own speed. It is recognized that too little activity is dangerous, but the apparent health and seeming happiness of the members tend to support the attitude of the present administration of the Home, which is not now favorably inclined toward an organized program of occupational therapy. This bears upon one of the important dilemmas in institutional care of elderly people. We are faced with the necessity of planning for large groups of old people, and yet most elderly people have acquired enough individuality to resist the mass action toward which any such planning would inevitably tend. This dilemma is an important concern of those who direct institutions for the aged. This problem impinges directly on the selection of members and indirectly on their need and demand for medical services.

### *Nature of Geriatric Illness*

As the aged become relatively and absolutely more numerous the demand for their medical care also increases. It has been a matter of some interest to compare the material in this study with that reported by Monroe from the Peter Bent Brigham Hospital in Boston. He reviewed records of those patients admitted

to that hospital over the age of 61 years. It was noted that from 1913 to 1918 only 6.67 percent of the patients exceeded 61 years of age. In the five-year period 1943–48 this age class included 20 percent of the patients.[1]

The belief that longevity is influenced in a major way by heredity is again confirmed by Monroe's study. His carefully recorded family histories of the older patients showed that their immediate ancestors had been beyond the average in longevity. In the Peter Bent Brigham Hospital, 12 percent of the patients were considered upon clinical grounds to have neoplasia of one site or another, but at autopsy the figure was 24.8 percent.

It is difficult to form an accurate idea of the emotional stability of these older citizens. Many of the normal personal characteristics of the aged are exaggerations of personality traits that can be accepted as usual or can be considered as psychoneurotic symptoms. Evidently about one-third of the Peter Bent Brigham Hospital patients could be considered as having psychoneurotic reactions. The patients at Decoto, however, seem to be a more stable group, partly owing to the selective factors which control their entry into the Home, but chiefly because of the significant decrease in their anxiety about economic needs. There is even some reason to believe that the present system of medical care at Decoto has decreased to some extent the members' worries about their health and disabilities.

Whenever a new system of supplying medical care is placed in operation there is an initial overload or overuse of the service, which may stem from curiosity and anxiety on the part of the patients. As they become accustomed to the service and are reassured that it indeed does exist, their anxiety and tension lessen. All of these factors probably contribute to the surprisingly low incidence of psychoneurotic reactions in the elderly individuals who make up this particular institutional group.

From our study of reports and surveys dealing with other homes for the aged and from our own observations at Decoto we have concluded that medical therapy becomes relatively too important in the minds of those who deal with and care for the members of the Home. The reasons for this are obvious: younger people can never be entirely unaware of the intellectual and physical infirmities of the aged. A medical program is never

[1] Robert T. Monroe, *Diseases in Old Age* (Cambridge: Harvard University Press, 1951), p. 2.

complete, however, when it is entirely therapeutic. There is ample opportunity for preventive medicine in a home for the aged, and the therapeutic part of the medical program should never be allowed to overshadow the other activities in the home. In a survey report of the Jewish Home for the Aged at Troy, New York, there is a persisting thought that might well be considered in relation to the Home at Decoto: "The medical program should become an integral part of a total institutional program focused on the strengths and capacities of the residents rather than upon their weaknesses and disabilities."[2] This excellent objective may be implemented in part by the greater use of physical therapy and of the techniques now considered to be a part of rehabilitation. Occupational therapy may be involved, but it is not now clear how best to capture its benefits.

[2] Kurt G. Herz, *The Jewish Home for the Aged, Troy, New York*, New York City: Council of Jewish Federations and Welfare Funds, 1953, p. 3.

## Appendix B

## VITAL STATISTICS

*Changes in Membership During 1952*

At the beginning of 1952 the membership of the Home was 292. During the year there were 61 admissions against 44 deaths, so that membership increased to 309 by the end of the year (Exhibit A). The male membership was 122, or 41.8 percent of the total at the beginning of the year. There was a net increase of three male members during the year to 125, with the percentage of the total membership dropping to 40.5. There were 170 women at the beginning of the year. As a result of 19 women dying and 33 entering the Home, the female membership had increased to 184 by the end of the year, so that they constituted 59.5 percent of the membership as against 58.2 percent at the beginning of the year.

*Average Age at Death*

During the history of the Home, from 1899 to 1952, the average (i.e., arithmetic mean) age at death has been about 78 years (Table 8). This age has increased somewhat in recent years. It was almost 78 years for those who died between 1899 and 1945 and has increased to almost 81 years for those who died between 1946 and 1952.

*Age Distribution of the Membership*

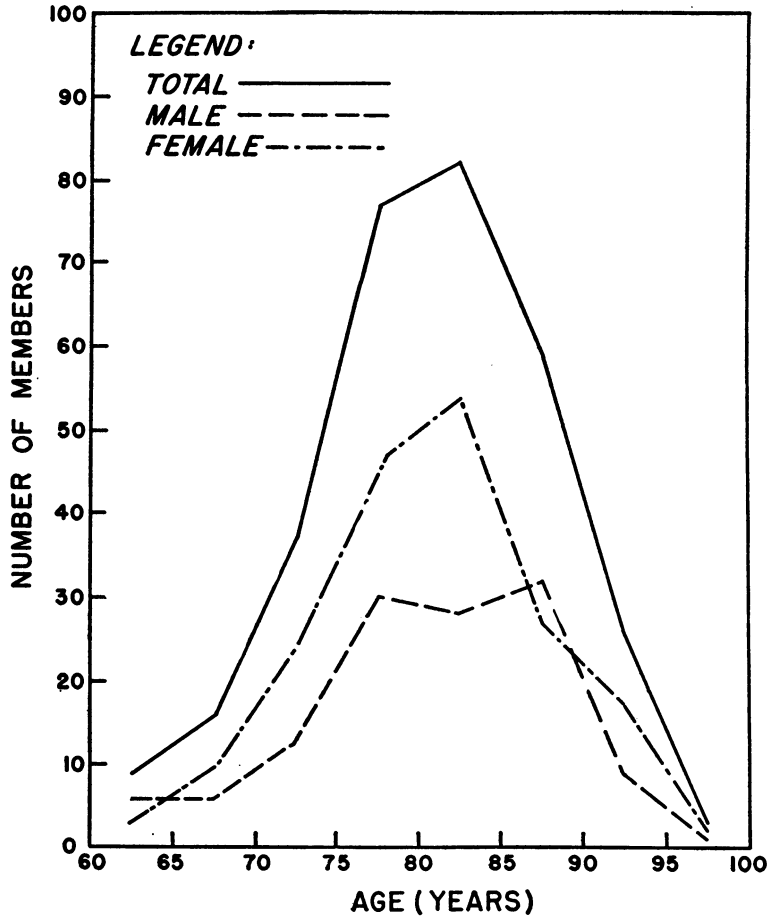
According to the frequency distribution shown in Figure 1 and Table 9, the modal age of the entire living membership is somewhere between 80 and 84 years. This is also true for the women. The men have a relatively flat-topped distribution from 75 to 89 years, except for a mild indication of peak distribution in the 85–89 age group.

*Years of Life in the Home*

Members have a median life span of about 3.9 years in the Home, with the median for the men being 3.6 years and that for the women about 4.5 years (Table 10). The life span of female members has a relatively small influence on the typical figures for the membership of past years, for women then constituted a

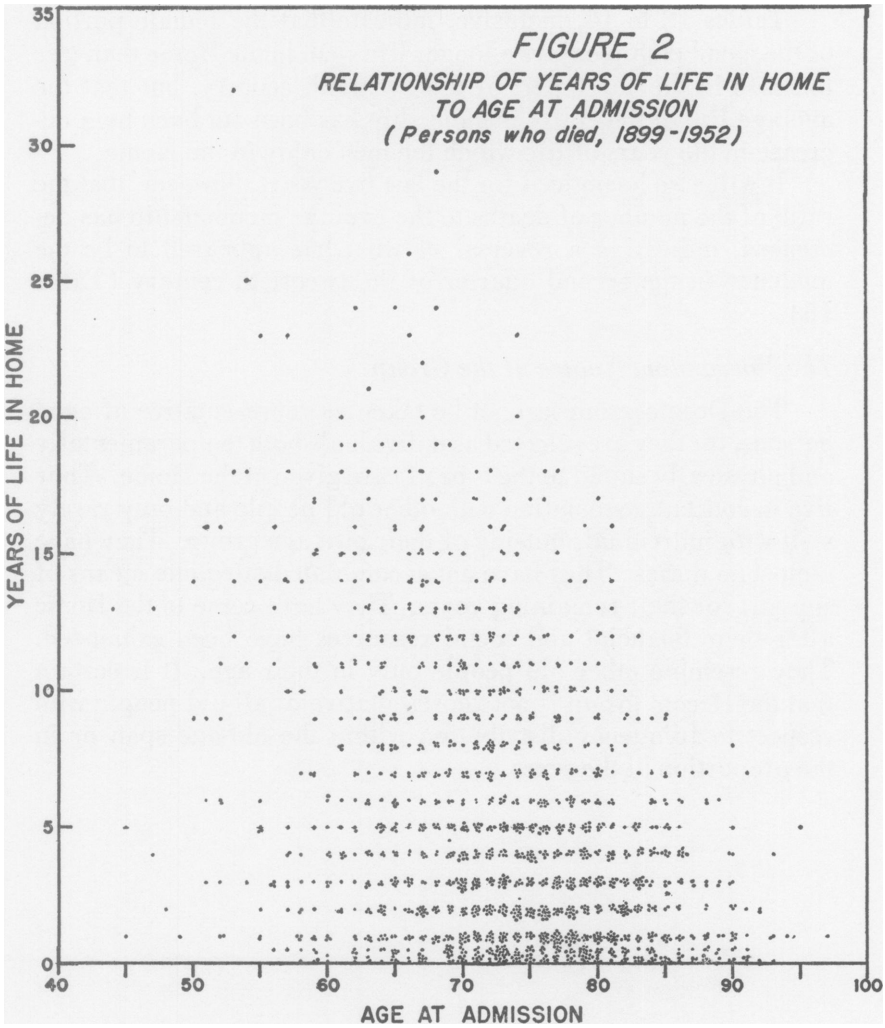
*Figure 1*

AGE DISTRIBUTION OF 309 MEMBERS
MASONIC HOME, DECOTO
December 31, 1952




small percentage of the entire membership. Now that women have increased proportionately it is probable that they will contribute to a slightly longer median life span for the Home as a whole.

As shown in Figure 2 the length of survivorship after entering the Home is influenced little by the age of the member when




admitted, except for those who have lived in the Home for an extremely long period of time. These were young enough when admitted to attain a considerable period of survivorship.

The interquartile range of life after entering the Home has been between the approximate limits of 1.7 and 8.0 years. For men this range is within the approximate limits of 1.5 and 7.5 years; for women, between 2.1 and 9.0 years (Tables 10 and 11).

Tables 12 to 14, inclusive, indicate that the female portion of the membership enjoys a longer life span in the Home than was the case in the early part of the twentieth century, but that the average life of the entire membership has been cut back by a decrease in the years of life which the men enjoy in the Home.

It will also be noticed for the last five years, however, that the ratio of the number of deaths to the average membership has decreased, indicating a reversal of what has appeared to be the tendency in the second quarter of the twentieth century (Table 15).

*The Nonrandom Nature of the Group*

The Decoto group cannot be taken as representative of aged persons, for they are selected as individuals both temperamentally and physically suited to the type of care given at the Home. They live in constant association with other old people and only rarely visit with individuals outside of their own age group. They have almost no duties. They have not accumulated adequate means of support for their remaining years. They have come to the Home after their financial and social resources have been exhausted. They resemble other old people only in their age. It is certain that the Decoto group is not representative of all old people with respect to frequency distribution within the old-age span or in the proportion of the sexes.

## APPENDIX C

## TABLES

TABLE 1.—COSTS OF HOSPITALIZATION AND PATIENT DAYS, BY MONTHS, 1952

| Month | Costs | | | Patient Days | | |
|---|---|---|---|---|---|---|
| | Total | Surgery | Other | Total | Surgery | Other |
| January ..... | $1,334.01 | $ 735.76 | $ 598.25 | 47 | 28 | 19 |
| February .... | 651.69 | 651.69 | ..... | 23 | 23 | .. |
| March ..... | 439.50 | 250.87 | 188.63 | 13 | 7 | 6 |
| April ..... | 1,144.53 | 1,067.63 | 76.90 | 36 | 34 | 2 |
| May ..... | 261.88 | 261.88 | ..... | 14 | 14 | .. |
| June ..... | 153.93 | ..... | 153.93 | 4 | .. | 4 |
| July ..... | 775.32 | 775.32 | ..... | 20 | 20 | .. |
| August ..... | 406.50 | 406.50 | ..... | 12 | 12 | .. |
| September ... | 695.79 | 551.51 | 144.28 | 23 | 21 | 2 |
| October ..... | 1,265.18 | 970.98 | 294.20 | 39 | 29 | 10 |
| November ... | 560.88 | 205.78 | 355.10 | 24 | 7 | 17 |
| December ... | 1,009.77 | 471.31 | 538.46 | 49 | 19 | 30 |
| Total ..... | $8,698.98 | $6,349.23 | $2,349.75 | 304 | 214 | 90 |
| Percent ... | 100.0 | 73.0 | 27.0 | 100.0 | 70.4 | 29.6 |

## TABLE 2.—COSTS OF HOSPITALIZATION FOR SURGERY BY MONTHS, 1952

| Month | Total Cost | Room | | Operating Room | Laboratory | Drugs | X-ray | Pathology | Blood | | Special Nurses | Other Costs |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Patient Days | Charges | | | | | | Pints | Charges | | |
| January ..... | $ 735.76 | 28 | $ 412.00 | $ 96.50 | $ 36.00 | $ 71.81 | $ 65.00 | $ 15.00 | .. | ..... | ..... | $ 39.45 |
| February .... | 651.69 | 23 | 363.50 | 58.25 | 7.00 | 88.59 | ..... | 15.00 | 1 | $ 30.00 | $ 60.00 | 29.35 |
| March ..... | 250.87 | 7 | 115.50 | 18.25 | 17.50 | 24.67 | 55.00 | ..... | .. | ..... | ..... | 19.95 |
| April ..... | 1,067.63 | 34 | 541.00 | 164.85 | 51.83 | 103.10 | 44.50 | 30.00 | 2 | 64.00 | 52.00 | 16.35 |
| May ..... | 261.88 | 14 | 231.00 | ..... | ..... | .88 | 20.00 | ..... | .. | ..... | ..... | 10.00 |
| June ..... | None | | | | | | | | | | | |
| July ..... | 775.32 | 20 | 290.00 | 52.75 | 60.33 | 128.24 | 20.00 | ..... | 6 | 186.00 | ..... | 38.00 |
| August ..... | 406.50 | 12 | 198.00 | 41.75 | 22.00 | 39.00 | ..... | 15.00 | 1 | 33.00 | ..... | 57.75 |
| September ... | 551.51 | 21 | 304.50 | 51.10 | 17.50 | 71.21 | 63.00 | ..... | 1 | 33.00 | ..... | 11.20 |
| October ..... | 970.98 | 29 | 466.50 | 151.50 | 71.50 | 64.57 | 12.50 | 45.00 | 4 | 123.44 | ..... | 35.97 |
| November ... | 205.78 | 7 | 115.50 | 46.50 | 4.00 | 24.28 | ..... | 15.00 | .. | ..... | ..... | .50 |
| December ... | 471.31 | 19 | 342.00 | 41.50 | 15.00 | 64.06 | ..... | ..... | .. | ..... | ..... | 8.75 |
| Totals ..... | $6,349.23 | 214 | $3,379.50 | $722.95 | $302.66 | $680.41 | $280.00 | $135.00 | 15 | $469.44 | $112.00 | $267.27 |
| Percent ... | 100.0 | .. | 53.4 | 11.4 | 4.7 | 10.7 | 4.4 | 2.1 | .. | 7.4 | 1.7 | 4.2 |

TABLE 3.—COSTS OF HOSPITALIZATION OTHER THAN FOR SURGERY BY MONTHS FOR 1952

| Month | Total | Room | | Laboratory | Drugs | X-ray | Blood | | Other Costs |
|---|---|---|---|---|---|---|---|---|---|
| | | Patient Days | Charges | | | | Pints | Charges | |
| January | $ 598.25 | 19 | $ 283.50 | $ 75.83 | $ 34.55 | $ 30.00 | 4 | $120.15 | $ 54.22 |
| February | None | | | | | | | | |
| March | 188.63 | 6 | 99.00 | 34.67 | 17.00 | ..... | 1 | 31.00 | 6.96 |
| April | 76.90 | 2 | 33.00 | 5.00 | ..... | ..... | 1 | 32.00 | 6.90 |
| May | None | | | | | | | | |
| June | 153.93 | 4 | 66.00 | 2.00 | .93 | 85.00 | .. | ..... | ..... |
| July | None | | | | | | | | |
| August | None | | | | | | | | |
| September | 144.28 | 2 | 31.00 | 24.50 | .78 | 15.00 | 2 | 60.00 | 13.00 |
| October | 294.20 | 10 | 163.00 | 32.50 | 3.05 | 12.50 | 2 | 61.00 | 22.15 |
| November | 355.10 | 17 | 246.50 | 7.50 | 79.85 | 15.00 | .. | ..... | 6.25 |
| December | 538.46 | 30 | 480.00 | ..... | 57.80 | ..... | .. | ..... | .66 |
| Total | $2,349.75 | 90 | $1,402.00 | $182.00 | $193.96 | $157.50 | 10 | $304.15 | $110.14 |
| Percent | 100.0 | .. | 59.6 | 7.7 | 8.3 | 6.7 | .. | 13.0 | 4.7 |

## TABLE 4.—COSTS OF HOSPITALIZATION FOR SURGERY, 1952
## (BY TYPES OF SURGERY)

| Nature of Operations | No. of Operations | Total Cost | Room | | Operating Room | Laboratory | Drugs | X-ray | Pathology | Blood | | Special Nurses | Other Costs |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Patient Days | Charges | | | | | | Pints | Charges | | |
| Prostate ..... | 9 | $2,943.74 | 93 | $1,468.50 | $328.50 | $159.83 | $279.60 | $120.00 | $ 75.00 | 7 | $217.44 | $112.00 | $182.87 |
| Bone injuries ... | 3 | 1,289.07 | 51 | 793.50 | 114.45 | 41.00 | 118.92 | 127.50 | ..... | 2 | 66.00 | ..... | 27.70 |
| Anterior gastro-enterostomy .. | 1 | 775.32 | 20 | 290.00 | 52.75 | 60.33 | 128.24 | 20.00 | ..... | 6 | 186.00 | ..... | 38.00 |
| Cataract ..... | 1 | 471.31 | 19 | 342.00 | 41.50 | 15.00 | 64.06 | ..... | ..... | .. | ..... | ..... | 8.75 |
| Vaginal repair .. | 1 | 317.84 | 13 | 194.50 | 46.50 | 8.00 | 48.29 | ..... | 15.00 | .. | ..... | ..... | 5.55 |
| Open reduction, rt. olecranon . | 1 | 170.65 | 5 | 82.50 | 43.00 | 12.50 | 16.25 | 12.50 | ..... | .. | ..... | ..... | 3.90 |
| Cyst buttocks .. | 1 | 152.53 | 5 | 82.50 | 28.25 | 2.00 | 24.28 | ..... | 15.00 | .. | ..... | ..... | .50 |
| Rectal ..... | 2 | 102.27 | 4 | 66.00 | 31.50 | 4.00 | .77 | ..... | ..... | .. | ..... | ..... | ..... |
| Larynx ..... | 1 | 76.75 | 3 | 43.50 | 18.25 | ..... | ..... | ..... | 15.00 | .. | ..... | ..... | ..... |
| Excision of lesion on lower lip .. | 1 | 49.75 | 1 | 16.50 | 18.25 | ..... | ..... | ..... | 15.00 | .. | ..... | ..... | ..... |
| Totals ..... | 21 | $6,349.23 | 214 | $3,379.50 | $722.95 | $302.66 | $680.41 | $280.00 | $135.00 | 15 | $469.44 | $112.00 | $267.27 |

TABLE 5.—COSTS OF HOSPITALIZATION FOR REASONS OTHER THAN SURGERY, 1952
(BY NATURE OF ILLNESS)

| Nature of Illness | Number of Patients | Total Cost | Room | | Laboratory | Drugs | X-ray | Blood | | Other Costs |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | Patient Days | Charges | | | | Pints | Charges | |
| Benign prostatic hyperplasia .... | 3 | $ 505.85 | 16 | $ 234.00 | $ 69.33 | $ 32.37 | $ 12.50 | 4 | $120.15 | $ 37.50 |
| Proptosis, bilateral . | 1 | 188.55 | 9 | 148.50 | 15.50 | 3.05 | 12.50 | .. | ..... | 9.00 |
| Arteriosclerotic heart disease ... | 2 | 357.93 | 11 | 181.50 | 46.17 | 19.18 | 17.50 | 2 | 63.00 | 30.58 |
| Arteriosclerotic cardiovascular disease and non-functioning gall bladder ..... | 1 | 153.93 | 4 | 66.00 | 2.00 | .93 | 85.00 | .. | ..... | ..... |
| Arthritis ..... | 1 | 34.28 | 1 | 16.50 | 2.00 | .78 | 15.00 | .. | ..... | ..... |
| Anemia ..... | 1 | 215.65 | 2 | 29.00 | 39.50 | ..... | ..... | 4 | 121.00 | 26.15 |
| Carcinoma larynx . | 1 | 893.56 | 47 | 726.50 | 7.50 | 137.65 | 15.00 | .. | ..... | 6.91 |
| Total ..... | 10 | $2,349.75 | 90 | $1,402.00 | $182.00 | $193.96 | $157.50 | 10 | $304.15 | $110.14 |

TABLE 6.—PHYSICIAN VISITS, 1952

| Month | Number of Trips* | Time Consumed (hours) | | | Number of Consultations† |
|---|---|---|---|---|---|
| | | Total | Travel* | Consultation | |
| January | 24 | 75.0 | 24.0 | 51.0 | 427 |
| February | 20 | 50.0 | 20.0 | 30.0 | 334 |
| March | 20 | 52.5 | 20.0 | 32.5 | 364 |
| April | 21 | 52.5 | 21.0 | 31.5 | 333 |
| May | 20 | 43.6 | 20.0 | 23.6 | 279 |
| June | 21 | 48.5 | 21.0 | 27.5 | 316 |
| July | 22 | 47.3 | 22.0 | 25.3 | 315 |
| August | 20 | 42.1 | 20.0 | 22.1 | 236 |
| September | 22 | 51.7 | 22.0 | 29.7 | 317 |
| October | 22 | 48.8 | 22.0 | 26.8 | 332 |
| November | 19 | 41.8 | 19.0 | 22.8 | 265 |
| December | 22 | 48.7 | 22.0 | 26.7 | 372 |
| Total | 253 | 602.5 | 253.0 | 349.5 | 3,890 |

* Each trip is the physician's travel from Palo Alto to the home. Round trip travel time is estimated to be one hour.

† Compiled from monthly summaries prepared by the head nurse. No breakdown by male and female patients exists for these data.

TABLE 7.—VISITS BY PATIENTS TO PALO ALTO CLINIC AND REHABILITATION CENTER, 1952

| Nature of Visit | Number of Calls | | | Estimated Time (hours) | | |
|---|---|---|---|---|---|---|
| | Total | Male | Female | Total | Male | Female |
| Totals | 384 | 277 | 107 | 199.25 | 143.75 | 55.50 |
| Urology Dept. | 121 | 115 | 6 | 60.50 | 57.50 | 3.00 |
| Ophthalmology, other than for refractions | 72 | 46 | 26 | 54.00 | 34.50 | 19.50 |
| Dermatology | 56 | 41 | 15 | 14.00 | 10.25 | 3.75 |
| General Surgery | 30 | 16 | 14 | 15.00 | 8.00 | 7.00 |
| Rehabilitation Center | 10 | 10 | .. | 10.00 | 10.00 | ..... |
| Orthopedic Dept. | 8 | 6 | 2 | 4.00 | 3.00 | 1.00 |
| Obstetrics and Gynecology Dept. | 7 | .. | 7 | 3.50 | ..... | 3.50 |
| Otolaryngology | 7 | 4 | 3 | 1.75 | 1.00 | .75 |
| Internal Medicine | 4 | .. | 4 | 2.00 | ..... | 2.00 |
| Other (mostly for laboratory tests) | 69 | 39 | 30 | 34.50 | 19.50 | 15.00 |

## TABLE 8.—AVERAGE AGE AT DEATH (ARITHMETIC MEAN)

| | Age (years) |
|---|---|
| For members who died from: | |
| 1899–1929 | 77.8 |
| 1930–1945 | 77.8 |
| 1946–1952 | 80.7 |
| 1899–1952 | 78.1 |

## TABLE 9.—AGE AND SEX OF MEMBERS DECEMBER 31, 1952

| Age Group | Total | | Male | | Female | |
|---|---|---|---|---|---|---|
| | Number | Percent | Number | Percent | Number | Percent |
| All ages | 309 | 100.0 | 125 | 100.0 | 184 | 100.0 |
| 60–64 | 9 | 2.9 | 6 | 4.8 | 3 | 1.6 |
| 65–69 | 16 | 5.2 | 6 | 4.8 | 10 | 5.4 |
| 70–74 | 37 | 11.9 | 13 | 10.4 | 24 | 13.0 |
| 75–79 | 77 | 24.9 | 30 | 24.0 | 47 | 25.5 |
| 80–84 | 82 | 26.5 | 28 | 22.4 | 54 | 29.4 |
| 85–89 | 59 | 19.2 | 32 | 25.6 | 27 | 14.7 |
| 90–94 | 26 | 3.4 | 9 | 7.2 | 17 | 9.2 |
| 95–99 | 3 | 1.0 | 1 | .8 | 2 | 1.2 |

TABLE 10.—YEARS OF LIFE IN HOME FOR 1,666 MEMBERS WHO DIED FROM 1899–1952

| Years in Home | Total | | Male | | Female | |
|---|---|---|---|---|---|---|
| | Number | Percent | Number | Percent | Number | Percent |
| Less than 1 .... | 257 | 15.4 | 186 | 17.6 | 71 | 11.6 |
| 1–2 ..... | 221 | 13.3 | 142 | 13.4 | 79 | 12.7 |
| 2–3 ..... | 188 | 11.3 | 129 | 12.4 | 59 | 9.8 |
| 3–4 ..... | 181 | 10.8 | 112 | 10.6 | 69 | 11.3 |
| 4–5 ..... | 142 | 8.5 | 83 | 7.8 | 59 | 9.8 |
| Total less than 5 | 989 | 59.3 | 652 | 61.8 | 337 | 55.2 |
| 5–10 ..... | 408 | 24.5 | 258 | 24.5 | 150 | 24.5 |
| 10–15 ..... | 190 | 11.4 | 110 | 10.4 | 80 | 13.1 |
| 15–20 ..... | 63 | 3.8 | 29 | 2.8 | 34 | 5.5 |
| 20–25 ..... | 12 | .7 | 4 | .4 | 8 | 1.3 |
| 25–30 ..... | 3 | .2 | 1 | .1 | 2 | .3 |
| 30–35 ..... | 1 | .1 | ... | .... | 1 | .1 |
| Totals ..... | 1,666 | 100.0 | 1,054 | 100.0 | 612 | 100.0 |
| Quartiles and Medians: | | | | | | |
| First quartile ... | 1.7 | | 1.5 | | 2.1 | |
| Median ..... | 3.9 | | 3.6 | | 4.5 | |
| Third quartile .. | 8.0 | | 7.5 | | 9.0 | |

TABLE 11.—CUMULATIVE PERCENTAGE OF MEMBERS WHO DIED IN VARIOUS PERIODS FROM 1899–1952

| | 1899 to 1929 | 1930 to 1945 | 1946 to 1952 | 1899 to 1952 |
|---|---|---|---|---|
| Number who died during the period | 553 | 929 | 184 | 1,666 |
| Percent of members whose years of life in the Home were less than: | | | | |
| 5 ..... | 64.1 | 56.4 | 59.1 | 59.3 |
| 10 ..... | 86.9 | 82.3 | 81.5 | 83.8 |
| 15 ..... | 95.9 | 95.1 | 92.9 | 95.2 |
| 20 ..... | 99.4 | 98.9 | 99.0 | 99.0 |
| 25 ..... | 100.0 | 99.7 | 99.5 | 99.7 |
| 30 ..... | .... | 99.9 | 100.0 | 99.9 |
| 35 ..... | .... | 100.0 | .... | 100.0 |

TABLE 12.—YEARS OF LIFE IN HOME FOR 553 MEMBERS WHO DIED FROM 1899–1929

| Years in Home | Total | | Male | | Female | |
|---|---|---|---|---|---|---|
| | Number | Percent | Number | Percent | Number | Percent |
| Noncumulative: | | | | | | |
| Less than 5 ... | 355 | 64.1 | 249 | 64.2 | 106 | 64.3 |
| 5–10 ..... | 126 | 22.8 | 96 | 24.7 | 30 | 18.2 |
| 10–15 ..... | 50 | 9.0 | 31 | 8.0 | 19 | 11.4 |
| 15–20 ..... | 19 | 3.5 | 12 | 3.1 | 7 | 4.3 |
| 20–25 ..... | 3 | .6 | ... | .... | 3 | 1.8 |
| Total ..... | 553 | 100.0 | 388 | 100.0 | 165 | 100.0 |
| Cumulative: | | | | | | |
| Less than 5 .. | 355 | 64.1 | 249 | 64.2 | 106 | 64.3 |
| Less than 10 .. | 481 | 86.9 | 345 | 88.9 | 136 | 82.5 |
| Less than 15 .. | 531 | 95.9 | 376 | 96.9 | 155 | 93.9 |
| Less than 20 .. | 550 | 99.4 | 388 | 100.0 | 162 | 98.2 |
| Less than 25 .. | 553 | 100.0 | ... | .... | 165 | 100.0 |

TABLE 13.—YEARS OF LIFE IN HOME FOR 929 MEMBERS WHO DIED FROM 1930–1945

| Years in Home | Total | | Male | | Female | |
|---|---|---|---|---|---|---|
| | Number | Percent | Number | Percent | Number | Percent |
| Noncumulative: | | | | | | |
| Less than 5 ... | 525 | 56.4 | 341 | 59.1 | 184 | 52.2 |
| 5–10 ..... | 241 | 25.9 | 148 | 25.7 | 93 | 26.4 |
| 10–15 ..... | 119 | 12.8 | 69 | 11.9 | 50 | 14.2 |
| 15–20 ..... | 33 | 3.8 | 14 | 2.3 | 19 | 5.4 |
| 20–25 ..... | 8 | .8 | 4 | .8 | 4 | 1.2 |
| 25–30 ..... | 2 | .2 | 1 | .2 | 1 | .3 |
| 30–35 ..... | 1 | .1 | ... | .... | 1 | .3 |
| Total ..... | 929 | 100.0 | 577 | 100.0 | 352 | 100.0 |
| Cumulative: | | | | | | |
| Less than 5 .. | 525 | 56.4 | 341 | 59.1 | 184 | 52.2 |
| Less than 10 .. | 766 | 82.3 | 489 | 84.8 | 277 | 78.6 |
| Less than 15 .. | 885 | 95.1 | 558 | 96.7 | 327 | 92.8 |
| Less than 20 .. | 918 | 98.9 | 572 | 99.0 | 346 | 98.2 |
| Less than 25 .. | 926 | 99.7 | 576 | 99.8 | 350 | 99.4 |
| Less than 30 .. | 928 | 99.9 | 577 | 100.0 | 351 | 99.7 |
| Less than 35 .. | 929 | 100.0 | ... | .... | 352 | 100.0 |

TABLE 14.—YEARS OF LIFE IN HOME FOR 184 MEMBERS WHO DIED FROM 1946–1952

| Years in Home | Total | | Male | | Female | |
|---|---|---|---|---|---|---|
| | Number | Percent | Number | Percent | Number | Percent |
| Noncumulative: | | | | | | |
| Less than 5 ... | 109 | 59.1 | 62 | 69.6 | 47 | 49.5 |
| 5–10 ..... | 41 | 22.4 | 14 | 15.8 | 27 | 28.3 |
| 10–15 ..... | 21 | 11.4 | 10 | 11.2 | 11 | 11.5 |
| 15–20 ..... | 11 | 6.1 | 3 | 3.4 | 8 | 8.5 |
| 20–25 ..... | 1 | .5 | .. | .... | 1 | 1.1 |
| 25–30 ..... | 1 | .5 | .. | .... | 1 | 1.1 |
| Total ..... | 184 | 100.0 | 89 | 100.0 | 95 | 100.0 |
| Cumulative: | | | | | | |
| Less than 5 .. | 109 | 59.1 | 62 | 69.6 | 47 | 49.5 |
| Less than 10 .. | 150 | 81.5 | 76 | 85.4 | 74 | 78.0 |
| Less than 15 .. | 171 | 92.9 | 86 | 96.6 | 85 | 89.3 |
| Less than 20 .. | 182 | 99.0 | 89 | 100.0 | 93 | 97.8 |
| Less than 25 .. | 183 | 99.5 | .. | .... | 94 | 98.9 |
| Less than 30 .. | 184 | 100.0 | .. | .... | 95 | 100.0 |

TABLE 15.—RATIO OF NUMBER OF DEATHS TO AVERAGE MEMBERSHIP, 1942–1952

| Year | Ratio (Percent) | Year | Ratio (Percent) |
|---|---|---|---|
| 1942..... | 10.6 | 1948..... | 19.5 |
| 1943..... | 13.6 | 1949..... | 18.0 |
| 1944..... | 15.1 | 1950..... | 14.0 |
| 1945..... | 17.3 | 1951..... | 15.9 |
| 1946..... | 13.5 | 1952..... | 14.0 |
| 1947..... | 18.4 | | |

## APPENDIX D

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