

Reflecting the profound changes in therapy of the past decade, treatment of tuberculosis patients is shifting from the specialized to the general hospital. According to a VA physician, the trend is to be encouraged, for general hospital treatment not only is feasible but may be conducive to improved care.

Treatment of Tuberculosis in a General Hospital

WILLIAM B. TUCKER, M.D.

FOR ABOUT 75 years tuberculosis patients requiring hospital treatment have received care primarily in hospitals specializing in the treatment of this disease, usually designated as sanatoriums. As the result of the impetus given the sanatorium movement in the Adirondacks, by Dr. Edward Livingston Trudeau, the public came to associate treatment of tuberculosis with presumed benefits of the geographic location of sanatoriums. Ironically, it has now been established that it is not the geography or climate of such institutions that is beneficial, but other aspects of their treatment programs, principally close supervision by those familiar with the disease and a certain degree of rest and regularity of routine. It is now apparent that the results obtained in sanatoriums could have been achieved quite as well in general hospitals or in specialized tuberculosis hospitals located in cities and associated with general hospitals.

Recently, following profound changes in the treatment of tuberculosis, there has begun a trend toward care of tuberculosis patients in

general hospitals. The majority of sanatoriums, built during the great wave of providing tuberculosis beds in the early decades of this century, remain geographically isolated to a considerable extent. Modern communications have narrowed the gap in distance and time between sanatoriums and medical centers, but relatively few tuberculosis hospitals are integrated parts of centers providing complete medical care.

It is difficult to estimate how many patients now are receiving care for tuberculosis in general hospitals. The directory of tuberculosis hospitals and sanatoriums formerly published by the National Tuberculosis Association every 3 or 4 years, which could be a source for such information, has not appeared with figures later than those for 1953. There are no plans for publishing another directory in the immediate future because the picture is changing so rapidly that any tabulation would be out of date before it came from the presses.

Nevertheless, let us consider such figures as are available for the United States. By 1953 or 1954, the period of peak demand for tuberculosis hospitalization, there were 108,000 tuberculosis beds in the United States. (In all these figures I am excluding beds for tuberculosis in mental hospitals or penal institutions,

Dr. Tucker is director of the Tuberculosis Service, Veterans Administration. He presented this paper, with minor modifications, at the 9th Annual Conference of the Tuberculosis Institute of Chicago and Cook County, in Chicago, on March 20th, 1958.

for in these the individuals would remain as charges regardless of their tuberculosis.) At the turn of the century, when there were 200 deaths per 100,000 population, there were less than 10,000 tuberculosis beds, or 1 bed for each 18 annual deaths. By World War I the number of beds had reached 50,000, a ratio of 1 bed for each 3 annual deaths. Many of us remember the drive of the 1930's and 1940's to have enough beds for a ratio first of 2 beds per annual death, then 2.5, and finally 3, in all States. As progress was made in avoiding tuberculosis deaths, the number of deaths declined from 165,000 early in the century to 100,000 in the middle 1920's, to 50,000 in the middle 1940's, and to 20,000 in the middle 1950's (in spite of great population growth), and the ratio of beds to deaths finally reached 5:1 for the Nation and more than 10:1 in many States.

During all of this period the majority of beds for tuberculosis were in sanatoriums. In 1953, 92 percent of the 108,000 beds were so located.

Furthermore, the majority of the 9,000 tuberculosis beds in general hospitals were there for certain specific limited purposes, not for routine long-term care. The Index of Hospitals and Sanatoria With Tuberculosis Beds, published by the Public Health Service annually in recent years, is sprinkled liberally with the following kind of footnotes for general hospitals listed as providing care of tuberculous patients: diagnosis only, surgery only, diagnosis or short-term care only, temporary hospitalization only pending transfer, less than 5 tuberculosis beds, all patients are transfers in for rehabilitation, takes only ambulatory patients, and no specific number of beds set aside for tuberculosis.

Because data for the United States as a whole are difficult to obtain in recent years, I shall turn to the experience of the Veterans Administration. Since World War II the VA has cared for approximately one-tenth to one-eighth of all the tuberculosis patients of the country, roughly the same proportion as the ratio of veterans to total population. In 1954, the year of peak demand, there were 14,200 beds for treatment of tuberculosis in hospitals, excluding 2,300 for the care of the psychiatric tuberculous. Of these 14,200 beds, 8,200, or

58 percent, were in tuberculosis hospitals, the remainder being in general medical and surgical hospitals.

Prior to World War II a far higher percentage were in tuberculosis hospitals. The fortuitous coincidence of the opening of a number of new VA general hospitals with a greatly increased demand for tuberculosis care among veterans immediately after the war permitted the establishment of many units or sections for tuberculosis patients in general hospitals. Furthermore, the lessening of the demand for beds since 1954 has made it possible to effect adjustments generally favoring locations where more complete medical care is available. By 1957, the VA had approximately 11,600 beds for tuberculosis patients (other than in mental hospitals). Of these, 5,200, or 45 percent, were in general hospitals. The trend is continuing in the VA, and it probably will not be many years before more than half of the veterans requiring treatment for tuberculosis in VA hospitals will receive it in general hospitals.

These gross figures, moreover, do not tell the whole story. Just as an increasing proportion of the care of the tuberculous is being provided in what are officially designated as general hospitals, so have officially designated tuberculosis hospitals in the VA increasingly become in fact general hospitals. There is an almost continuous spectrum among the 173 VA hospitals, with respect to beds for tuberculosis, from 100 percent for nontuberculous conditions to 100 percent for tuberculosis. In fact, if the 4 VA "tuberculosis hospitals" in which more than 50 percent of the patients have nontuberculous diseases are added to the VA's general hospitals, these hospitals in 1957 cared for more than half the VA's total tuberculosis patients (6,000 out of 11,600 beds).

Reflection of Treatment Changes

What does this changing picture with regard to where patients with tuberculosis are cared for reflect?

It reflects the most rapid changes in the treatment of tuberculosis since it was established 75 years ago that tuberculosis is generally a curable disease. Treatment methods have changed drastically since the discovery of

specific drugs. Streptomycin has been generally available for 11 years; isoniazid for less than 6. Yet it was not until about 4 years ago that the clear superiority of prolonged drug treatment, replacing many other forms of therapy, was established.

Nearly everyone is aware of the declining demand for tuberculosis beds in the United States and of the closing of many sanatoriums, including Trudeau Sanatorium, the bellwether of them all, a few years ago. What is not so generally realized is that the number of individuals requiring treatment has diminished very little, or not at all, in recent years. In the Veterans Administration, for example, there was no decrease in the last 3 years in the number of veterans admitted to VA hospitals for treatment of active tuberculosis: there was in fact a 2 percent increase. During the same period there was a 16 percent decrease in the average number of patients hospitalized for tuberculosis. These apparently conflicting figures can be explained only in one way: the same number of patients are being treated for a shorter period of time in the hospital on the average. In the VA the average has decreased from slightly less than a year to a little more than 8 months. At the same time, as has been true generally throughout the country, the percentage of deaths has decreased drastically, and the percentage reaching "inactive" stage has increased, so it is clear that the shortening of hospitalization has not resulted in less effective control of the disease.

I shall try briefly to characterize the changes that have occurred in less than a decade.

Bed rest used to be the *sine qua non*, the essential; today complete bed rest is employed only for the seriously ill patient, and much more freedom of physical activity within the hospital is permitted, and even regarded as beneficial.

Collapse therapy, such as pneumothorax, thoracoplasty, and pneumoperitoneum, was once widely employed; today these procedures are relied upon less and less, with resectional surgery playing a more prominent role.

Formerly the return from a period of severely restricted activity to a more or less normal life was prolonged and gradual, usually extending, in the hospital and out, over a period

of several years; furthermore, many individuals were advised permanently to change their occupation. In contrast, today the transition from hospital to full-time activity can be much more rapid, and it is seldom that a change in occupation, even for manual laborers, is indicated.

The principal element permitting these changes has been the effective use of drugs. (The preceding applies primarily to the care of patients with pulmonary tuberculosis. Patients with certain other forms of tuberculosis, as of the kidneys or the bones, also fit this pattern, but need supporting consultant services to a greater extent.)

When we speak of general hospitals, we usually think of private hospitals where the majority of care is for relatively acute medical or surgical conditions, requiring relatively brief periods of hospital care. What may not be generally realized is that in such hospitals rather drastic changes are occurring also. As our population gradually grows older, on the average, it is more susceptible to the diseases described as chronic, which require longer periods of medical care. The need for long-term care has become so acute in many communities that an entirely new movement, the home medical care plan, has arisen to relieve the increased hospitalization demands, principally for the more chronic medical conditions.

Thus it is, in recent years, as a broad generalization, that "acute" hospitals have come to be more "chronic" in the care they provide, while such a "chronic" disease as tuberculosis has come to be more "acute" in its hospitalization requirements. It is principally because of this gradual merging in the function of these two types of hospitals, formerly so divergent, that it is possible for general hospitals to consider caring for tuberculosis patients.

Two other major trends in the field of tuberculosis need to be mentioned. One is the increasing complexity of the medical care of tuberculosis. More tuberculosis patients are in older age groups, susceptible to other diseases of the elderly, so that more access to specialized consultation services is required than formerly. There is much more need for extensive laboratory work, not only that of tuberculosis bacteriology, but also that associated with drug treat-

ment and with the management of related nontuberculous conditions. And, as has been mentioned, there is need for access to the now highly specialized branch of surgery, thoracic surgery, chiefly of the resective, or excisional, type. In brief, the best care of the tuberculosis patient today can be given only where many diverse supporting medical and allied disciplines can be brought to bear. These usually are available in general hospitals. They also have been brought successfully to many tuberculosis sanatoriums through the extensive use of consultants. But clearly the greater the geographic separation the more difficult this integration.

The other trend has to do with the number of physicians interested in the tuberculosis field. It is sad and ironic but true that for many decades a majority of the physicians caring for tuberculosis patients were those who themselves acquired the disease, recovered from it, and were advised to practice the more sheltered brand of medicine to be found within a sanatorium. The control of the spread of tuberculosis has been so great, fortunately, that now far fewer physicians are placed in this position. While accurate figures are not available, it is my impression that the supply of physicians to care for tuberculosis has decreased in recent years at a greater rate than the decrease in the number of patients hospitalized.

The training of physicians has much to do with this decrease. Today it is rare that the internist completing his residency training elects to enter the field of tuberculosis per se. He often is interested in the field of pulmonary diseases, which includes tuberculosis, but he is usually unwilling to limit his practice exclusively, or even to devote a really large part of it, to the care of tuberculosis.

These and other facets of the changing picture of tuberculosis make it almost inevitable that in the future an increasing proportion of the care of tuberculosis patients will be in "general" hospital settings.

Answers to Objections

It has been my experience, in discussing the feasibility of caring for tuberculosis patients in general hospitals, for many individuals to

think at first of the difficulties to be overcome. It has also been my experience, in three separate general hospitals, that it can be satisfactorily demonstrated, to hospital administrators, to boards, and to others, that the advantages are real and that potential disadvantages are not in fact as great as they may seem.

One of the first problems to be mentioned, and perhaps the principal one, is contagion. Certainly tuberculosis continues to be a communicable disease. However, of a group of 100 tuberculosis patients, today, with effective drug treatment, only 25 to 40 (depending on how serious is the disease among the patients admitted) are infectious at any time, instead of the vast majority, as formerly. Today the average tuberculosis patients become "negative" in 4 or 5 months or less after the start of treatment. Thus "isolation precautions" are not necessary for the majority of tuberculosis patients. Patients may be separated into "positive" and "negative" groups by rooms or by wards, with isolation precautions restricted to the former and much more freedom permitted the latter.

There is also the associated risk of hospital employees' acquiring active tuberculosis. In the Veterans Administration, some 100,000 hospital employees receive regular X-ray examinations each year. The new tuberculosis case rate among them has been declining progressively in all VA hospitals, but the important thing to report is that the risk is not greater, in the VA, in tuberculosis hospitals than in general hospitals. Furthermore, among about 60 general hospitals in the VA caring for tuberculosis patients, in which the percentage of patients hospitalized for tuberculosis ranges from less than 5 percent to more than 40 percent, there is no statistically significant relationship between percentage of tuberculosis patients and rate of development of active tuberculosis. There is some risk in working in any hospital, although the risk is declining, especially as the practice of X-raying hospital patients on admission, to detect the unknown infectious case, spreads. The essential points are that the risk of hospital employees' acquiring tuberculosis is not greater in general hospitals caring for tuberculosis patients than in general hospitals not caring for them and that

it is not less in general hospitals than in tuberculosis hospitals.

A separate study made in the Veterans Administration reveals that volunteers working in VA hospitals, whether with or without tuberculosis patients, run essentially no risk of getting active tuberculosis. Among 20,000 examined last year, not a single new case was found.

A number of other problems in hospital management associated with the contagiousness of the disease deserve brief mention. It was once thought that many hospital facilities could not be used in common by tuberculous and non-tuberculous patients. It is now known that much less duplication is necessary than was formerly thought. Studies of library books used by infectious tuberculosis patients have not shown that they are carriers of tuberculosis germs. Separate dishwashing facilities are not necessary if proper precautions are taken in preparing dishes for washing and the washers are properly operated. Separate dental and ear, nose, and throat units do not need to be established if tuberculous and nontuberculous patients are treated at separate times and if instruments are carefully disinfected. Patients with infectious tuberculosis may safely be transported to the hospital laboratory facilities or to the X-ray department by carrying out simple and effective isolation precautions. Letters written by tuberculous patients may safely be dispatched. With moderate safeguards infectious tuberculosis patients may enjoy the privileges of hospital stores or canteen services.

These statements do not, of course, suggest that all isolation precautions may be abandoned. Quite the contrary; they are made on the assumption that such precautions are carried out meticulously when indicated, for the "positive" patient. Wearing of gowns and masks, handwashing, restriction of infectious patients to certain geographic areas, special techniques for disposal of infectious waste materials, special handling of contaminated laundry, and other special techniques continue to be needed. But it has been established that these measures do not introduce insuperable obstacles. And when these relatively minor inconveniences are balanced against the greater

advantage to the tuberculosis patient of having direct and immediate access to all the facilities of the general hospital, increasingly there is recognition that the general hospital can, and probably should, share in the care of tuberculosis patients.

One more aspect of hospital care for the tuberculosis patient should be considered, that is, rehabilitation. First, as has already been implied, extensive rehabilitation is required not nearly to as great an extent as formerly; second, retraining of tuberculosis patients for new professions or occupations is now seldom indicated; and, third, "on-the-job" training, if indicated, can now occur after a relatively short period in the hospital, while the patient is still under close medical supervision on an outpatient basis and while he is continuing to take drugs.

However, certain elements of what is commonly called rehabilitation are still desirable for tuberculous patients. While necessarily hospitalized, they need (*a*) diversion, (*b*) an opportunity to study if they so desire, and (*c*) entertainment. Fortunately most of these needs can be supplied through the voluntary services available to most general hospitals, and rehabilitation counselors in many States are glad to work with the staffs of local hospitals. In brief, the so-called rehabilitation needs of tuberculosis patients have now become less exacting and generally can be encompassed within the framework of the general hospital.

Conclusion

I have tried to describe broadly the changing pattern of hospital treatment for tuberculosis in the past decade; to indicate some of the reasons why general hospital treatment for tuberculosis is not only feasible but may be conducive to improved medical care; and to indicate some of the problems. Nothing I have said is to be construed as indicating that excellent care cannot be given in a tuberculosis hospital or sanatorium specializing exclusively in the care of the tuberculous. It can be, but it is more difficult. What I have tried to outline is the feasibility of the general hospital's participating in the treatment of tuberculosis patients.

I shall close by gazing a little into the future. The time will come, I feel sure, when the average, well-trained physician is as well trained in tuberculosis as he now is in cardiac or digestive disorders. The time will come, I am confident, when individuals with active tuberculosis—constantly diminishing in number—can be cared for by such a well-trained physician in a general hospital, small or large, in their home communities.

The time of course may come when we shall

not have to worry about treating tuberculosis at all! But I cannot envision that event in the predictable future. Tuberculosis remains the No. 1 infectious disease in this country. I do believe that the general hospital will play an increasingly prominent role in its control, but only if the current sound medical and public health principles continue in force. Care in the general hospital will, for a time, supplement other tuberculosis control measures; ultimately it may become the mainstay of our efforts.

Seminars in Dental Public Health

Seminar courses in public health dentistry for dentists employed full or part time in local public programs have been the major activity of the dental public health unit established at Harvard University in December 1956. An initial course, lasting from January through May 1957, consisted of 10 two-hour sessions. For the 1957-58 academic year, the course was expanded to 18 two-hour sessions over a 9-month period.

The Harvard dental public health unit is an outgrowth of efforts by the division of dental health of the Massachusetts Department of Public Health to provide assistance in public health dentistry for the more than 200 independent local dental health programs in the State. Located at the Harvard School of Dental Medicine, the unit is directed and staffed by Harvard faculty members. It receives financial support and consultative service from the State health department.

Following an introductory session on public health, the course covers such subjects as biostatistics, epidemiology, fluoridation, nutrition, health programs in relation to cultural patterns, health education, organization of medical and dental care, and dental program planning. All sessions are held in the evening from 7 to 9 o'clock. In addition to the specified number of lecture-discussion sessions, each course has included a visit to a water filtration plant.

Trainees in the first course numbered 11.

Nine were selected from among a group of local public health dentists and dental health directors, and 2 came from the Council on Dental Health of the Massachusetts Dental Society. All the participants were awarded certificates of satisfactory completion.

Besides conducting seminars, the Harvard unit offers consultation on technical subjects related to dentistry for public health dentists in local programs and serves as a diagnostic and treatment resource for referred cases presenting medico-dental problems beyond the scope of local resources.

The unit is directed by Dr. James M. Dunning, lecturer on public health dentistry at the Harvard School of Dental Medicine. Faculty members of both the University's School of Dental Medicine and its School of Public Health have taken part in the seminars.

Following this lead set by Massachusetts, the Hartford (Conn.) Health Department is currently planning, under the direction of Dr. Leonard F. Menczer, a similar seminar program to begin in January 1959. Letters have been written to the directors of each of the schools, hospitals, and clinics where dentists are employed to apprise them of the proposed undertaking and to enlist their cooperation. The Greater Hartford Area has some 11 agencies using the services of dentists, and the number of dentists in these agencies may be as high as 50.

publications

Housing Codes—The Key to Housing Conservation. Volume 1. Code enforcement problems and recommendations. Volume 2. Minimum housing standards ordinance. Volume 3. Administrative guide for local programs. 72, 79, and 34 pages, respectively.

A study of housing codes and their administration in a representative sample of communities in New York State and elsewhere, sponsored and financed jointly by the New York State Division of Housing and the Urban Renewal Administration of the Housing and Home Finance Agency, has resulted in this three-volume report.

Following a summary of the study findings in volume 1, volume 2 sets forth a recommended ordinance establishing minimum requirements for existing housing. The ordinance is intended for enactment by the local legislative body. In volume 3 are recommendations concerning methods of adoption, enforcement, and inspection.

A limited number of copies are available from the Bureau of Community Development, State Division of Housing, 270 Broadway, New York 7, N. Y.

Primer for Paraplegics and Quadriplegics. *Patient Publication No. 1; 1957; 38 pages; 50 cents.*

The nature of paraplegia and the consequent adaptations of normal living that become necessary are described in simple terms. Clothing, diet, and excretory functions of the paraplegic are fully discussed.

A chapter prepared by the Office of Vocational Rehabilitation, Department of Health, Education, and Welfare, describes services offered paraplegics through State rehabilitation agencies, giving the broad conditions of eligibility, a general outline of methods, and a discussion of employment prospects.

This manual, the first of a series regarding specific disabilities, is directed to all persons disabled by

damage to the spinal cord and to their families. Copies may be obtained from the Institute of Physical Medicine and Rehabilitation, New York University-Bellevue Medical Center, 400 E. 34th Street, New York 16, N. Y.

Animal Disease and Human Health. *Annals of the New York Academy of Sciences; vol. 70, art. 3; June 3, 1958; pages 277-761; \$5.00.*

A publication on comparative medicine that should prove useful to the professions of the medical sciences, this series of 40 papers discusses diagnosis, control, and treatment of diseases which can be transmitted from lower animals to man.

The monograph is the result of a conference held by the New York Academy of Sciences in collaboration with the Communicable Disease Center, Public Health Service, Atlanta, Ga., September 11-13, 1957. All papers were prepared by persons well versed in their respective specialties, and the publication was edited by James Lieberman, conference chairman.

Copies may be purchased through the Executive Director, New York Academy of Sciences, 2 East Sixty-third Street, New York 21, N. Y.

Health Statistics From the U. S. National Health Survey—The statistical design of the health household-interview survey. *PHS Publication No. 584-A2; 1958; 41 pages; 35 cents.*

The initial statistical design of the continuing health household-interview survey, which is a major phase of the program of the U. S. National Health Survey, is described. The book contains chapters on background and objectives, summary of structure of the household-interview survey, survey procedures, and sample design.

There are eight appendixes: illustration of content of initial basic household questionnaire, estimating equations, sampling and measure-

ment errors, stratification of primary sampling units, the sampling allocation problem, illustration of drawing PSU's and households into the sample, randomizing assignments, areas, and weeks, and selected statistics about the survey.

Nursing Resources—A progress report of the program of the Division of Nursing Resources. *PHS Publication No. 551; 1958; 43 pages; 30 cents.*

A chart book with text, this brochure describes the changes that have occurred in the practice of nursing during the last few decades and how the Division of Nursing Resources is helping to solve some of the problems created by these changes.

The 20 charts illustrate various aspects of nursing, including the Nation's supply of professional and nonprofessional nursing personnel, their distribution in the population, and their training and utilization.

School Health Services—A selective review of evaluative studies. *Children's Bureau Publication No. 362; 1957; by Bronson Price; 149 pages; 45 cents.*

Significant studies of school health services made during the last 30 years are reviewed in this book. The purpose is to help research workers and professional workers in school health services evaluate current programs and determine future needs.

The studies fall into five major groups, according to the methods employed: use of statistical rates as study criteria, health survey findings, use of expert judgment, developing study samples and reexamining the children, and experimental research approaches. Practically all the studies relate to health services in the elementary schools, where by far the greatest effort in school health services is concentrated.

Rehabilitation of Deaf-Blind Persons—A manual for professional workers. *Vol. 1; 1958; 246 pages; \$3.50*

Technical aspects of rehabilitation of the deaf-blind are covered in this

series of papers dealing with problems of communication, social services, general health and sight-hearing, vocational adjustment, and recreation services for the deaf-blind. The principal methods of communication with the deaf-blind, including the recently developed International Standard Manual Alphabet recommended for worldwide adoption, are described and evaluated.

Prepared as an outcome of a 2-year study by the Industrial Home for the Blind and the Office of Vocational Rehabilitation, the manual will be followed by more detailed and technical papers on the same general subjects.

Copies may be obtained from the Industrial Home for the Blind, 57 Willoughby Street, Brooklyn, N. Y.

Bibliography of Medical Reviews. *National Library of Medicine; Vol. 3; 1958; 205 pages; \$1.00.*

References to approximately 2,885 review articles, 585 of which are not duplicated in the *Current List of Medical Literature*, are contained in this third volume of the bibliography.

The subject section follows the general pattern of the previous volumes, and the number of references cited in the review article is given in parentheses at the end of the reference. In addition a detailed cross-reference structure and a complete author index are provided.

Health Statistics From the U. S. National Health Survey—Preliminary report on disability, United States, July–September 1957. *PHS Publication No. 584-B4; 1958; 30 pages; 30 cents.*

Estimates of person-days of restricted activity, including days people were confined to bed, stayed home from work, or only cut down on their usual daily activities, are presented in 7 general tables supported by 3 graphs and 18 detailed tables. Explanatory text includes appendixes containing technical notes on methods and definitions of terms.

The number of persons with chronic limitations of activity or mobility is estimated by the degree

of limitation. The data are derived from continuing household interviewing carried on for the Public Health Service by the Bureau of the Census.

Research Publications of the National Heart Institute—January 1953–June 1958. *PHS Publication (unnumbered); 1958; 110 pages; 40 cents.*

A listing of scientific papers and abstracts by staff members of the National Heart Institute, this bibliography documents the more recent work in the conduct of their intramural research.

The publications are listed chronologically by year, and alphabetically by senior author, under the name of the research unit in which the studies were performed. The listing thus provides, for scientists and others interested, a record of progress made through investigations carried on at the institute.

State Occupational Health Programs. *PHS Publication No. 605; 1958; 41 pages; 30 cents.*

Abstracts of State program plans for occupational health are grouped by States and regions. This booklet also summarizes major health needs and administrative problems pertinent to occupational health, as expressed by State program directors. Selected administrative information for each State, including placement of responsibility for occupational health in the health department and staff assigned to the program, is shown in tabular form.

Plans prepared by the majority of the States cover a 2-year period beginning with fiscal year 1957. In some States air pollution control activities were included, but these are not described in the abstracts.

The Training Program of the National Institute of Mental Health, 1947–1957. *PHS Publication No. 603; 1958; 65 pages.*

A comprehensive review of the training program at the National Institute of Mental Health during the first decade of operation, this report covers its basic philosophy, a survey of accomplishments during

the past 10 years, a detailed description of the training program in 1957 and 1958, and an appraisal of mental health training needs during the next 5 years.

The report also contains a historical account of the development of the program and an analysis of the research fellowship and career investigator programs. In addition, 11 appendixes provide comprehensive analyses of the expenditures for the various training programs with complete information about the relative proportions expended for teaching personnel, trainees, and other items.

Indians on Federal Reservations in the United States—A digest, Portland Area. *PHS Publication No. 615, part 1; 1958; 50 pages.*

Brief summaries of selected information about each Federal Indian Reservation in three States of the Portland Indian Health Area—Idaho, Oregon, and Washington—comprise this digest.

The population groups, their social characteristics, including homes, education, and income sources, and their health status and services are discussed. Included also is a description of the location, ownership, and topography of the reservation land.

Successive parts of this digest will be published, each pertaining to a jurisdictional area of the Division of Indian Health, Public Health Service.

Public Health Nursing Service to Families—A collection of case studies. *PHS Publication (unnumbered); 1958; 145 pages.*

Case studies from official health agencies have been compiled to illustrate the variety of cultural, racial, and economic groups served by public health nurses and the diversity of services provided. Each of the 19 presentations includes a brief description of the family unit, a summary of its medical problems, and a transcript of the nursing notations.

Although this monograph was prepared primarily as an aid for teaching public health nursing concepts and practices to student and graduate nurses, it should be useful also to

publications

public health nursing supervisors and administrators in evaluating the comprehensiveness of nursing care, analyzing the usefulness of the nursing record, and demonstrating program accomplishments.

Guide to Russian Medical Literature. *PHS Publication No. 602; 1958; edited by Scott Adams and Frank B. Rogers; 89 pages; 40 cents.*

Prepared to assist investigators unfamiliar with the indexing, abstracting, and bibliographic services, this book contains chapters on western sources of information about Russian medical literature, on the Russian systems for indexing and abstracting, on translation activities and services, and on the collections of Russian medical literature in the National Library of Medicine. Three translations of Russian papers on medical libraries and the medical printing industry of the U.S.S.R. are also included.

The guide was prepared cooperatively by the National Library of Medicine and the National Institutes of Health.

The Nation's Health Facilities—Ten years of the Hill-Burton hospital and medical facilities program, 1946–1956. *PHS Publication No. 616; 1958; by Leslie Morgan Abbe and Anna Mae Baney; 181 pages; \$1.25.*

Progress in planning and constructing health facilities with Federal assistance through the Hill-Burton program is reviewed. The status of each type of health facility reported by the State plans is given as of July 1956. These plans include nearly all types of health facilities in the Nation except Federal facilities and doctors' and dentists' private offices.

Much new analytical material, particularly for general hospitals in metropolitan areas, general hospital service regions, and psychiatric

units in general hospitals, is included. For convenient reference, the book also has limited data for January 1, 1958, in a supplement to the appendix. Eleven charts and 45 tables appear throughout the book.

Sewage and Water Works Construction, 1957. *PHS Publication No. 608; 1958; by William H. Abbott, Kenneth H. Jenkins, and Elsie Gibson; 15 pages; 20 cents.*

Construction contract awards during calendar year 1957 for sewage treatment plants, collecting sewers, and water systems are contained in this report. The tables present data arranged by States, population groups based on community size, and contract size groups.

Directory of State and Territorial Health Authorities, 1958. *PHS Publication No. 75; 1958 revision; 99 pages; 35 cents.*

Revised as of May 1958, this directory lists by State the name of each health department, the officer in charge, the principal organizational units within the department, and the names of officials directing those units. Included also are officials of other State agencies directing grant-in-aid programs of the Public Health Service and of the Children's Bureau grant program for crippled children's services.

Personnel of the Public Health Service in charge of functions closely associated with State health departments are listed in the appendix.

Farmers' Expenditures for Health Care in 1955. *Agriculture Information Bulletin No. 191; by Alvin L. Bertrand and Donald G. Hay; 1958; 33 pages; 25 cents.*

Data collected in the survey of farmers' expenditures in 1955, conducted by the Department of Agriculture and the Bureau of the Census, indicate the items of health

care which farm families buy and their expenditures for each.

Average family expenditures and aggregate outlays are tabulated by region and geographic division, and variations are analyzed. The report also examines the relation of health care expenditures to selected socioeconomic factors: economic class of the farm, age of the operator, total living expenses, and family size.

Bibliography of Space Medicine. *PHS Publication No. 617 (Public Health Bibliography Series No. 21); 1958; 49 pages.*

Almost 400 references have been selected for this bibliography from the indexes and catalogs of the National Library of Medicine and from leading aviation, aviation medicine, and astronautical publications. They are arranged in broad subject classes, in inverse chronological order, and alphabetically by author.

The subjects include sealed cabin problems, acceleration and deceleration, fractional and zero gravity, cosmic radiation, survival problems, psychological and social problems, ground crew problems, and extra-terrestrial aspects.

Highlights of Heart Progress, 1957. *PHS Publication No. 595; 47 pages; 25 cents.*

Detailed, yet understandable to the layman as well as the professional, this booklet describes program developments and research studies conducted and supported by the National Heart Institute during 1957.

Research findings on 20 subjects in such major heart disease categories as atherosclerosis and coronary heart disease, high blood pressure, and heart failure are reported. Surgery and new knowledge and methods are discussed in the remaining 27 items.

Vital Statistics of the United States, 1956—Mortality data. *NOVS Publication, vol. II; 525 pages; \$4.25.*

Twenty tables of final detailed mortality data for 1956 are presented in this volume. The material

is tabulated according to places of occurrence and residence, month of occurrence, color, race, sex, age, and cause for persons in the United States, each State, metropolitan and nonmetropolitan counties, each county, and certain cities.

Volume II of this annual publication is published prior to volume I.

I. Health Insurance Coverage by Age and Sex, September 1956. *Research and Statistics Note No. 13; May 21, 1958; 6 pages.*

II. Characteristics of the Population with Hospitalization Insurance, September 1956. *Research and Statistics Note No. 14; May 27, 1958; 7 pages.*

III. Health Insurance in the Population 65 and Over. *Research and Statistics Note No. 17; June 11, 1958; 9 pages.*

IV. Hospital Utilization by Persons Insured and Uninsured in September 1956. *Research and Statistics Note No. 19; June 23, 1958; 9 pages.*

V. The Relationship of Marital Status to Hospital Utilization and of Insurance Ownership to Methods of Paying for Hospital Care, Year Ending September 1956. *Research and Statistics Note No. 25; July 23, 1958; 9 pages.*

A series on the extent of health insurance protection in the United States prepared by the Social Security Administration, these five notes are based on replies to questions added to the Current Population Survey.

The data have been analyzed by age, sex, race, and marital and labor status. Differences between the uninsured, the insured, and the entire population in these demographic characteristics are examined. Income data are included in the note dealing with the aged.

Copies of the notes may be obtained from the Division of Program Research, Social Security Ad-

ministration, Department of Health, Education, and Welfare, Washington 25, D. C.

VD Fact Sheet, 1957. *PHS Publication No. 341; 1958; 14th revision; 22 pages.*

Basic statistics on venereal disease incidence, prevalence, and treatment are provided for persons interested in public health and venereal disease problems.

Other statistics relate to the estimated annual cost of uncontrolled syphilis, mortality and insanity caused by syphilis, health department casefinding activities, morbidity by age, effect of syphilis on pregnancy, and incidence of reactions to penicillin in a venereal disease clinic population.

This information supersedes any previously published data.

Refuse Collection and Disposal—An annotated bibliography, 1956–1957.

PHS Publication No. 91 (Public Health Bibliography Series No. 4, Supplement C); by Edward R. Williams; 48 pages; 35 cents.

The references comprising this supplement have been annotated to facilitate the exchange of information in both the research and operational phases of refuse sanitation. They are arranged in sections which correspond to the various administrative and operational phases of the entire field of refuse collection and disposal.

Communicable Disease Center—Report of activities. *PHS Publication No. 599; 1958; 69 pages.*

A synthesis of the major activities of the Communicable Disease Center for the fiscal year 1958, this report describes the scope, nature, and interrelationships of the Center's cooperation with States and Territories to provide assistance in epidemics and natural disasters; consultations, demonstrations, and

program reviews; and laboratory services.

The book is arranged along the broad categories of the Center's pattern of operation. The major portion is devoted to field and laboratory investigations of diseases. Training activities are outlined under four specific headings.

Proceedings, 1957 Annual Conferences—Surgeon General, Public Health Service, and Chief, Children's Bureau, with State and Territorial health officials. *PHS Publication No. 580. 1958. 90 pages.*

The proceedings cover addresses and actions at the three 1957 conferences of the Surgeon General and the Chief of the Children's Bureau with the State and Territorial health officers, mental health authorities, and hospital and medical facilities survey and construction authorities.

Recommendations and resolutions of the participating State and Territorial officials pertain to such subjects as mental health, medical facilities, home accident prevention, patient care in nursing homes, rehabilitation, air pollution, and implications of the social security programs.

This section carries announcements of new publications prepared by the Public Health Service and of selected publications prepared by other Federal agencies.

Unless otherwise indicated, publications for which prices are quoted are for sale by the Superintendent of Documents, U. S. Government Printing Office, Washington 25, D. C. Orders should be accompanied by cash, check, or money order and should fully identify the publication. Public Health Service publications which do not carry price quotations, as well as single-sample copies of those for which prices are shown, can be obtained without charge from the Public Inquiries Branch, Office of Information, Public Health Service, Washington 25, D. C.

The Public Health Service does not supply publications other than its own.
