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—Editorial—

Survey Pattern

An intensive community-wide chest X-ray program is a tremendous undertaking. Community resources are inventoried, evaluated, and activated toward the common goal of the program. Large numbers of people and organizations are involved, both before and behind the scenes. And, finally, the momentum of the survey is directed toward the entire problem of tuberculosis and persists after the screening operations.

The community-wide survey represents a unique opportunity for a community to rethink its tuberculosis control program. It can be the starting point for an all-out effort to eliminate tuberculosis as a public health problem. It finds cases of tuberculosis which too often go unrecognized until death certificates bear eloquent testimony to our omissions in tuberculosis control. In our big cities, the statistician writes "Never reported as a living case" on the records of 30 percent of the tuberculosis deaths.

With the impetus of the community-wide survey, many agencies which always have been potentially a part of the tuberculosis control program now actually become a part of it in fact. Community leaders learn about tuberculosis and can give informed support to future tuberculosis control activities.

Since 1947, the Public Health Service has participated in the conduct of 12 community-wide chest X-ray surveys, and has assisted State and local health departments in the X-ray screening of more than 4 million persons. There was some question in people's minds as to whether large cities could do what has been possible in smaller communities, and some doubt as to whether the results would be as good. Twelve large cities have shown that an effective community-wide survey can be accomplished in a large metropolitan area so that it produces results that are concrete and of lasting value. As the survey teams have rolled across country, from Boston to Los Angeles, amassing experi-

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ence, certain distinct patterns of survey operation have evolved which, when taken together, can be said to be applicable to such case-finding programs wherever they are undertaken.

What these patterns are and how they came into being is of interest to all public health workers. For this reason, the Tuberculosis Control Issue of PUBLIC HEALTH REPORTS this month begins a series of articles depicting the planning, operation, and follow-up of the type of community-wide chest X-ray survey in which the Public Health Service has participated. The accompanying article, "Community-Wide Chest X-ray Survey—Introduction," will be followed by presentations of the medical, nursing, medical social work, forms and records, health education, administration, and technical activities typically encountered in such programs.

ROBT. J. ANDERSON, *Medical Director,*
Chief, Division of Tuberculosis.

Community-Wide Chest X-ray Survey

I. Introduction

OKAY, LET'S X-RAY . . . THE CRYSTAL BALL CAN'T TELL YOU, BUT THE X-RAY CAN . . . THE MOST IMPORTANT PICTURE YOU CAN TAKE . . .

These slogans have urged people in cities across the country from Boston to Cleveland to St. Paul to Denver to Tacoma to stop a minute and get a chest X-ray to check for tuberculosis. And the people have responded enthusiastically; as many as the 93 percent of the adults in Salt Lake City who had chest X-rays during their 4-week survey.

How does this come about? What combination of men and machines contrives to stop the lawyer, the milkman, the college sophomore and get him to have his chest X-rayed? What was required to have the radio announce every half-hour “. . . Come on down—X-ray's in town . . .”?

What goes into the planning, preparation and conduct of an undertaking in which

- every adult in a city of over 100,000 can have a chest X-ray without charge at X-ray units placed in convenient business and residential locations for several months;
- all X-ray pictures will be read by physicians in less than 15 days, and reports will be sent promptly saying either there are no abnormal shadows on the X-ray or that a second, larger film is recommended;
- the second films are also made without charge at a retake center and reports are sent to physicians or clinics for diagnosis and treatment;
- the patient whose second X-ray indicates that further study is necessary has further X-rays, laboratory tests, physical examinations;
- the patient continues under the care of a physician until a diagnosis is established, and gets help in his personal adjustment to his situation from public health nurses and medical social workers;
- the patient who is diagnosed as having tuberculosis receives medical care and other services which he needs, either in a sanatorium or at home?

The answer to this lengthy question would describe the mobilization of the city's medical, public health, and social forces for a concentrated attack on tuberculosis. But first it would have to describe

From the Office of the Chief, Division of Tuberculosis, Public Health Service.

the thinking which made such mobilization possible. The success of the survey depends upon a breadth of understanding and exchange of ideas which the survey itself engenders. Around the conference table of survey planning sit the private physician, the health officer, the sanatorium director, the public health nurse, the medical social worker, the tuberculosis association secretary—and each in contributing his own point of view broadens that of the others. They work out ways of exchanging information about the current practices of various community health and social agencies, so that each will know the functions and services of the others—so that the department of welfare will know what the Veterans' Administration does, for instance, and the nursing division of the county health department will know what services are offered by the family society. In one city where there was no council of social agencies, the planning group decided that a brochure should be developed to describe briefly the programs of the various agencies. It was distributed widely to health and social agencies and physicians.

The planners take up problems such as how to provide care at home which will be necessary for some patients. What medical, public health nursing, and home-maker services can the city provide for this group? What steps will the social agencies have to take to help families or patients? What support can be given to the young mother of three children who is told to rest every afternoon until a diagnosis is established in 6 weeks?

The community-wide survey is not merely a multiplication in numbers of workers, people, and films involved in the usual case-finding program; it is not a small survey extended by 12 or 16 X-ray units. The successful community-wide survey demands a breadth of medical and public health vision attained only by the combined force of physicians from many specialties, nurses from every field of nursing, social workers from all community agencies, and plain citizens from all significant community interests. For example, the medical participation in smaller surveys is usually limited to the several physicians who are immediately responsible. In the community-wide program many physicians from the entire city are deeply involved. The internist, the roentgenologist, the surgeon—each contributes his thoughtful, independent approach to the city's tuberculosis problem, and this cooperation makes it possible for the survey to have an impact on the disease. They spend hours planning not only details of procedure but strategy which will exploit the full potential of the survey to the community, to the patients, to the health department, and to themselves with a consequent spread of ideas and deepening of understanding.

The Division of Tuberculosis of the Public Health Service has assisted many cities in planning and developing community-wide

surveys, and the procedures have not been exactly the same in every city. By now, as a result of accumulated experience in all surveys, a pattern has developed and by the time a community-wide survey opens, planning has resulted in typical activities like the following:

1. The health department has obtained sufficient increase in its budget to provide additional services and facilities made necessary by the survey. Its program has been rearranged so that six public health nurses can be assigned to the retake center. Its chest clinic is prepared to take care of more patients and to offer social services to those who need them. An extra technician is in the health department laboratory, and an extra clerk is working on the tuberculosis case register. The director of the sanatorium has managed to open 60 beds for new patients.

2. The Public Health Service has agreed to lend the city X-ray units and technicians to man them, experienced physicians to read films, and consultants in medicine, medical social work, public health nursing, record keeping, health education, and administration.

3. The medical society of the city and the health department have arranged for a panel of local doctors to review retake films; have planned for free medical supervision for those who are found to need it and are unable to pay; and have provided for distribution of full information on survey procedures for tuberculosis control to all doctors in the community.

4. The various voluntary organizations of the community have set up machinery to help put the survey over. The tuberculosis association has lent full-time staff to work on publicity, health education, and community organization. It has also agreed to contribute part of the cost of the survey (the rest to come from the local governmental budget and the Public Health Service as well as from contributions in kind from other organizations and businessmen in the community).

5. The member agencies of the council of social agencies are prepared to offer help to patients or their families if they need it.

6. A thousand volunteers from business, industry, schools, civic and professional groups, and homes have gone to training classes to learn about tuberculosis and its control.

The decision that a survey should be done in a given community is not one that is made quickly by an official sitting at a big desk. Sometimes the beginning is in the health department, sometimes in the medical society, sometimes in the tuberculosis association. Those three organizations, however, are the essential nucleus from which the survey evolves. While one or the other may actually begin the thinking toward the survey, all three must take part in its inception.

Such efforts are not spontaneous. The health department, the medical society, and the tuberculosis association do not wake up one morning suddenly seeing everything clearly and rush together to plan a city-county chest X-ray survey. One of the three, probably one man in one of the three, stirs the idea around for a while before he even comes out with it. Then he starts talking about it with his own immediate colleagues, and after a while no one remembers who started the talk.

Often, the early thinking about a survey begins in the tuberculosis association. On the alert for new ways of combating the disease, people in tuberculosis associations are frequently the first people in a community to feel the need for a survey and take a first measure of its possible effectiveness. In many instances they have been maintaining mobile X-ray units for use in industry, and they are therefore aware of the advantages of taking X-rays of the whole community.

The health department also has good reason to see the value in a project to X-ray the entire population, since it is the official agency immediately responsible for control of communicable diseases. In many places, the health department has chest X-ray programs, but almost never in large cities is its equipment and staff sufficient to make possible the X-raying of the whole population in a short time, 5 or 6 weeks for a population of 100,000.

Private physicians are in close touch with tuberculosis as a medical problem and with the personal tragedies that it can cause. Perhaps the impact of such a tragedy motivates a doctor to bring before the medical society the question of what can be done to reduce the number and assuage the severity of the misfortunes caused by tuberculosis.

Wherever the idea is born, its growth will depend upon many agencies and their ability and willingness to work together. Each of the three essential groups will see the picture differently. To the public health officer, tuberculosis control means preventing the spread of communicable disease, finding source cases, providing facilities for diagnosis and care, public health nursing, contact examinations, clinic and laboratory facilities, hospital beds—with a limited budget; to the individual physician, it is patients needing immediate care, changes on X-ray plates, bacilli found in sputum, bed rest, pneumothorax, streptomycin, surgery and patients' fear and worry; to the tuberculosis association it is community organization, health education, publicizing the problem, and motivating the public to act for its solution. To all it is the same picture, but the focus is different. Working together begins with pulling the focus out so that for each of the three groups there is clear vision of the whole. No matter what the enthusiasm of one group, how sharp its focus, unless all three see the whole, the undertaking labors under a handicap from the start.

In one instance a letter from a private physician to the local tuberculosis association helped start thinking in which six local health departments, three tuberculosis associations, the entire county medical society, and the State health department became involved. When it was evident that they were thinking about a job that none of them could handle alone, or even with combined forces, the health officers requested the Division of Tuberculosis of the Public Health Service to help.

The Division of Tuberculosis of the Public Health Service has been taking part in community-wide surveys since 1946. The simplest way of expressing the part it takes is to say that it lends X-ray machines and men to operate them and it provides consultants who help plan and conduct the survey (fig. 1). The consultation for a

TECHNICAL EQUIPMENT AND MATERIALS

- 22 photofluorographic units (18 for locations, 4 spares, 7 mobile, 15 transportables).
- 1 14" x 17" X-ray machine.
- 3 trucks for moving portable equipment.
- 1 large van for transporting equipment and materials from city to city.
- 4 automobiles for checking locations, transporting key people, etc.
- 2 jeeps for repair crew.
- 5 viewers for reading films.
- 315 rolls of 70 mm. films.
- 5,000 14" x 17" films.

PERSONNEL

Professional and Technical:

- 2 health educators who provide both consultation and service.
- 4 physicians to read films.
- 1 chief technician.
- 1 technician to supervise unit operations.
- 3 technicians to check locations and schedule equipment.
- 1 technician to supervise movement of equipment.
- 3 technicians to service and repair equipment.
- 1 technician to operate 14" x 17" unit.
- 2 technicians for darkroom (70 mm. and 14" x 17").
- 28 technicians to operate 70 mm. units.

Consultants (furnished for varying lengths of time before and during survey):

- 1 medical officer.
- 1 public health nurse consultant.
- 1 medical social work consultant.
- 1 records consultant.
- 1 health educator consultant.

Other:

- 1 equipment and supply officer.
- 1 records supervisor.
- 1 records analyst.
- sufficient clerical staff for registration at units and for processing basic records cards. (Usually between 50 and 60.) These are employed locally.

Figure 1. Equipment and personnel provided by the Public Health Service to keep 1 team of 18 photofluorographic units in daily operation (city of 100,000).

survey has a special focus created by a specifically timed action program, but essentially it is the same kind of service given by Public Health Service consultants whenever State and local health departments ask for assistance in their attempts to improve practices in tuberculosis control.

X-raying the adult population of a city of 100,000 or more within a short time requires so many machines and technicians that it is most unlikely that any city of itself will have these facilities. The investment in X-ray machinery alone is prohibitive; the outlay for a survey team of 18 units is over \$300,000. In a smaller population area, it is quite practical to concentrate the available units of the local and State governments to X-ray everyone within a few months, but in large metropolitan areas it is logical for the Federal Government to lend a hand. Since the tuberculosis death rate in cities of over 100,000 population is higher than in other areas, one important activity of the Public Health Service, Division of Tuberculosis is to help urban centers with tuberculosis case finding and follow-up of suspected cases. One health officer commented that it would take 5 years to X-ray his community with the available equipment and personnel. With the help of the Public Health Service, a community-wide survey was completed in 4 months.

When a request for assistance in conducting a survey comes to the Division of Tuberculosis, the first step is to review with the local agencies the community resources which can be applied not just to a chest X-ray survey, but to the whole problem of tuberculosis control. There are more than 100 metropolitan areas in the United States with a population of 100,000 or more—and they have as many different compounds of medical, public health, and social services and of rules and regulations which apply to finding and dealing with tuberculosis. The Division has found that every city must be carefully studied in advance in order to help the particular community determine what to do to plan for an effective survey.

In this study and planning, staff members of Federal Security Agency Regional Offices and of State agencies give special help. Consultants in medicine, administration, public health nursing, medical social work, public health records, and community organization from the Public Health Service who have had much experience in surveys pass on this experience to the new area.

The questions which arise in such a study are numerous, and the implications of the answers not always obvious. For example: What funds, space, equipment, and materials are there which could be used for a survey? How many public health nurses are there; what is their case load; will they be able to provide the increased services which will be needed? What medical social services are available? What local laws and regulations help or hinder the care of tuberculous patients?

What determines eligibility for sanatorium care? What resources are there for the medical care of tuberculous patients or of persons with nontuberculous disease like cardiovascular abnormality or cancer of the lung? Is there a tuberculosis case register; how is it kept; how can it be expanded to handle twice as many cases? What procedures are used for reporting cases? Is the interest in a survey widespread or is it fostered by only a few individuals?

This presurvey study gives local voluntary and official agencies an opportunity to review their activities together and to evaluate the accumulated force of combined programs, and thus to assess the city's strength and weakness in tuberculosis control. The study is conducted long before the survey—months or even years in advance of actual X-ray operation. Sometimes the needs that the assessment highlights are remedied easily; sometimes the remedy takes much time and effort. Deficiencies are usually a result of limited budgets, inadequate staff, or lack of facilities, and the ways to remedy them are not easy to find. But the concerted community effort that survey planning involves is frequently able to overcome difficulties.

In one city, the combined interest of the medical society, the health officer, influential citizens, and an active State tuberculosis association brought about extensive improvements. The limited nursing staff in the health department had only recently assumed responsibility for tuberculosis nursing. There were no laboratory facilities in the health department. The only chest clinic in the community was at the tuberculosis hospital and it could not give service even to all the tuberculosis patients then known, and could not possibly have taken on the added case load resulting from a survey. But ways and means were found to provide additional nursing services, additional beds for tuberculosis patients, and a diagnostic clinic to take care of the survey case load. As a matter of fact, it was because an insurance company paid the postage for mailing survey reports that money originally budgeted for this purpose could be used to finance the construction of the diagnostic clinic.

In another city, survey planning made possible increased medical services in the city chest clinic through lengthened clinic hours, and more public health nursing for tuberculosis through added staff and rearranged schedules and assignments. Recommendations like the following may appear in the pre-survey planning report of the Public Health Service nursing consultant and the local health department nurses: "That a detailed study of the total chest clinic facilities, policies, and procedures be made and the recommendations acted upon. Extension of services and enlargement of facilities will be necessary to assure successful case finding and follow-up." Such extension and enlargement are not easy to manage, but they can be done.

In seven cities, survey planning led to provision for the first time of medical social services for tuberculous persons and their families. In Washington, social workers were assigned to the survey for 8 months, so that at least one medical social worker could be on duty in the central chest clinic at all times. In-service training for health department personnel is usually arranged. Laboratory technicians from one health department, for instance, went to the Public Health Service Tuberculosis Evaluation Laboratory at the Communicable Disease Center in Atlanta, for a refresher course in tuberculosis laboratory work.

Occasionally, the pre-survey planning shows up obstacles which make the survey impractical for the present. In one city, the consensus was that the survey should be postponed until a case registry had been developed; in another, the survey was not started until the public health nursing staff had been increased.

No large municipal area has ample facilities. Most cities still need many additional hospital beds. But this alone is no reason not to do a survey. The individual with tuberculosis has a much better chance of getting well if his illness is discovered and he has medical care, even if he cannot go to a hospital. Furthermore, while isolation in the home is probably never completely satisfactory, the doctor and the public health nurse can help the patient protect his family and contacts. Since the person who does not know he has tuberculosis does nothing to help himself or to protect others, finding unknown cases is an effective control measure, whether or not there are enough hospital beds for all of them. When the community knows the actual need, a stronger incentive exists for providing an adequate number of beds.

If by a concentrated program of case finding the majority of persons in the city who have tuberculosis can have medical supervision it follows empirically that ultimately fewer persons in the community will contract tuberculosis. The survey is therefore an investment in the future of the community, as it is in the future of each sick individual it discovers and brings under care.

When the survey is arranged, the Public Health Service tuberculosis consultants suggest detailed patterns of organization, promotion techniques, and survey procedures. At this time, the sponsoring agencies together define the areas of responsibility of the various participators in the survey. This is the point at which it is determined who will take on financial obligation and executive management. The responsibilities of the medical officer-in-charge of the Public Health Service team to be assigned to the survey are clearly stated. Such matters as timing the survey and geographic areas to be covered are decided. Agreements are made in detail about personnel and equipment the Public Health Service will provide, and the services and responsibilities which will be undertaken by local groups. The Public

Health Service says it will send in 18 X-ray units, a 14" x 17" X-ray machine, film and record cards, and that trained physicians will supervise the Public Health Service team and interpret the X-ray films. The local sponsors state what staff they will provide to survey headquarters. The Division agrees that consultants will be available for nursing, medical social service, records, health education. The local health department agrees that follow-up services will be made available to persons needing care. When all the details of who will do what have been determined, an agreement is drawn up and the survey organization can begin to crystallize.

While the actual survey organization varies somewhat from one city to another, there is a general pattern which is illustrated in the chart (fig. 2). The organization is developed to carry out this particular concentrated public health project and is adapted to survey needs and objectives. The three sponsoring agencies (health department, medical society, tuberculosis association) set up a board of directors which includes civic leaders and representatives of various contributing organizations. The board is the corporate body of the survey and assumes both leadership and responsibility in its operation. An executive or administrative committee is appointed to carry out the directions of the board and usually the chairman of the board also acts as chairman of this committee. The three sponsoring agencies are represented on the executive committee, and the chairmen of the various committees of the survey are also members. The managing director may be a person who works for one of the contributing organizations and is assigned to the survey, or he may be employed directly by the survey.

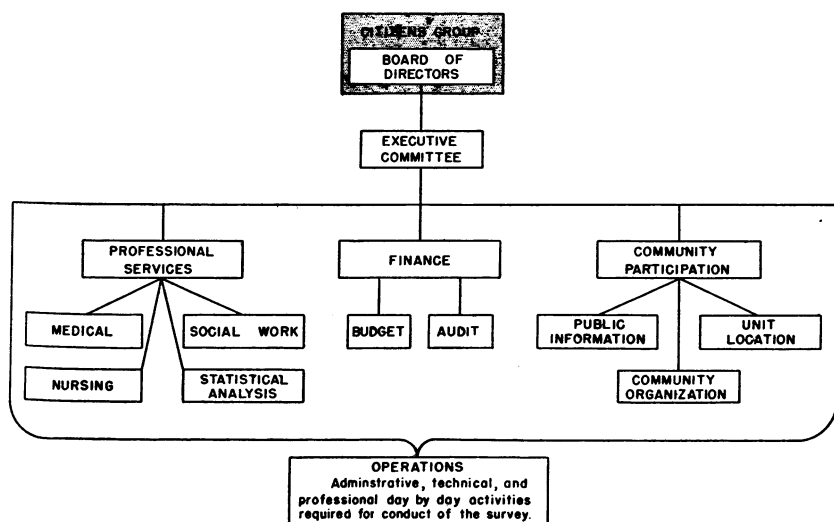


Figure 2. Sample survey organization chart.

The members of the finance, professional services, and community participation committees and their subcommittees are citizens who contribute their time and skill to make the survey a success. The chairman of the finance committee may be a local banker or certified public accountant; the medical committee is made up of local doctors; the public information committee may be headed by an advertising executive or the manager of a radio station.

When the survey has been incorporated, space for headquarters is obtained and altered to accommodate the survey. Telephones and switchboards are installed, offices and the various other working spaces are laid out and partitioned. The retake center is planned and constructed to give space for individual interviewing rooms for public health nurses and medical social workers. In one city, a local union provided free labor to build a darkroom, and frequently furniture and equipment are lent by business organizations and by military establishments in the locality.

Personnel are gradually brought together into headquarters. Some of the staff are hired directly for the survey operation, but many are assigned temporarily by the health department and various contributing agencies in the city. The members of the Public Health Service consultant team arrive early. The medical officer has been available to the health department for consultation on the survey since the early planning. The nursing and medical social work consultants have been in the city for months, helping the health department plan for the expansion of services which will be necessary. They have also worked with local nursing organizations and social and welfare agencies, so that all of the nursing and social work resources of the city are drawn in to work together smoothly. The Public Health Service records consultant has been helping the health department records staff in streamlining the tuberculosis case register and other record systems.

About a month before the beginning of the survey, the chief technician and his staff of 38 members arrive with the X-ray equipment, and proceed to install equipment, set up the darkrooms, check locations, and so forth.

As the headquarters are being organized, both as to furniture and as to personnel, the community is also being organized. Health educators from the health department, the tuberculosis association, and the Public Health Service have been working out plans for community participation. Volunteer committees begin to help out with publicity, to canvass the city block by block, to arrange for speakers at clubs, to enlist the support of businessmen, and do the myriad other things which will make the survey community-wide.

Thousands of details must be dealt with before the survey's first X-ray is taken. Even the physical fact of placing a mobile unit on a

given corner represents a series of decisions and arrangements. The big silver trailer truck standing in the middle of Pershing Square in Los Angeles attracted a lot of attention, when it appeared one foggy grey morning. The Locations Committee of the survey organization had decided upon Pershing Square as a good place for an X-ray unit—a central location convenient for many people, in an open space where traffic would not be held up. Since such use of the Square had never been permitted, the Committee was assured that the city fathers wouldn't "hold still for it." "You can't get power into the Square," was another objection. But the Committee had checked and discovered that lines could be connected to an underground outlet and carried to the unit over the trees of the Square. "It will tear up the lawn." But the Committee promised that the trailer would be empty and light when it was moved in. The permission was given. A section of the concrete railing around the Square was removed in the early watches of the morning, the truck moved in, and the railing replaced, to mystify early sidewalk superintendents who wanted to know how that truck got in there.

When the trailer arrived, three men from the power company were on hand to stretch the cables and set up the installation. Power is a problem to any survey operation, and when the survey is city-county-wide, there may have to be as many as 50 installations in 5 days. The survey electrician sometimes works nights or over week ends so that installations will be ready at scheduled times. When a large urban area is surveyed in a short period of time, much of the incidental work is done outside normal working hours. In Sugar House, a suburb of Salt Lake City, a group of businessmen got into their jeans and worked one week end building a structure in the Plaza to house a unit.

Although the units in downtown areas take a great many X-rays, they are not convenient for all the people. Consequently, mobile units are placed for various periods of time at strategic corners in outlying neighborhoods, or merchants allow portable units to be placed in their stores.

Portable units are also used in schools, and in factories, where both management and labor, recognizing the value of chest X-rays, cooperate in arrangements for survey of all personnel. Even factories present special problems sometimes. In order to X-ray the 11,000 employees of an airplane factory, it was necessary for the technicians and clerks to be investigated for security purposes.

Before any of the units are in operation a great deal has been done to arouse public interest, because a community-wide survey is directed at the entire adult population. It is not too difficult to plan surveys for "captive" groups in schools or factories, but a great deal of organization is required to X-ray all the butchers, bakers, candlestick mak-

ers—and their sisters and their cousins and their aunts. For some 6 weeks before X-raying begins, the survey has been written up in the press, talked about on the radio, perhaps announced in theatres. Publicity has been informative about tuberculosis and about the importance of periodic X-ray for early diagnosis. Emphasis has been placed on the communicability of tuberculosis and the fact that it may hit anyone. The survey is explained as an opportunity for every person in the city over 15 years old to have an X-ray, and all adults in the area are urged to take advantage of it.

With the beginning of the survey, when the units are in place, the process of letting people know about it is pushed up to full speed. Radio spot announcements give frequent reminders through the day: "Have your chest X-rayed! You'll be doing your part to protect *your* health as well as your family and friends. It takes only a minute for a chest X-ray!" Posters blossom in store windows, in streetcars and buses, and on billboards. Church-goers hear about it from the pulpits, and children carry home notes from school urging their parents to be X-rayed.

When the units are placed and the entire community is informed about what they are for, X-raying begins. Sometimes the first person to be X-rayed in a downtown unit is the mayor. One city opened the survey with a parade, complete with brass band and blown-up rubber animals. In Los Angeles, Charlie McCarthy had the first X-ray.

In most neighborhood locations, the work begins with less fanfare and no movie cameras. People come to have their X-rays, singly or in groups—housewives on their way to the grocery, merchants who take a few minutes away from their stores, employees whose bosses think it's a good idea and send everyone to be X-rayed.

What happens all day long at the unit is pretty much the same wherever it is placed. There is a hostess at each unit who holds coats, answers questions, and assists the technicians in many ways. In one city the stewardesses of an airline acted as hostesses.

People who come for X-rays are greeted by the hostess and then present themselves at the clerk's desk where she enters name, address, and age on the record form. Sometimes men, but more usually women, demur about giving their ages, and the clerk explains the statistical usefulness of having a record of the ages of people who are X-rayed. The clerk is a trained employee of the survey, a local person who has been taught how to deal with the questions that will be put to her. When the clerk completes the card, she returns it to the X-rayee who presents it to the technician. He stamps a serial number on it and slides it in the machine to be photographed with the X-ray, so that there can be no slip-up in identification. The technician, who is a part of the Public Health Service loan to the survey city, not only knows his machine, but has had experience in dealing with the public.

As one technician said, "I was speaking Italian all morning and Yiddish all afternoon." In two minutes the citizen has had his X-ray and learned from the technician that he will receive a report on it within a couple of weeks.

As many as 800 X-ray films can be taken daily by each unit. At the beginning of each day, the camera is loaded with 100 feet of film. The utility box, which contains a numbering machine, pen and ink, paper clips, rolls of film, record cards, and alcohol and gauze for cleaning the chin rest on the X-ray machine, is replenished. A messenger makes a daily trip to the unit to bring supplies and to return exposed films and record cards to survey headquarters. Once a week, the messenger also takes in to headquarters the radiation badges containing dental film, which are worn by unit technicians. These are sent to Washington where a physicist develops and compares them with a standard to make sure that radiation exposure is within safe limits.

In the scheduling room at headquarters, the walls are covered with huge maps of the city, stuck with red pins to show where the units are. This is the control room for the continuous maneuvering of 22 units (18 in operation, 4 spares) some of which stay in one location only 2 days. Local people who know the neighborhoods pick corners where the take will be good, and the Public Health Service technician figures out the mechanics of placing units in such profitable spots and getting power to them when they are placed.

The publicity office at headquarters is the source of the continuous effort needed to get repeated front page attention from city editors.

All the films from the 18 units and the retake center are delivered to 3 technicians in the darkroom. For a community-wide survey the darkroom is equipped with extra large tanks for developing and washing as many as 8,000 small and 180 large films on one day. They are read without delay by Public Health Service physicians and the cards are passed on to the records room for processing. Ordinarily, people receive word about their X-rays in less than 15 days. When they are sent to the records room by the physician, the cards for about 96.5 percent of the films are marked "essentially negative," and the return mailing portions of these, printed with a negative notification, are detached and put in the mails. "Tuberculosis is a disease that spreads from person to person," the card reads. "An X-ray about once a year will help you make sure you have not caught it."

The remaining cards will be marked S₁, S₂, S₃ for films showing suspected tuberculosis (S₁ indicates strong suspicion of active disease); O for films showing other chest disease; C for suspected cardiovascular disease; and U for unsatisfactory films. If the physician considers a case urgent, it is referred to a public health nurse for special handling. Otherwise appointments for 14" x 17" films are

made at the retake center, and appointment letters are sent out. Since every effort is made to accommodate people, appointments are frequently adjusted.

The public's acceptance of the program is the special concern of the health educators, whose office is also at survey headquarters. The number of organizations which take part in the survey sometimes runs into the thousands, and the health educators are constantly in touch with them. They attempt to arouse in the community awareness of the personal and public health problems of tuberculosis and a lasting interest in solving them. The health educators also are responsible for marshalling volunteers who keep all the units staffed with hostesses and for making sure that the hostesses know all the answers they need for the questions they will be asked.

In the film reading room a group of local chest specialists go over the 14" x 17" films from the retake center twice a week. These men give their time with traditional generosity. While it is sometimes difficult at first for busy doctors to see how they can find time for such a project, the variety and significance of the films to be read excite their interest. Three to five physicians serve as consultants in most cities, but they are often joined by colleagues who are glad of an opportunity to examine more kinds of chest X-rays than they might come across in years of practice. The active participation of the medical profession is indispensable to the effectiveness of the survey, not only in reviewing the films, but also in follow-up, diagnosis, and medical care for persons whose films show evidence of disease. Specialists often keep in touch with the survey medical staff throughout the survey. In Boston, the survey organization received follow-up reports on patients who had been referred to physicians in Montreal, Virginia, New York, and Vermont.

The medical men who work with the survey organization also assume responsibility for keeping their colleagues in the community informed about the survey, the recommendations of the medical committee on the management of cases found, and the services which have been made available for physicians and their patients. In Seattle, Boston, Spokane, Denver, and San Diego, articles explaining the survey appeared in the county medical journals well in advance, and in other cities, brochures were distributed to all physicians, and the survey was discussed at medical society and hospital staff meetings.

The retake center may or may not be at survey headquarters, but it is a part of the survey operation's center. The 14" x 17" films which are the second step in the survey screening are taken there. A public health nurse talks with each person who comes to be X-rayed to get information from him which will help determine medical recommendations, and to try to make him feel the importance of following through with other examinations which may be recom-

mended. At this time, she finds out the name of his own physician to whom a report of the 14" x 17" X-ray will be sent if it indicates the need for further study.

Procedures mapped out by the professional services committee of the survey and the health department determine what happens after the 14" x 17" film has been interpreted and found to indicate some abnormality. These basic procedures are the joint concern of people working in health and social agencies and hospitals offering tuberculosis services: physicians, nurses, social workers, laboratory, and records specialists. While the responsibility for diagnosis and treatment is, by and large, carried by the private practitioner, there are many problems that must be solved to give him the support he needs. In Seattle, the health department offered the doctor public health nursing service for his patients. In Boston, one of the medical social workers was provided by the Massachusetts Division of the American Cancer Society to be responsible for following up all cases where the 14" x 17" film showed signs of cancer to make sure that patients saw their physicians promptly. In Minneapolis, a rearrangement was made of the work done by the city health department laboratory, so that adequate service would be available to physicians who needed bacteriological studies for their patients.

The city-county-wide survey is a highly complex enterprise which represents the combined thought and effort of hundreds of people. Whether you look at it from the retake center, or the trailer unit in the main city square, or the one at the corner of 200th Street and Z Avenue, you might be reminded of the comment of a very old lady who stood looking at an X-ray unit in Columbus, Ga. "I seen a lot of things in my time," she said. "I seen Yankees coming across that river. But I never seen a thing like this!" And she stepped up to have her chest X-rayed.

Human Relationships in Tuberculosis

By **JEROME HARTZ, M.D.***

The emotional reactions of a patient to tuberculosis do not begin when he enters a sanatorium or even when he is first told of the diagnosis. These reactions begin far back in childhood, but he is brought to sudden and often shocking awareness of them by the news that he has the disease. He may have had some contact with tuberculosis itself in his past; if he has, he will have developed a set of attitudes that he may or may not be aware of, but which will certainly influence his behavior from that moment on.

The personal attitudes of the patient are important in the treatment of any disease in which the patient's cooperation must be elicited. The more chronic the illness, the greater importance these personal factors assume. Osler summed up the situation in tuberculosis when he said, "It is just as important to know what is in a man's head as what is in his chest if you want to predict the outcome of his pulmonary tuberculosis."

Recalcitrant patients are an obvious example of the importance of personal attitudes in the treatment of the disease, but this discussion is aimed not at that problem, but more generally at a review of some common attitudes in tuberculosis—their sources and some suggestions for their management.

For a great many centuries tuberculosis has been regarded as a threat to life and to economic and social status. The disease still has the power of evoking severe anxiety. The campaign of health education which the National Tuberculosis Association has carried on for several decades is of great importance, but its effect is still pitifully small when measured against the mass of human experience and prejudice of the centuries. In almost all of us there has been built up, more or less unconsciously, a vague impression of the disease—compounded of such things as half-understood references in grown-ups' conversations, the unspoken attitude of pity and dismay that the whole block felt when the neighbor next door had to leave home and go away to rest, the mysterious decline of the gently coughing heroine in fiction and drama. All of these things are filed away in a growing child's memories, not subjected to critical judgment but ready to be called up years later when he himself may be threatened.

*Assistant Professor of Psychiatry, Johns Hopkins Medical School, Baltimore, Md.

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The best example of the persistence of these attitudes into adult life is probably found among medical students or nurses when they develop the illness. They have been taught the modern facts of tuberculosis in a clear, objective way and should be expected to react reasonably and calmly. Yet I am willing to guess that your experience corresponds with mine—some of the most irrational responses to the disease occur just in this group. If one discusses the matter confidentially with them, one soon detects that one reason they have become interested in medicine as a career is because, as individuals, they were often particularly anxious about health matters in their childhood. Apparently these half-understood or misunderstood experiences had made a particularly vivid impression during those years.

Because of the traditional and obvious association of tuberculosis with squalid living conditions, poor habits of human hygiene, and conditions of strain and overwork, it is often believed in our culture that the disease attacks only failures—people who conspicuously have not made a success of life.

In other cultural groups in which the moral force of the Old Testament makes itself harshly felt, tuberculosis is frequently conceived of as a punishment for sin, and the diagnosis evokes a vague but powerful sense of guilt. In patients who privately suffer these guilt feelings, one often sees a reaction of angry bewilderment because they cannot discover a palpable sin on which to pin their guilt.

It is internal emotional reactions such as these that lead to the not infrequent experience of seeing a patient stunned when told the diagnosis. I recall one young woman who came to a doctor after a long series of bitter quarrels with her mother and a hostile brother. When she was told she had tuberculosis, she was stunned and never heard another word the doctor said. She later said she felt as if she had been struck by a thunderbolt which seemed like a punishment from God for her outspoken bitterness toward her family. Forgetting her hat and coat, she left the doctor's office and wandered around for an hour in a heavy snowstorm until she was suddenly brought to her senses because she was almost run down by a car. To those of us who deal with such unusual emotional reactions daily, it is not hard to see some suicidal intent on the patient's part, but of course, she was quite unconscious of this at the time.

For reasons such as these, or more simply because of disappointment at having one's career interrupted or the pain of being forcibly separated from family and friends—whatever the specific reasons—it is extremely common and might almost be considered normal, for a patient newly arrived at a sanatorium to suffer a period of mild depression. As a rule, this depressive phase lasts about 4 or 5 weeks, during which period most people seem to resolve the painful experience in one way or another. This mood is then normally replaced by a

sense of acceptance of the trouble, followed by a semblance of cheerfulness that usually persists. If, however, the initial depressive mood lasts for 2 months or longer it is, in my experience, an ominous sign of a serious adjustment problem for the patient.

The appearance of cheerfulness which replaces the initial depression is quite superficial. The patient begins to joke about his illness, describes it as a vacation, and boasts about the weight he gains. But hidden underneath this appearance of cheerfulness is a great deal of anxiety. The other patients come to recognize it, and the hypochondriacal expressions of it are received with a bit of a laugh among themselves. Every tuberculosis patient knows of the fleeting pains in the chest that occur before a routine physical examination is due or the slight elevation of temperature for a night or two before a scheduled X-ray.

What is required of the patient primarily is that he lie still and allow himself to be passively cared for. The majority of patients accept this regime in a satisfactory way, put their trust in the sanatorium or in their particular doctor, and uneventfully get well. But practical considerations about the support of one's family or about the ability to return to one's previous occupation after recovery can interfere with or interrupt the patient's cure. These concerns of the patient must always be considered realistically by the medical staff and by the social service and rehabilitation workers. Planning and exploration of solutions to the patient's problems might rightly be begun almost as soon as the patient enters the sanatorium. But this kind of planning cannot be done mechanically and must always take into careful consideration the patient's attitudes, rational and irrational.

For such purposes the medical history is never enough. A personal history must also be taken. This should include a careful review of how the patient was living at the onset of his illness, what factors of personal strain were operative, how he has reacted in the past to threatening illness, what his family's attitude is toward tuberculosis, and so on. This is not a task to be done lightly; it takes as much skill as for a good medical history. It can be performed by the staff physician if he has the requisite skill in interviewing and an honest interest in helping the patient as a person. Otherwise, it might best be done by specially trained personnel such as social workers, or clinical psychologists. Unfortunately, this kind of interviewing has only recently received any serious attention in medical schools, and most doctors are, therefore, inadequately prepared for this task.

The usefulness of this second, or personal, history of the patient is by no means limited to some utility in rehabilitation planning. As one proceeds, the personal history opens up opportunities for helping patients in unexpected ways. Potentially harmful attitudes can be spotted early whereas otherwise they might not be seen until the

patient actually gets into difficulties. The adjustment to sanatorium life can be made easier for the patient if it is recognized at the start that he may be a lonely, introverted person for whom privacy is a *sine qua non* of peaceful existence or that an immature, dependent adolescent girl will be able to stay in the sanatorium only if she is placed in the company of a good-humored older woman who will help make up for the mother the girl misses so much.

I should estimate that about one-third of tuberculosis patients will be found to have emotional problems disturbing enough to give rise to serious difficulties in treatment. But without careful investigation, the individuals in this one-third minority may not be easily discovered.

There is, for example, the kind of patient who does very well for a while, only to run into trouble later. He is reserved and uniformly polite when the doctor discusses the situation with him; he listens to what he is told and follows directions without any display of emotion. He is likely to have an uneventful time as a patient—in short, he may do well and go home promptly. To the observant eye there are, however, a few things about this kind of patient that are provocative of attention. He rarely talks about his illness, he seems to keep himself busy and occupied with personal things, and he manages to avoid associating with his fellow-patients as much as possible without seeming to shun them openly. This kind of patient leaves the sanatorium ostensibly well, but is apt to be back again in 6 months.

On his return he appears quite different in behavior and attitude. He is openly concerned about himself, wants as much reassurance as he can get from the doctor and nurses, and seems almost dependent on the good will of the patients he previously avoided. The solution to this mysterious change is not hard to find. Our polite and reserved patient of the first illness had no reason to feel concerned; he simply was convinced that he never really had tuberculosis. Even if he had had a positive sputum on his first admission, such a patient usually rationalizes to himself that the sputum specimens were confused in the laboratory or that there were so many germs in the air from other patients that quite naturally a few might have landed on his specimen. But he keeps all of these rationalizations to himself; and when he leaves the sanatorium, he acts on his conviction that he has never really had tuberculosis at all. He pitches right back into full-time work as soon as he gets out and rapidly works himself into a relapse.

This kind of disbelief in the diagnosis occurs in certain very rigid, egocentric personalities who are accustomed privately to overvalue themselves and their opinions absurdly. When this egocentricity is momentarily but finally shattered by the inexorable facts of illness, these patients tend to behave in a most infantile and dependent way. What makes this patient so dangerous to himself and others is his

ability to ignore a pneumonia or even a frank hemoptysis if he is really convinced of his own invulnerability.

Another group of patients are those who do very well through most of their hospital stay, but who manage in some remarkable fashion to develop a pleural effusion or a spread of disease a week or even a few days before their expected departure from the sanatorium. This can happen, of course, to anyone, but when it happens two or three times in succession to the same person, it becomes something other than mere coincidence. Investigation of this group reveals that, for many of these patients, the hospital is a refuge from trying or unbearable situations at home, and becoming ill all over again seems more bearable than going out to face an insoluble conflict.

I recall a young physiotherapist who originally had a small amount of disease which she handled extremely well on bed rest. The lesion had almost disappeared when her X-ray 1 week before leaving showed a spread to a new area. Again in bed, the patient did quite well, only to have almost the same thing happen some months later. Observation of the personal problem involved threw some light on the matter. The patient came from a small town where she had been engaged to marry a man she really found quite repulsive; the wedding was to occur immediately after she left the sanatorium. What made the whole matter so unbearable for the patient was that for years she had been tormented by homosexual doubts about herself; and her agreement to marry her prospective unattractive mate was, in large part, an effort to still these doubts within herself. Each time she was ready to leave the sanatorium she fell into great emotional turmoil and, to her apparent surprise, these periods of turmoil were promptly followed by a relapse.

Some patients of a very passive personality type give up trying and sink back into a kind of acceptance of fate that is little short of chronic invalidism.

The effects of emotional turmoil of a serious nature can be seen more clearly in the following example. A 19-year-old single girl was admitted to the sanatorium with bilateral disease and a cavity on one side. One lung was collapsed by pneumothorax, and the patient did remarkably well during the next 10 months. During this time she seemed contented and was, in fact, a kind of prize patient. Suddenly, however, she began to complain of severe anxiety symptoms, vomited frequently, slept poorly, and trembled constantly. When she lost 10 pounds in a week, the staff became quite concerned that her tuberculosis, which had healed so well, would soon break down. A psychiatric consultation was requested.

The medical history threw no light on the sources of the current difficulty, but the personal history of the patient gave a rich understanding of the causes of her anxiety. At the time the patient became

ill, her mother had become psychotically depressed over her daughter's illness. For the 10 months the patient had been at the sanatorium, the mother had been too ill even to write her. The patient's anxiety attacks began the day she received a letter from her mother saying that she was feeling better and was planning a visit to her daughter at the sanatorium. The girl envisioned a repetition of her mother's previous nagging demands for affection; and indeed when the mother appeared a few weeks later, she at once demanded that her child leave the sanatorium and come home to stay with her.

In discussions with the patient, it had quickly become clear that the sanatorium seemed to the girl like a peaceful refuge; she had been extremely unhappy at home under the rigid domination of her mother and an octogenarian grandmother. The prospect of returning to their care while she was still convalescing frightened the girl. When the situation had become clear the problem was discussed with the patient's father, but he did not believe he would be able to do very much about it.

The patient did stay at the sanatorium until she was relatively strong and the disease appeared quiescent. She then went home to her mother. Within a month the girl returned to the sanatorium. Her mother had been committed to a mental hospital, and the girl had developed a new spread of disease. In spite of this experience the patient again went home when she had completed her second cure, and almost the same things happened again. This time the mother made a suicidal attempt in front of her daughter, and the daughter quickly relapsed.

This see-saw struggle continued for more than 4 years and, when the patient left the sanatorium the last time, she had a thoracoplasty on one side and a pneumothorax on the other. However, her determination to break away from her family was eventually realized; she married and has subsequently stayed quite well.

Many of the difficulties that patients experience in the process of getting well from tuberculosis center around the issue of accepting the dependent role without serious feelings of guilt or anxiety. Most people can adjust to the sanatorium regimen easily when they realize that they are really ill and that it is to their advantage to do so. To some patients, however, there are dangerous or degrading connotations in this idea, and in certain extreme instances the idea of passive acceptance of someone else's care is absolutely unacceptable and gives rise to a battle sometimes fought to a termination fatal to the patient.

Before we continue with a description of such extreme examples, let us consider a case of the so-called "good" patient, one who lies quietly in bed for months, eats what is put before her, and does not demand extra privileges or otherwise disturb the routine. The regimen appears

to be perfectly acceptable to the patient, but from her point of view it leads nowhere and provides no incentive to get well.

A 35-year-old woman had spent more than 2 years in bed because of bilateral disease that slowly improved but from time to time spread again on one side or the other. Her sputum was positive with a low Gaffky count. She was a fine, cooperative patient who did just as she was told and yet at times would develop a cavity on one side and then on the other while lying in bed. There was no doubt of her disobeying; all evidence pointed to the fact that she was an exceptionally conscientious patient who bore the fact of her very slow progress with great patience and fortitude. She was not acutely ill any longer, but she was certainly far from well.

In this situation the problem of how to proceed with treatment was solved by finding out what her emotional adjustment to her disease had been and proceeding logically from there. Briefly, she was a woman who had become ill after a 10-year battle to save her husband from public disgrace and loss of position. He occupied a position of great trust which he would instantly have lost had the extent of his alcoholism ever been publicly realized. So his wife covered up for him in all conceivable ways when he was on drinking sprees, going without sleep for 36 hours if necessary to make sure that no one reached her husband at such times. She even successfully concealed the truth from their children. Gradually she had taken over the management of a large part of his affairs and had done very well.

After 10 years of this hectic kind of existence, she developed tuberculosis. Then she felt sure that all of her efforts were in vain, especially when her husband almost at once became interested in another woman whom he had hired to fill the role his wife had been playing in the management of his affairs. At the height of this emotional crisis, the husband died of a heart attack. The wife was left feeling as though there was very little point in her getting well. The children were being taken care of by her late husband's family, and she felt that she had been badly cheated and defeated by life. It was in this mood that she continued the cure of her tuberculosis—on the surface cooperative and pleasant, but underneath feeling rather bitterly resigned to her passive role that seemed to be so symbolic a measure of her defeat.

On reviewing her life, it soon became clear that ever since she had been a small child she had been putting herself in the role of watchdog and savior. Her own father had been a severe alcoholic. The patient's mother died during the patient's early teens, and she had been the one to keep the family together and take care of her drunken father. When she grew up, she became a nurse who was really interested and at her best only when assigned to the gravest cases. Her whole married life had been a succession of threatening catastrophies

which she had always managed to avert just in time. She had, of course, been intensely active all of her life, and there were many things that pointed to the fact that her seemingly relaxed acceptance was only an acceptable way of covering up her despair. For example, when I first went to see her, I noticed a small lettered sign on her door, put there by the other patients, and neatly explanatory of the kind of person they thought she really was. The sign read merely "Executive Officer."

So, on the assumption that this woman needed more activity to restore her self-esteem, she was taken off complete bed rest and slowly started on exercise. Within a couple of weeks all her good spirits returned, her indolent cavity closed, and her sputum became negative. The goal she was now pursuing was to get her children back and settle down to take care of them. In 6 months she was able to undertake a few hours of work, and within a year had her family together again and was working enough to support them. As the patient somewhat later phrased her experience, "For a long while I lay there and expected to get well, but now I see I had no incentive to do it. The difference was between expectation and hope; when I wanted to get well, I put my whole self into doing it."

Now we must turn our attention to the graver aspects of the problem—to those patients who seem to refuse to cooperate in their treatment and in whom the wish to die is either tacitly implied or, sometimes, even explicitly stated. This group is fortunately quite small, but it contributes some of the most difficult management problems in the treatment of tuberculosis. Experience with this group also throws some light on a question which has been raised by a number of observers, namely, why is outright suicide so rare among tuberculosis patients? After considering the following examples, I believe you will agree that the illness itself is often conceived of, or viewed unconsciously by patients, as a gradual suicide; there is, therefore, little, if any, compulsion for them to make a dramatic final gesture. This is not a simple matter from the standpoint of the emotional involvement, but an example or two may clarify some of the factors at work.

A 25-year-old man developed tuberculous pneumonia soon after he was sent overseas to join an active fighting unit in the recent war. When I first saw him, he had been under treatment for 2 years. He told me that he was totally uninterested in getting well and said frankly that he'd be "better off" dead. He had been advised that his only chance for recovery was through an extensive thoracoplasty, which he had flatly refused. Bitterness was the outstanding characteristic of what little he said, and he bluntly told me I was wasting my time in talking with him. However, we did get started, and he gradually revealed enough to let one see some of the sources of his feelings.

The patient was a capable, intelligent, and well-educated young man, the only child of wealthy parents. His mother was a cultivated and attractive woman who was quite talented in the arts; his father was a successful, highly regarded banker. They were willing and eager to give whatever their son needed to be restored to health. But the patient quickly made clear why he had no interest in his own future; the explanation was rooted in his past.

From the early days of their marriage, his parents had been unhappy together but had not separated because of the child. The father had largely ignored his son except that he was always willing to buy the boy anything he wanted. The mother had turned all her interest to the son and had striven to make him the "gentleman" that she obviously believed the father was not. So for the first 7 years of his life the patient was raised most delicately, wearing velvet suits and long curls and giving tea parties for little friends his mother invited. Added to this overprotection was an extreme hypochondriacal concern about her son's health that led the mother to keep him in bed a week if he had the slightest cold, to overdress him absurdly in winter, and so on. All of the boy's playmates considered him a perfect sissy, and he went through his early life sadly convinced that they were right.

At about 14, however, he was finally accepted among his peers because he owned a sailboat and had learned to sail. Thereupon, he changed into a most muscular kind of water-rat and prided himself on the roughness of the sailors and other persons with whom he associated. Swimming and sailing became to him the measure of a successful existence, and he decided on a most active occupation as a career.

The war came along and the patient made an enthusiastic soldier until it came time to fight; then he broke down with tuberculosis. When he was told his diagnosis, the patient's whole elaborately built-up structure of mannishness collapsed in a moment. He was immediately convinced that he could never again lead an active life and that surely no self-respecting girl would marry a broken-down consumptive like himself.

Worst of all, this illness delivered him again into the hands of his over-anxious hypochondriacal mother, and this time he felt really helpless against her. The whole of the 2 years he had so far spent in bed was divided into periods when his mother hovered over him and other periods in which he succeeded for a time in driving her away. On one occasion he saved up enough sleeping pills to make a suicidal attempt, but characteristically he did not take them, using them only to frighten his mother. During this time the patient's lesion gradually grew worse and, as it did, his mood grew more bitter and depressed.

Our discussions together did not alter his viewpoint radically or quickly, but toward the end he could admit occasionally that not all thoracoplasty patients were cripples and that some of them even lived slightly useful lives. Bent on self-destruction as he was, nevertheless during the weeks of our interviews he slowly gained some weight and admitted grudgingly that he felt a bit better. However, he refused to be budged very far from his original position then, but about 6 months later he did give in and consent to a thoracoplasty.

The broad outline of this young man's emotional conflict is apparent. Neglected by his father as a child, he was thrown almost entirely into the hands of a very neurotic mother. The mother took out her outraged feelings against her husband by doing her best to feminize her son during the early years of his dependence on her. In consequence, the patient came to feel that anything which put him in a dependent, passive position was going to make him into a feminized, weak little boy. When he developed tuberculosis, the patient was being asked symbolically to accept a position that throughout his life experience he had come to associate with all the galling, embarrassing emotions of his early childhood. He simply felt he could not accept that struggle again, and the thoracoplasty seemed to him a badge of weakness and a mark of shame in the eyes of the world.

The last patient I wish to mention fits into the same pattern even though the outcome was quite different. She was a 30-year-old married woman whom I was asked to see because her tuberculosis was actively progressing and excavating even after 7 months of strict bed rest and also because her behavior was such that it antagonized anyone who had to treat her. She cursed at the doctors, threw things at the nurses, and made sarcastic remarks about everyone. Because of the character of her disease, collapse therapy was considered inadvisable. Her behavior was somehow tolerated because it was believed that she would eventually die.

Her behavior and appearance were quite striking. She was noticeably masculine in appearance and manner; her hair was cut short like a boy's. Her restlessness was extreme, and her bed was usually in complete disarray from her constant twisting and turning.

Throughout the first interview, she cried profusely and coughed and wheezed a great deal. She was, however, glad to see a psychiatrist and was very eager to talk. She told me that about 10 years before—when she was 20 years of age—she had been very much upset about her first marriage and had felt a strong urge to commit suicide. She had resolved the conflict at that time by getting a divorce, but now she had a great fear of dying and was puzzled whether the two episodes might be related. I said that I thought they might easily be related, and from that point we started. The patient was seen almost daily for about 2 months—the extent of my available time.

This patient's history really might be said to go back at least two generations, for both the patient's mother and grandmother had been extremely domineering, aggressive women, highly successful in fields of activity usually reserved to men. Both the mother and grandmother had married weak, passive men who had dropped out of the marriages before too long. The patient herself had done the same kind of thing at 19. The man she ran off with was a charming alcoholic who never supported the patient or the two children she bore him. At 21 the patient divorced him, took custody of the children, and started out to make her way in the world as her mother and grandmother had done before her. But the economic depression of the 1930's was in full swing and the patient had a difficult time providing for herself and her children. Her early experience had hardened her, however, and she was determined to be as self-sufficient as possible.

Five years before she became ill, the patient met the man who was to become her second husband. For 4 years she put him off but, on his urgent pleading, finally consented to marry him. However, her consent was limited by certain conditions of marriage very characteristic of her: she was to be allowed to continue working and support herself and her children; she was to be allowed to do her own housework after she came home from working all day; and she was to keep the use of her maiden name. For the first year after the marriage she lived up to these self-imposed restrictions. In addition, she fired two people who were supposed to be her assistants at work and characteristically proceeded to do the work of all three.

She was often exhausted, but this did not alter her fierce determination to be independent. The only thing that bothered her was a recurrence of the suicidal thoughts; and for the 6 months before she fell ill, she frequently dreamed of killing herself. About a year after all this overactivity began, the symptoms of tuberculosis appeared and advanced rapidly. The diagnosis was made promptly and she was hospitalized at once. In spite of a regime of strict bed rest, the disease progressed steadily until at the end of the subsequent 7 months it appeared very likely that she would die. She had several cavities, an active bronchial lesion, and a very high Gaffky.

For about 2 weeks after her arrival at the sanatorium she had felt relieved and was glad of the opportunity to rest. But very soon her feelings of rebellion began; she could not accept the need to be dependent and let someone else take care of her. Her whole life had been devoted to proving how self-reliant and strong she was, and she now found herself forced to jeer at and quarrel with the nurses and doctors who were unwittingly demanding that she give up this role.

Needless to say, none of this was apparent to the patient when I first saw her. It came out in the course of the work we did together and constituted for the patient a very important bit of insight. As

you will have noticed, also, this patient had great difficulty in accepting her own femininity. Her attitude was that all men are weaklings and depend on women for support, that women were really the strong ones in the world. After we had battled our way through some of these ideas in the course of several strenuous hours, it began to be possible to see why the patient felt this way.

Much of her feeling of loneliness, of being unloved, and of deep pessimism that she had felt in her turbulent childhood came to the surface; and as she talked of these things, her crying and great motor restlessness began to subside. Gradually through this period she began to look more feminine. She let her hair grow and started using lipstick; her relationship with the doctors and nurses improved; and she began taking an interest in other patients. Her general condition seemed less alarming, and at the end of this period she had her first X-ray that showed no further progression of the disease. This favorable trend continued; in 6 months her cavities were closed, and at the end of a year her sputum was negative and she was allowed to get up. Needless to say, this patient required much more psychiatric treatment, and fortunately she was able to obtain it after her return home. This case, then, was that of a severe neurotic reaction that completely blocked the patient's ability to accept the required treatment for her disease and even her ability to get well.

One step further in this series of increasingly disturbed patients is the small group of patients who manage to achieve some precarious kind of equilibrium with severe pulmonary disease but remain chronically ill for years. Included in this group are the patients who rarely become ambulatory or, if they do get up, are soon back in bed for several more years after an immediate and severe relapse. As personality types, these patients tend to be introverted, withdrawn people who use their severe tuberculosis to guarantee care and affection for themselves. They seem to pay scant attention to their disease but usually are the most discussed therapeutic problems in the sanatorium over long periods of time. They would probably be frank schizophrenics if their emotional needs were somehow not being precariously met by the care and sympathy they always manage to get for themselves in the sanatorium.

One such patient confided to me that she had been committing slow suicide during the past 9 years but that none of her doctors had "caught on" yet. This was an entirely conscious but private idea of the patient's, and she seemed to be matching wits with the surgeons who over almost a decade had tried a number of ingenious operative procedures on her—all of which had so far failed.

Another such patient became frankly psychotic 5 weeks after he left the sanatorium. He had apparently arrested his tuberculosis after a 5-year struggle in the sanatorium, during which time he was con-

sidered only as a queer, rather eccentric personality. Outside the sanatorium atmosphere, his emotional defenses broke down almost at once and he soon had to be committed to a mental hospital.

The necessity for psychiatric treatment of such patients as those just described can probably be well demonstrated, but a word of caution should be added. It has occasionally been observed that, during phases of acute activity of pulmonary tuberculosis, any discussion which is emotionally disturbing to the patient can give rise to an increase or recrudescence of toxic symptoms such as fever, tachycardia, fatigue, and so on. Therefore, it requires good clinical judgment to be able to estimate when psychiatric work can be undertaken in such acute situations. Thus, if a patient entered the sanatorium in an acute tuberculous episode, and was found likewise to be recovering from an acute mental depression, it might be much sounder procedure to let the patient recover slowly from his depression than attempt to stir up the problem any further. Under such a *laissez-faire* regime, both conditions tend to improve simultaneously without intervention.

I do not mean to carry this discussion into the technical and special range of psychotherapy in general, but I do wish to emphasize that in tuberculosis hospitals, as in any place in which one deals medically with large groups of people, the psychiatrists' services may aid in solving a particular patient's general medical problem. This kind of psychiatric assistance is *necessary* in only a small minority of cases, but I have tried to point out how psychological understanding is important and helpful during the course of any patient's illness.

The level of interest of staff physicians in these problems has not always been high. Part of the blame for the physicians' attitudes rests on the medical schools, which have done a grossly inadequate job of preparing physicians to appreciate the value of this approach to medical and surgical problems. In addition, most staff physicians are uneasy about handling these problems in direct proportion to their lack of knowledge and understanding of them. This lack of understanding can best be remedied through case demonstrations and discussions. Interest can certainly be aroused and insight developed through seminars and staff discussions of the reasons why a particular patient behaves as he does and by giving attention to the problems of morale of the patients. Such insight has been shown to be of value in many treatment problems—especially those in which there are phobias against such common things as needles, or milk, or exercise, or even against breathing!

Social service and rehabilitation workers do their best work when they have access to a psychiatric consultant. Any planning for a patient is better planning to the extent that it takes into account the dynamics of a patient's inherent motivation. In fact, the whole

problem of discharge against medical advice, which is such a plague in some sanatorium settings; can be handled successfully only through skilled and informed work in just this area. Financial support of a man's family of dependents while he is curing his tuberculosis makes very good sense in terms of the eventual cost to the community if he is forced to leave before his cure is completed. Likewise, it seems to me that emotional support of the patient while he is attempting to complete his cure makes equally good sense. In this connection, a few words might be added about the general role of nurses in the patient's care. The nursing staff bears a large share of responsibility in the daily life of the sanatorium patient. Nurses often can use assistance in modifying the sanatorium routine intelligently to fit the emotional needs of their patients; this is particularly true in institutions in which much of the daily burden of treatment is borne by the nursing staff. Under such conditions the patient often feels that the sanatorium is being run for the convenience of the nurses, and the result is extremely low patient morale. An intuitive, understanding head nurse can, however, at times be the best source of aid to a discouraged patient.

The whole topic of human relationships is in need of study and consideration in relation to the problem of control of tuberculosis. Patients all arrive at the sanatorium with some degree of emotional disturbance. Where morale is good and careful thought is given to the range of human personality reactions, most patients will adjust satisfactorily and respond as expected to treatment. However, a large minority can be expected to encounter serious difficulties during or after their hospitalization, mainly because of emotional disturbances. These disturbances cannot always be avoided, but usually their occurrence can be foreseen and their seriousness modified if there has been an adequate personality investigation early in the patient's stay. Likewise, intelligent planning to cope with the social and rehabilitation problems of the patient will go forward much more realistically from such a base. Certainly, in terms of practical management, pulmonary tuberculosis can be as much a disease of the personality as it is of the lungs.

Erratum

In the article, "Geographic Distribution of Pulmonary Calcification Among University Students in Ohio," by John A. Prior, et al., *Pub. Health Rep.* 65: 1135 (September 1, 1950), the key to figure 1 is in error. The symbols for pulmonary calcification and histoplasmin sensitivity should be transposed; that for tuberculin sensitivity is correct.

Incidence of Disease

No health department, State or local, can effectively prevent or control disease without knowledge of when, where, and under what conditions cases are occurring

UNITED STATES

Reports From States for Week Ended September 16, 1950

For the current week, new cases of acute poliomyelitis reported in the Nation numbered 2,138, a 22.5 percent increase over the 1,745 cases reported last week. This is the seventeenth consecutive week which shows an increase over the preceding week. For the corresponding week in 1949, 2,622 cases were reported. The cumulative total (16,236) for the current "disease" year was below the corresponding total (28,157) for last year, the highest on record. The "disease" year for acute poliomyelitis begins with the twelfth week of the calendar year. The cumulative total for the calendar year was 17,370, compared with the total of 29,072 for the corresponding period last year.

Comparative Data for Cases of Specified Reportable Diseases: United States

[Numbers after diseases are International List numbers, 1948 revision]

Disease	Total for week ended		5-year median 1945-49	Seasonal low week	Cumulative total since seasonal low week		5-year median 1944-45 through 1948-49	Cumulative total for calendar year		5-year median 1945-49
	Sept. 16, 1950	Sept. 17, 1949			1949-50	1948-49		1950	1949	
Anthrax (062).....	-----	2	(¹)	(¹)	(¹)	(¹)	(¹)	30	40	(¹)
Diphtheria (055).....	97	165	210	27th	754	1,129	1,440	3,882	4,897	7,737
Acute infectious encephalitis (082).....	24	31	31	(¹)	(¹)	(¹)	(¹)	655	510	424
Influenza (480-483).....	982	658	658	30th	5,465	3,996	3,996	251,724	79,863	144,358
Measles (085).....	518	414	535	35th	1,024	913	1,030	289,195	589,431	552,938
Meningococcal meningitis (057.0).....	46	46	46	37th	3,712	3,360	3,613	2,799	2,516	2,641
Pneumonia (490-493).....	662	822	-----	(¹)	(¹)	(¹)	(¹)	63,493	58,861	-----
Acute poliomyelitis (080).....	2,138	2,622	1,620	11th	16,236	28,157	15,313	17,370	29,072	15,780
Rocky Mountain spotted fever (104).....	12	10	11	(¹)	(¹)	(¹)	(¹)	406	510	478
Scarlet fever (050).....	344	404	445	32d	1,401	1,326	1,982	41,571	58,992	64,085
Smallpox (084).....	-----	-----	-----	35th	-----	1	3	26	42	148
Tularemia (059).....	17	18	18	(¹)	(¹)	(¹)	(¹)	708	887	731
Typhoid and paratyphoid fever (040, 041) ²	92	108	114	11th	1,996	2,382	2,382	2,506	2,870	2,870
Whooping cough (056).....	1,889	1,364	2,185	39th	115,309	53,737	98,303	93,773	43,704	72,285

¹ Not computed.

² Deductions: Poliomyelitis—North Carolina, week ended Aug. 12, 1 case; typhoid fever—Georgia, week ended Sept. 2, 1 case; whooping cough—Iowa, week ended Sept. 2, 2 cases; week ended Sept. 9, 10 cases.

³ Including cases reported as salmonellosis.

For the current week, six of the nine geographic divisions increased over the preceding week in reported cases of poliomyelitis. These decreases ranged from 173 (397 to 570) cases reported in the Middle Atlantic States to 4 (40 to 44) in the Mountain States. The three divisions decreasing from the preceding week ranged from 30 (161 to 131) cases in the West South Central States to 1 (156 to 155) in the Pacific States.

The States reporting the largest numbers of cases of poliomyelitis for the week were: New York (377), Michigan (135), Ohio (126), Illinois (117), Pennsylvania (112), and California (106).

The total number of cases of infectious encephalitis reported for the week was 24 compared with 31 reported for the corresponding period last year. For the calendar year, a total of 655 cases was reported, the highest total in the past 5 years.

The total of 46 cases of meningococcal meningitis reported for the current week concluded the "disease" year. The current week is the 37th in this calendar year. The cumulative total number of cases of meningococcal meningitis for the "disease" year was 2,799 compared with the 5-year (1945-49) median of 2,641. The largest total number of cases reported in any year during this period was 6,495 in 1945.

No smallpox was reported in the United States.

Of 39 States and the District of Columbia reporting on rabies in animals, 22 States and the District of Columbia reported no cases. The remaining 17 States reported 118 cases. States reporting the largest numbers were: New York (29), Texas (16), and Kentucky (14).

Deaths During Week Ended September 16, 1950

	<i>Week ended Sept. 16, 1950</i>	<i>Corresponding week, 1949</i>
Data for 94 large cities of the United States:		
Total deaths.....	8, 571	8, 508
Median for 3 prior years.....	8, 312	-----
Total deaths, first 37 weeks of year.....	340, 246	340, 683
Deaths under 1 year of age.....	620	640
Median for 3 prior years.....	640	-----
Deaths under 1 year of age, first 37 weeks of year.....	22, 937	24, 148
Data from industrial insurance companies:		
Policies in force.....	69, 591, 583	70, 143, 481
Number of death claims.....	11, 134	11, 757
Death claims per 1,000 policies in force, annual rate.....	8. 3	8. 7
Death claims per 1,000 policies, first 37 weeks of year, annual rate.....	9. 3	9. 2

Reported Cases of Selected Communicable Diseases: United States, Week Ended Sept. 16, 1950

[Numbers under diseases are International List numbers, 1948 revision]

Area	Diph- theria (055)	Enceph- alitis, infect- ious (082)	Influen- za (480-483)	Measles (085)	Menin- gitis, menin- gococcal (057.0)	Pneumonia (490-493)	Polio- myelitis (080)
United States	97	24	962	518	46	662	2,138
New England	2			40	1	15	132
Maine.....	1				1	2	10
New Hampshire.....							4
Vermont.....				6			3
Massachusetts.....	1			24			62
Rhode Island.....				2		1	2
Connecticut.....				8		12	51
Middle Atlantic	6	3	3	127	5	144	570
New York.....	3	3	(¹)	38	1	84	377
New Jersey.....	2		3	48		23	81
Pennsylvania.....	1			41	4	37	112
East North Central	6	3	21	131	8	97	473
Ohio.....				26	1		126
Indiana.....	3					6	33
Illinois.....	2	1	2	28	3	71	117
Michigan.....		2		32	3	16	135
Wisconsin.....	1		19	45	1	4	62
West North Central	2	7	8	8	2	48	249
Minnesota.....			3	2	1	24	45
Iowa.....				1	1	1	104
Missouri.....	2			2		5	26
North Dakota.....		3				13	
South Dakota.....		4					6
Nebraska.....			5	3			25
Kansas.....						5	43
South Atlantic	34		133	18	7	64	287
Delaware.....					2		2
Maryland.....						9	79
District of Columbia.....			1			8	7
Virginia.....	4		115	10		21	84
West Virginia.....	4		15	1	4		10
North Carolina.....	18			4	1		23
South Carolina.....	4		1	1		4	22
Georgia.....	3			2		13	33
Florida.....	1		1			9	27
East South Central	19	2	17	14	7	42	97
Kentucky.....	1			1	4	7	45
Tennessee.....	4	2	7	13			32
Alabama.....	8		6		3	14	8
Mississippi.....	6		4			21	12
West South Central	21	2	724	51	13	202	131
Arkansas.....	9		33	11	4	14	21
Louisiana.....	2		1	4		11	16
Oklahoma.....	2	1	47	3		17	22
Texas.....	8	1	643	33	9	160	72
Mountain	1		58	34		19	44
Montana.....	1		7	3			
Idaho.....				5			12
Wyoming.....							3
Colorado.....			7	10		6	4
New Mexico.....	1		1	2		8	9
Arizona.....			43	1		4	12
Utah.....				13			3
Nevada.....						1	1
Pacific	6	7	18	95	3	31	155
Washington.....	1		11	9		2	24
Oregon.....	1		6	14	1	3	25
California.....	4	7	1	72	2	26	106
Alaska.....							
Hawaii.....	1		6	2			1

¹ New York City only.

Reported Cases of Selected Communicable Diseases: United States, Week Ended Sept. 16, 1950—Continued

[Numbers under diseases are International List numbers, 1948 revision]

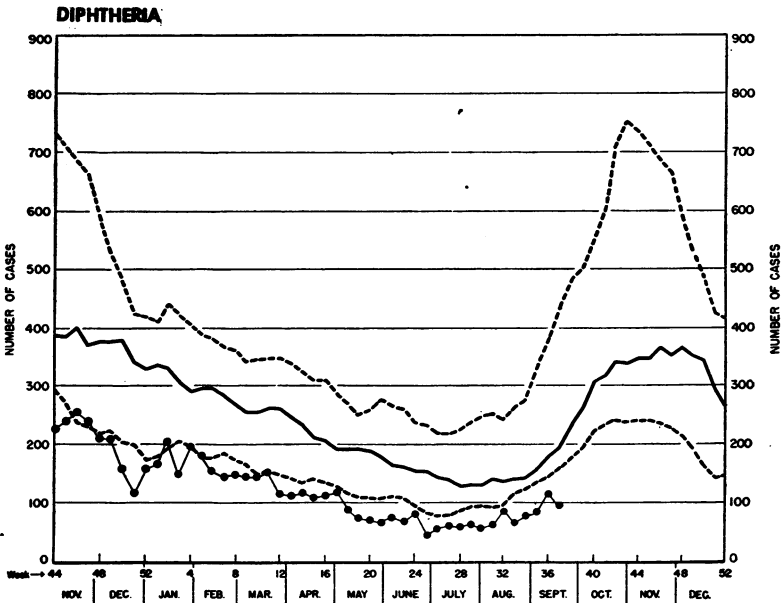
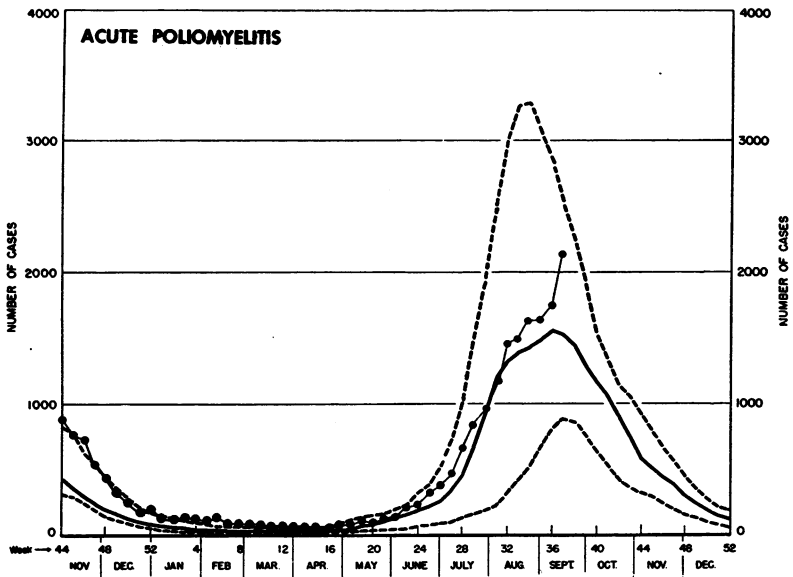
Area	Rocky Mountain spotted fever (104)	Scarlet fever (050)	Small-pox (084)	Tularemia (059)	Typhoid and paratyphoid fever ¹ (040,041)	Whooping cough (056)	Rabies in animals
United States	12	344		17	92	1,889	118
New England		30			8	229	
Maine.....		1				60	
New Hampshire.....						9	
Vermont.....						17	
Massachusetts.....		24			8	58	
Rhode Island.....						38	
Connecticut.....		5				47	
Middle Atlantic		41			5	383	34
New York.....		122			3	156	29
New Jersey.....		10				133	
Pennsylvania.....		9			2	94	5
East North Central	1	75		1	13	430	15
Ohio.....	1	17			7	51	3
Indiana.....		5		1	1	11	
Illinois.....		18			2	35	3
Michigan.....		22			3	219	7
Wisconsin.....		13				114	2
West North Central		21			1	185	4
Minnesota.....		1				33	
Iowa.....		5				63	4
Missouri.....		4				17	
North Dakota.....						22	
South Dakota.....							
Nebraska.....		9				16	
Kansas.....		2			1	34	
South Atlantic	4	66		2	13	180	16
Delaware.....						1	
Maryland.....	1	4			3	37	
District of Columbia.....					2	4	
Virginia.....	1	14		2	5	43	
West Virginia.....		4				35	1
North Carolina.....	1	29				42	
South Carolina.....	1	3				2	11
Georgia.....		12				10	4
Florida.....					3	6	
East South Central	2	60		1	13	85	26
Kentucky.....		19			2	9	14
Tennessee.....		32			4	38	1
Alabama.....	2	6			6	35	11
Mississippi.....		3		1	1	3	
West South Central	3	23		8	17	184	21
Arkansas.....	2	3		6	3	15	2
Louisiana.....	1	4			2	1	
Oklahoma.....		4		1	2	16	3
Texas.....		12		1	10	152	16
Mountain	2	5		5	4	82	
Montana.....						12	
Idaho.....	2			1		1	
Wyoming.....						1	
Colorado.....		2			1	44	
New Mexico.....		1			2	9	
Arizona.....					1	8	
Utah.....		1		4		7	
Nevada.....		1					
Pacific		23			18	131	2
Washington.....		2				59	
Oregon.....		7				6	
California.....		14			18	66	2
Alaska.....							
Hawaii.....						1	

¹ Including cases reported as salmonellosis.

² Including cases reported as streptococcal sore throat.

Communicable Disease Charts

All reporting States, November 1949 through September 16, 1950



The upper and lower broken lines represent the highest and lowest figures recorded for the corresponding weeks in the 5 preceding years. The solid line is a median figure for the 5 preceding years. All three lines have been smoothed by a 3-week moving average. The dots represent numbers of cases reported for the weeks of 1950.

FOREIGN REPORTS

CANADA

Reported Cases of Certain Diseases—Week Ended Aug. 26, 1950

Disease	New found-land	Prince Ed-ward Island	Nova Scotia	New Brunsw-ick	Que-bec	On-tario	Mani-toba	Sas-katch-ewan	Al-ber-ta	Brit-ish Co-lum-bia	Total
Brucellosis					2			1			3
Chickenpox			14		21	31	8	12	33	24	143
Diphtheria				1	2		1				4
Dysentery, bacillary					13	7	3	1		1	25
German measles			2			26		6	1	6	41
Influenza			26			4	3				33
Measles			8		108	62	3	4	5	19	209
Meningitis, meningo-coccal				1							2
Mumps			11		32	67	4	22	49	14	199
Poliomyelitis			3		7	18	1	11	12	3	55
Scarlet fever				1	12	8	2	2	8	1	34
Tuberculosis (all forms)	14		8	10	74	26	16	14	16		178
Typhoid and para-typhoid fever					5	2			1	1	9
Venereal diseases:											
Gonorrhea	7		8	16	56	60	37	34	55	83	356
Syphilis	4		8	4	61	25	7	14		5	124
Whooping cough	1		10	1	73	66	16	1	6	19	194

CUBA

Reported Cases of Certain Diseases—5 Weeks Ended July 29, 1950

Disease	Pinar del Rio	Habana		Matan-zas	Santa Clara	Cama-guey	Oriente	Total
		Habana City	Total					
Cancer	14		27	18	25	2	23	10
Chickenpox		7	8			1	4	1
Diphtheria		10	14	1				15
Leprosy	5		9				4	18
Malaria							9	9
Measles	1	3	3	2			4	10
Poliomyelitis						1	1	2
Tuberculosis	6		6	21	27	17	19	96
Typhoid fever	4	11	16	16	30	7	30	103
Whooping cough			5				2	7

NORWAY

Reported Cases of Certain Diseases—June 1950

Disease	Cases	Disease	Cases
Diphtheria	8	Poliomyelitis	42
Dysentery	1	Rheumatic fever	96
Encephalitis, infectious	1	Scabies	637
Erysipelas	327	Scarlet fever	136
Gastroenteritis	4, 042	Tuberculosis (all forms)	331
Hepatitis, infectious	63	Typhoid fever	1
Impetigo contagiosa	1, 452	Venereal diseases:	
Influenza	2, 373	Gonorrhea	223
Measles	542	Syphilis	67
Meningitis, meningococcal	9	Other forms	4
Mumps	134	Whooping cough	2, 149
Pneumonia (all forms)	2, 296		

REPORTS OF CHOLERA, PLAGUE, SMALLPOX, TYPHUS FEVER, AND YELLOW FEVER RECEIVED DURING THE CURRENT WEEK

The following reports include only items of unusual incidence or of special interest and the occurrence of these diseases, except yellow fever, in localities which had not recently reported cases. All reports of yellow fever are published currently. A table showing the accumulated figures for these diseases for the year to date is published in the PUBLIC HEALTH REPORTS for the last Friday in each month.

Cholera

Burma. During the week ended August 26, 1950, 14 cases of cholera, with 7 deaths, were reported, including 6 fatal cases in the port of Toungoo, and 1 case in the port of Kyaukpyu.

India (French). During the week ended August 26, 1950, 58 cases of cholera were reported in Pondicherry.

India (Portuguese). Cholera has been reported in Damao District, as follows: Week ended August 5, 1950, 3 cases; week ended August 12, 14 cases.

Plague

Belgian Congo. During the week ended August 26, 1950, one fatal case of pneumonic plague was reported in Costermansville Province at Kikendi, northeast of Lubero.

Brazil. During July 1950, one case of plague was reported at Inhambupe in Bahia State.

Ecuador. During the period July 1-15, 1950, one case of plague was reported in Loja Province at Pindal, Celica County.

Smallpox

Peru. Four hundred and eighty cases of smallpox were reported in May 1950.

Venezuela. For July 1950, 267 cases of smallpox (alastrim) were reported.

Typhus Fever

Peru. One hundred and thirty cases of typhus fever were reported during May 1950.

Yellow Fever

Brazil. On June 24, 1950, one death from jungle yellow fever was reported at Ipiau in Bahia State.

State and Territorial Health Authorities 49th Annual Conference

Public health officials from all the States and Territories and from the Provinces of Canada will meet October 23-27 at one of the largest gatherings of public health administrators ever held in Washington, according to Dr. Wilton L. Halverson, President of the Association of State and Territorial Health Officers.

The meeting coincides with the 49th annual conference of administrators of State health programs called by Dr. Leonard A. Scheele, Surgeon General of the Public Health Service, and will deal chiefly with the health and medical aspects of civil defense planning. The program will also include two days of scientific sessions, October 24 and 25, at the National Institutes of Health, the Public Health Service's research center at Bethesda, Md.

Speakers on civil defense will include: Dr. Scheele, Dr. Norvin Kiefer, Director of Health Resources of the National Security Resources Board, and Dr. Herman E. Hilleboe, New York State Commissioner of Health. This session will be held Thursday morning, October 26, at the Federal Security building.

Included in the Children's Bureau session Thursday afternoon is a talk on the Mid-Century White House Conference on Children and Youth by Melvin A. Glasser, Executive Director of White House Conference.

Plans for action programs which can be recommended to the States will be formulated by the newly organized Civil Defense Committee of the Association of State and Territorial Health Officers. Members of this committee are: Dr. Wilton L. Halverson, Director of Public Health, California; Dr. Roy L. Cleere, Executive Director, Department of Public Health, Colorado; Dr. Vlado A. Getting, Commissioner of Public Health, Massachusetts; Dr. N. H. Dyer, State Director of Health, West Virginia; Dr. L. E. Burney, State Health Commissioner, Indiana; Dr. R. H. Hutcheson, Commissioner of Public Health, Tennessee; Dr. F. C. Beelman, Executive Officer and Secretary, Board of Health, Kansas.

Military Surgeons to Hold 1950 Convention

The Association of the Military Surgeons of the United States will hold its 1950 convention November 9-11 at the Hotel Statler, New York City.

Appropriate to the times, the programs will include forum lectures on civil defense, the defense role of the physician, aviation medicine, rehabilitation, military medicine, surgery, sanitation, and discussions on the use of the newest therapeutic and prophylactic agents in emergency conditions.

The convention has been organized to provide section meetings for dental, nursing, veterinary, and other specialty groups. Several of the sessions will be directed to the problems of the medical reserve.

The forum lecture on Civil Defense Planning will be given by Dr. Norvin C. Kiefer, Director of the Health Resources Division, National Security Resources Board.

Further information may be obtained from Col. James M. Phalen, Armed Forces Institute of Pathology, Washington 25, D. C.
