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Better Patient Care Through Coordination

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The Concept

Exchange of knowledge pertaining to hospital services and practices will further promote the contribution of the hospital to better patient care. This is accomplished by providing improved and more efficient clinical services, educational opportunities, and administration.

Although many hospitals in this country operate efficiently and provide a high standard of patient care, there is little doubt that there is room for improvement. In a number of hospitals, standards of care are too low and must be improved. Relative isolation of professional personnel in the less urban areas can and should be remedied.

Opportunity for the physician to continue professional studies after completion of school, internship, and residency must be provided. Periodical visits by professionally qualified personnel should be arranged, during which ward rounds, clinical conferences, and consultations can be held with discussions on timely clinical subjects of practical interest to the busy practitioner.

Education facilities for technical personnel should be provided to insure an adequate supply of such trained personnel for replacements and for stand-by duty to relieve those in the outlying hospitals, thereby giving the latter an opportunity to seek refresher training. Laboratories and ancillary services should be encouraged by financial support, advisory visits, and checking of methods and results by qualified consultants.

The same type of consultation and guidance in administrative matters, including costs, accounting, purchasing, personnel, and other phases of hospital administration, would promote the efficient utilization of personnel and expenditures.

Such promotion of efficiency can be accomplished through cooperation of participating hospitals within a region. Costs for hospital

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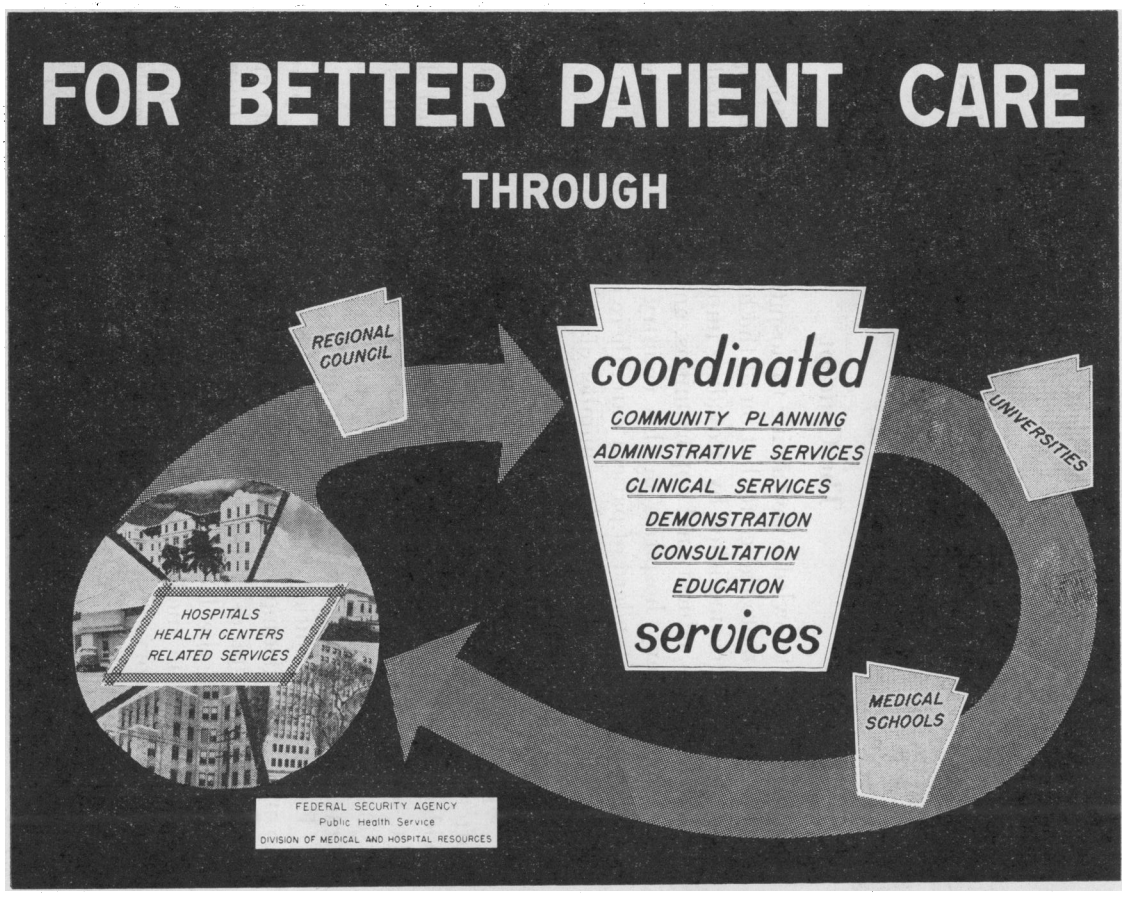
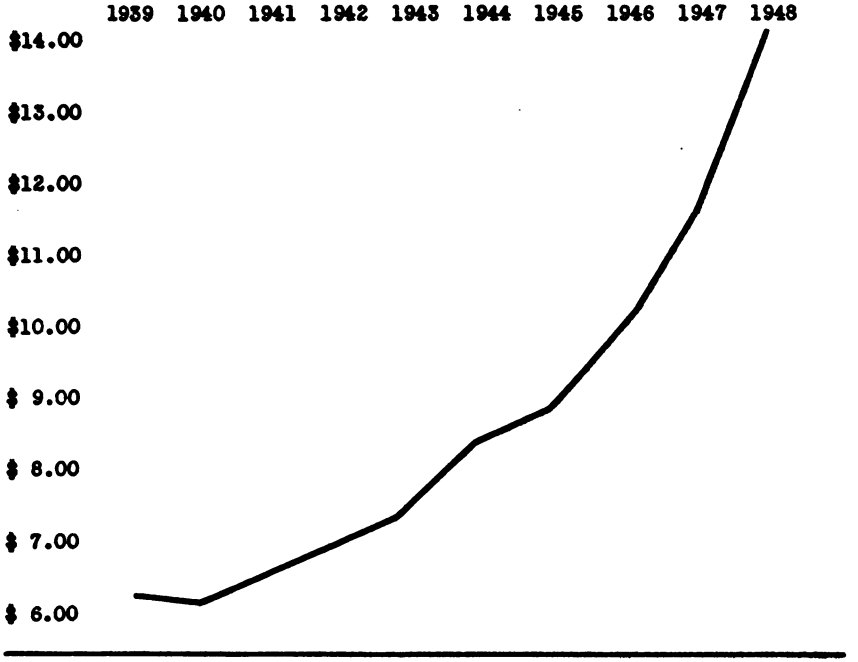

FOR BETTER PATIENT CARE
THROUGH
REGIONAL COUNCIL
coordinated
COMMUNITY PLANNING
ADMINISTRATIVE SERVICES
CLINICAL SERVICES
DEMONSTRATION
CONSULTATION
EDUCATION
services
UNIVERSITIES
MEDICAL SCHOOLS
HOSPITALS
HEALTH CENTERS
RELATED SERVICES
FEDERAL SECURITY AGENCY
Public Health Service
DIVISION OF MEDICAL AND HOSPITAL RESOURCES

services have been increasing so rapidly within the past few years that it is becoming difficult for a large portion of the population to defray the expenses of hospitalization for even ordinary illnesses. Even with financial assistance to a large segment of the population through voluntary health insurance or any governmental contributions to hospital maintenance and operation, it is incumbent upon hospitals to put their own house in order. It is only by this that the patients can be given the best possible care and a reasonable return for the expenditures of private or public monies.



Average Operating Cost per Patient Day in Voluntary Nonprofit Hospitals 1939–1948

Year	*Patient Day Costs*
1939	[1] $6. 42
1940	[1] 6. 39
1941	[1] 6. 69
1942	[1] 7. 14
1943	[1] 7. 67
1944	[1] 8. 50
1945	[2] 8. 95
1946	[2] 10. 04
1947	[2] 11. 78
1948	[2] 14. 06

[1] SOURCE—Hospital Management (Reports from 20,000 hospital beds).
[2] SOURCE—American Hospital Association Directory, 1946, 1947, 1948, and 1949.

The Bingham Associates Fund of Boston, in reporting its activities in this field, states:

"The establishment of hospitals in rural communities is of unquestionable value, for, among other things, such units may offer the physical requirements for the utilization of the more modern methods of medicine. However, an expensive surgical unit does not insure good surgery; complete X-ray apparatus does not predicate accurate X-ray diagnosis; and a well-equipped laboratory does not guarantee scientific aid in medical management. In fact, such facilities may do more harm than good if not intelligently employed. It is only human to be lulled into a false sense of security by trusting blindly to the wisdom represented by awesome and expensive apparatus. It is natural to want to shift responsibility, and what better object can be found to which to shift it than some inanimate, unresponsive, shiny machine which is reputed to give us such and such reliable information? It is also human to have great confidence in impressive things about which we know little or nothing. A surgeon may actually be misled into a false belief in his sufficiency by the impressive display of all the modern equipment which he employs. A physician may wrongly give assurance concerning a patient's heart because "the electrocardiogram was normal," and a patient may be permitted to suffer untold mental anguish because X-rays were inaccurately interpreted as showing cancer. No medical weapons are deadlier than those of the pseudoscientist."

It is plain, then, that upon those who make modern facilities available to rural communities a great responsibility rests in assuring the proper, continued use of these facilities. It is in this latter respect that present programs for the advancement of rural medicine have not been entirely successful. If properly utilized, a community hospital can be the most effective unit in a program for the advancement of rural medicine, for it is ultimately the community hospital which will determine whether good or poor medicine is to be practiced in the community.

Dr. William T. Sanger, President of the Medical College of Virginia, states, "When States, under the stimulus and the resources to be supplied by the Hill-Burton Act, develop hospital systems coordinated and integrated with the larger centers serving the smaller centers, including every possible educational resource, then we may expect a new day in medicine."

Medical care available at the crossroads and in the smaller community has decreased and as more and more physicians are concentrated in larger cities, the quality of service which the outlying communities can offer to their people has diminished. The plan of cooperation proposed here will go far to stimulate and encourage means of

combatting and reversing these tendencies. Through regionalization, it is hoped that the medical school and the teaching center can, in effect, grow out horizontally so that the campus of the medical school is extended to the entire region or to an entire State.

This is the concept of coordination or integration of hospital services.

Such cooperation can be achieved without loss to the hospital of its individuality, initiative, and local responsibility. Rather, the method acts as a stimulus to enlarged responsibility, to improved patient care, towards retention of competent professional personnel in less populous areas, and to more efficient expenditure of private and public funds. The experience in already established programs proves beyond question that benefits in improved medical and hospital care are tremendous in relation to the costs involved. It is imperative that leaders in the hospital and health fields give serious consideration to every method which will improve standards of patient care.

However, it must be remembered, as has been stated by C. Rufus Rorem, executive secretary of the Hospital Council of Philadelphia, that coordination is a point of view as well as an administrative structure. The inherent advantages can be entirely negated by lack of knowledge, vision, interest, and the egoism of self-sufficiency.

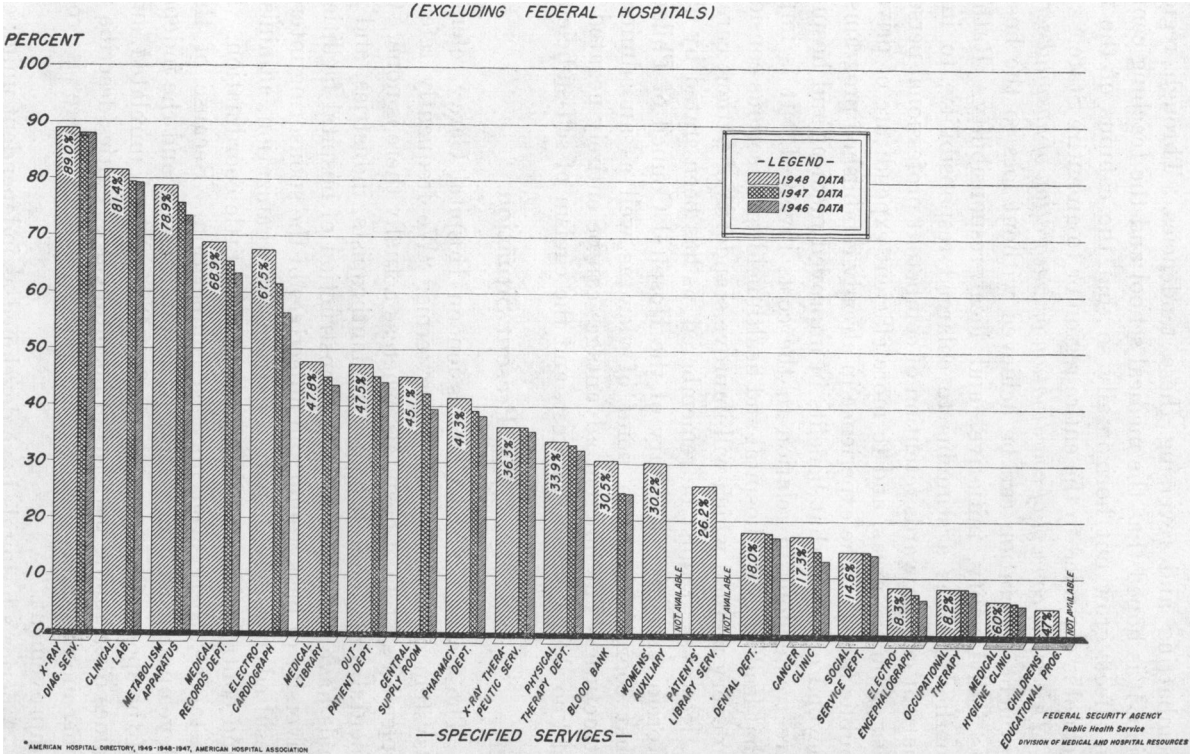
The Present Situation

The Report of the Commission on Hospital Care [1] refers to our "system of hospitals" in these terms: "We frequently refer to our splendid system of hospitals, whereas actually there is none. Governmental units, church bodies, philanthropists, industries, and individuals have participated in the construction of hospital facilities. The diversity of background and objectives of the sponsoring interests has resulted in widely disparate patterns of organization, administration, and control of hospitals. There is very little coordination. In some instances, there even may be competition. Because of the rapid development and the nature of hospital service and the independence of the sponsoring agencies, we find disorganized, unrelated, and oftentimes overlapping patterns of hospital care. Critics describe them as uneconomic and ineffective. Patrons admit there is room for improvement."

America's hospitals have developed as independent units; each is a "rugged individualist." They largely stand alone in the provision of service. Each provides such services as it can give through its own resources and staff. Through the medium of association meetings there is some communication of new ideas, knowledge, and techniques from one hospital to another. The average hospital administrator is thus enabled to have limited contact with the leaders in the field and to

[1] Commonwealth Fund, New York, 1947.

PERCENT OF ALL GENERAL AND SPECIAL SHORT-TERM HOSPITALS PROVIDING SPECIFIED SERVICES



take advantage of their ideas and experience. To a very large degree these are the sole means that now exist for the coordination of hospitals and hospital personnel and to effect the wide and rapid dissemination and application of new discoveries in the art and science of providing good patient care.

An analogous situation exists among the physicians. The student goes to medical school; he receives intensive training; and then in many cases he settles in some small community and loses touch with the medical school. By the end of five years, unless he keeps up through intensive reading or through postgraduate study, what he learned at medical school has become outdated and he is no longer well trained. There is no organized device for the rapid dissemination of new knowledge and techniques to the average practicing physician. Just as the average community hospital works alone as a single and isolated unit, so, in a sense, the physicians of the average small community provide their services with such resources as exist within the community and there is no means by which the superior resources of the medical center can be systematically brought to their aid.

A big problem which confronts all of us is how to raise the quality of service provided by the average hospital, particularly the small hospital, and its medical staff. The vast majority of our hospitals are small. Of the 4,499 non-Federal general hospitals in the United States which are reported in the 1949 Directory of the American Hospital Association, 1,980 have less than 50 beds, and another 1,064 have from 50 to 99 beds. Thus 68 percent of all of our general hospitals have less than 100 beds. All told, these hospitals have 125,416 beds or 27 percent of the total 471,555 beds in all non-Federal general hospitals. Under the Federal-State construction program we are helping to build mainly small hospitals. Twenty percent of all of the new general hospitals for which applications for Federal aid have been approved as of April 1949 will have less than 25 beds, and 70 percent of all of these general hospitals will have less than 50 beds. The average number of beds per general hospital project is approximately 49.

It is obvious that small hospitals are needed and that the public wants more of them, but it is also obvious that small hospitals by themselves—in the very nature of things—are not able to provide a complete service to the patient and that unless in some way these small hospitals are tied in with larger hospitals they may provide not service but a disservice to their patients.

Among all hospitals of 250 beds or over, 97.8 percent have X-ray diagnostic service. Among all hospitals of less than 50 beds only 78.7 percent have such a service. Of hospitals of 250 beds or over, 98.5 percent have a clinical laboratory; only 63 percent of hospitals

with less than 50 beds have such service. Of all hospitals of 250 beds or more, 95 percent and 94 percent, respectively, have metabolism apparatus and an electrocardiograph, but only 59 percent of hospitals of less than 50 beds have metabolism apparatus and only 40 percent have electrocardiograph machines. Eighty-three percent of all large hospitals have a blood bank, but only 6 percent of all hospitals of less than 50 beds have one.

Under present conditions, it is obvious that the average small hospital, without excessive cost, cannot hope to provide many of the services needed by the people who live near it. One way these people can get the services they need is by going to the big city hospitals, to the medical centers. This has many obvious disadvantages from the standpoint of cost to the patient and convenience. It has another disadvantage—the small hospital and its staff becomes still less capable of handling the more complex and difficult cases. This procedure, in effect, drains the periphery of patients and tends to concentrate them in the metropolitan centers.

This has been going on in this country over the last few decades. There has been a withdrawal of physicians from rural areas and a greater concentration of our medical resources in the larger cities. This process of evolution should be reversed. What we should aim to do is to build up this periphery, to make small and moderate-sized hospitals more capable than they are at present of meeting the needs of their patients. This requires coordination among hospitals; it requires the development of relationships among hospitals whereby the larger and more amply staffed and equipped hospitals will provide smaller hospitals with the knowledge, skills, and services which the latter, by themselves, are unable to provide.

Under the present Hill-Burton hospital program, the States submit a State plan which consists in part of an inventory and appraisal of existing facilities, a determination of the need for additional facilities, and a program for construction of these facilities. In the development of its program each State has divided itself into hospital service areas which in turn are grouped into what are called "hospital service regions." As part of their plan, the States have submitted maps showing the envisioned coordination among the facilities of each region; that is, lines of affiliation between the base hospital or hospitals and intermediate or rural hospitals and between these latter hospitals and the small community clinics serving sparsely settled rural areas. However, in all except a very few places this regional coordination exists only on paper. Demonstrations, experiments, and research are needed to encourage the development of regional coordination and gradually breathe life into the paper maps.

Existing Plans

A number of programs of limited regionalization have come into existence. Generally these have developed through the aid of funds granted by a few philanthropic foundations. For example, there exists in the Rochester, New York, region the Council of Rochester Regional Hospitals, which is aided by an annual grant of $75,000 from the Commonwealth Fund and which envisions a program of regional coordination among hospitals of the region. In New England, there has developed a program of regionalization, aided by the Bingham Associates Fund, which provides for the coordination between the medical center in Boston and two intermediate hospitals in Maine and the provision of various services from these latter hospitals to community hospitals in the same State. A third regional center has been instituted in western Massachusetts which differs from those in Maine in that it is composed of a group of four hospitals of approximately 125 beds each. These four hospitals together carry on the activities of a true regional center. In Virginia a program of regional coordination has been developed by the Medical College of Virginia with the aid of the Commonwealth Fund. The University of Virginia Medical School is now joining this program so that the two medical schools, in effect, will serve the State between them. In the Carolinas, The Duke Endowment has developed a program of assistance to hospitals which includes standard architectural plans of variable sizes; a uniform system of accounting, thus contributing to better business management of hospitals; standard patient records, including comparative mortality rates; bylaws for boards and staffs of hospitals, which tend to restrict the more hazardous practices to surgeons and specialists who meet approved qualifications; and an extensive consultative and advisory service. In Michigan a program of regional coordination has developed with the aid of the Kellogg Foundation; in Cleveland, Ohio, the Cleveland Hospital Council has developed an extensive program of joint purchasing for hospitals and in other areas generally related to financial affairs. The nucleus for coordinated activities exists today in many localities.

The Region

State plans developed in connection with the Hill-Burton hospital program have established a pattern on paper for regionalization. In the plans each region is comprised of a group of two or more general hospital service areas which can be closely related to provide better hospital care through cooperative effort. These general hospital service areas currently contain or will contain one or more hospitals; the boundaries of the areas are drawn to include the population which tends in the main to seek service from the hospital or hospitals located in the area. In general, a hospital service area tends to be analogous

to the trading area of the town in which the hospital is located, and the dividing line between areas would, in theory, be drawn through those points where the population ceases to use the area hospital and begins to seek service from the hospitals in adjacent areas. An area may at present be without hospital facilities indicating that the people of the area now seek service from one or more hospitals located too distant from them, and that there is a need for a hospital to serve the area in question.

The States are required to distinguish three types of general hospital service areas—base, intermediate, and rural—in accordance with the role each area would play in a regional coordinated hospital system.

Base Areas. A base area must have the following characteristics: (1) Irrespective of the population of the area, it must contain a teaching hospital of a medical school which must be suitable for use as a base hospital in a coordinated hospital system; or (2) the area must have a total population of at least 100,000 and contain, currently or on completion of the hospital construction program, at least one general hospital with at least 200 beds. This hospital must furnish internships and residencies in two or more specialties and must be suitable for use as a base hospital in a coordinated hospital system within the State.

Experience gained in systems now operating indicates that in an urban center all large hospitals together should be considered as the base hospital. This becomes especially desirable if there is no medical school in the urban center. Member hospitals will naturally contribute in accordance with their interest and resources.

The Bingham report states that the clinical base hospital should not take over the work of the affiliated communities—this would be difficult and psychologically undesirable—but should serve as a clearing house for problems the latter may wish to refer. The base hospital, then, serves as a complement to and not a substitute for the affiliated hospitals.

Intermediate Areas. Such areas must have a population of at least 25,000 and contain, currently or on completion of the program, at least one general hospital which has a complement of 100 or more beds and which would be suitable for use as a district hospital in a coordinated hospital system within the State.

Rural Areas. For the purposes of the State plan this term designates other general hospital service areas, i. e., other than base or intermediate areas.

The delineation of hospital service areas should take into account not merely population distribution, distances, travel and trade paterns, and hospital utilization practices, but also such considerations as the sources of funds for construction and maintenance.

The Regional Council

Coordination among hospitals and planning future development of a region can be more complete if a competent regional council is formed. Membership in the council may vary according to the needs of the area. In the Rochester Plan full membership is limited to community hospitals, hospitals owned and operated by nonprofit associations and providing general care for acute illness. Associate membership is granted to governmental and proprietary hospitals. Tennessee expects to include all general hospitals and specialized hospitals with the exception of nursing homes.

Such a council would be organized as a nonprofit association and governed by a board of representatives of the various participating hospitals, physicians, and civic-minded lay persons. In any event the membership of the board should be of a caliber to permit sound planning of a total hospital program. Annual, semiannual, or more frequent meetings of the council are indicated. The regional council should have definite active coordinating relationships with State and national organizations such as the American Hospital Association, the American Medical Association, the American College of Surgeons, and similar groups.

The accompanying organization chart is presented as a pattern which may be modified or varied to meet the needs of the area to be served by the regional council. A brief description of the organization and activities follows.

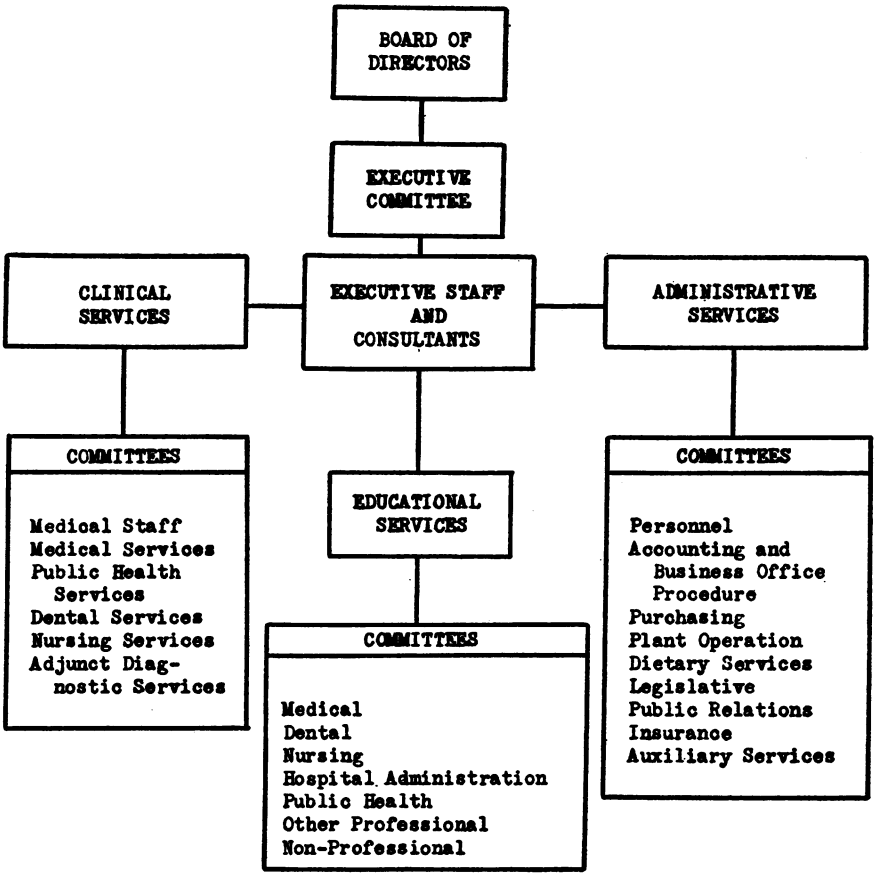
Board of Directors

The board of directors may be composed of one regular and one alternate representative from the governing boards of each member hospital, one delegate from each associate member hospital, one public representative from each county or area within the region, one representative each from the State Hospital Agency and the State Department of Health. This board guides the affairs of the council and sets its policies. In regions where there are a large number of hospitals represented, the board may become unwieldy in terms of numbers. In such situations the responsibility for planning and policy determination may be delegated to an executive committee of the board. A full-time executive director or secretary is needed.

Executive Committee

The executive committee is appointed from the board of directors. Its membership should be composed of leaders in the various fields to be represented. The number of persons to serve on the committee should be determined by the board of directors. The executive secretary of the council should serve as an ex-officio member of the committee.

REGIONAL COUNCIL ORGANIZATION CHART



Executive Staff and Consultants

The council and its executive committee will require a staff of full-time and part-time workers to carry out the various programs.

The executive director mentioned above is the key individual and should be selected with great care on the basis of administrative ability, vision, familiarity with the hospital and medical care fields, and all the other attributes one seeks in the successful hospital administrator. The relationship of the executive secretary to the board of directors should be practically identical with that of a hospital administrator to his governing board. He should participate in policy decisions and be given full responsibility and authority for direction of the executive staff and consultants in the execution of the various programs decided upon. The composition of the executive staff is presented below.

Staffing

During the early stages of the development of a regional hospital council it probably will be impossible, and perhaps undesirable, to recruit all members of the executive staff as listed. The program might best begin slowly, established upon a firm basis, to insure full understanding and cooperation of participating groups; this latter is necessary for success.

Some portions of the program may not require full-time staff personnel. Assistance may be obtained from agencies such as the State Hospital Association, the State Hospital Agency, the State Department of Health, local governmental and nonprofit agencies, universities, and associations. In fact, one of the primary responsibilities of the executive director and his staff should be the coordination and utilization of existing resource material and personnel.

The following staffing suggestions will vary with the needs of the area and with the extent of the program undertaken. It will also be affected by the stage of development of the program and the speed with which it is to be accomplished. For this reason, these suggestions merely indicate the categories of individuals that will be needed. Numbers of such individuals and assistants in any particular category will depend upon the magnitude of the program and other factors mentioned.

STAFF

Executive Director.
Business Manager.
Nursing Director.
Statistician.
Clerical Staff.

Consultants—full or part-time

1. Medical Education.
2. Medical Services.
3. Nursing Education.
4. Nursing Services.
5. Hospital Administration.
6. Accounting.
7. Purchasing.
8. Pharmacy.
9. Dietetics.
10. Medical Records.
11. Public Health Engineering.
12. Health Education.
13. Health Economics.
14. Medical Social Service.
15. Public Relations.

Committees

The board of directors will need to appoint committees in the three phases of interest and special needs for proper coordination. These are (*a*) clinical services; (*b*) administrative services; and (*c*) educational services. Their purpose is to serve as a forum for the exchange of information relating to three broad fields and to initiate activities to be carried out with and by the executive staff.

It may be desirable for the committees to have advisory groups from any source within and without the council which can assist in program

development. In addition to council members, local, State, and national organizations, agencies, and associations should be asked to participate. They may be colleges, governmental or nongovernmental, professional and nonprofessional. It should be noted that although certain committees may be shown on the organization chart under a particular group, the subject matter with which the committee is concerned will be related to and have implications for the programs charted by the other advisory groups as well. For example, although dietary service is listed under administrative services, it also has both clinical and educational implications. In those instances where such relationships do exist, representatives from the pertinent advisory groups should be included on the committees. The advisory relationships of these groups to the board of directors should be through the executive director and the executive committee if such a committee exists.

The Program

Examples of studies and services that might be undertaken in whole or in part by the council and its committees in the fields of clinical services, administration, and education include:

CLINICAL SERVICES

The development of that phase of the council's program dealing with clinical services is a responsibility not only of the council itself but of the medical association as well. Such a program should be worked out jointly and should have both representation and participation of all groups interested and affected. Care should be exercised in assuring that both administrative and educational interests are also considered in the development of any project or phase of the clinical program.

General Diagnostic Facilities and Services

Diagnostic facilities of the large and specialized hospitals can be made available to participating hospitals. Certain beds may be established for diagnosis with the patients remaining for the minimum period of time necessary for complete diagnostic report. Patients are returned to their own physicians. Complete reports of findings, recommended treatment, and literature on the subject are sent to the referring physicians. In addition to the more uncommon, obscure, and difficult conditions, cancer and psychiatric disorders are among those for which the larger center may be better staffed and prepared to handle.

Clinical Consultation

Pathology. The small hospital usually will not be able to have a full-time pathologist. The services of a competent specialist in this field might be made available to satellite institutions from the larger center through referral of specimens, or better, through periodic visits of the specialist. A combination of the two practices might evolve. Increase in tissue and post-mortem examinations will promote the general quality of medical care in the region.

Laboratory Services. The services of a competent specialist in this field and the coordinated use of laboratory facilities makes possible better diagnosis, better trained personnel, and economy through centralization of the more expensive equipment. The specialist can assist participating hospitals in standardizing procedures, records, and techniques. The report of the Bingham Associates Fund states that in an attempt to standardize laboratory procedures, many of the hospital laboratories receive from the central laboratories solutions of the various reagents used in tests. By means of this arrangement the number of variable factors is reduced, and accurate results are more easily obtained in the small community hospitals.

Radiology. The same problems and possible solutions apply in radiological diagnosis and therapy as in the field of pathology. All hospitals need some type of X-ray equipment, but it is necessary to have expert film interpretation and, on occasion, therapy which is too expensive for each hospital to furnish.

Cardiology. Like the above, cardiologists may be made available to interpret and report on electrocardiograms for participating hospitals and to serve several hospitals on request or on regularly scheduled visits.

Premature Infants. The average hospital very seldom has more than one or two such infants at any one time, yet in most instances it attempts to maintain a readiness to serve in this capacity. However, prematurity is a condition which requires special facilities and specially trained personnel for best results. Such results can be obtained by centralizing resources under competent, scientific supervision. The Children's Bureau can give competent assistance in the development of such a program.

General. Detailed exploration of possibilities in all clinical fields, medicine, surgery, obstetrics, dermatology, pediatrics, orthopedics, tuberculosis, cancer, psychiatry, and the other specialties would make this outline entirely unwieldy. It suffices to say that the intelligent council will not be at a loss in establishing fields of need.

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Pharmaceutical Services

Pharmaceutical services constitute about 5 percent of the total cost for hospitalization. Through coordination it may be possible to reduce this amount or obtain better services for funds expended. Less than 40 percent of all general hospitals have full-time pharmacist services. The problem looms much larger in the hospital of less than 100 beds, which usually is not in position to afford a full-time pharmacist.

Cooperative effort on a regional basis can help these small hospitals establish part-time supervision by qualified local pharmacists, or permit joint employment of a full-time pharmacist to serve several institutions.

Consultation and guidance can be given to member hospitals in a number of ways, including:

(*a*) Formation of an active pharmacy committee.
(*b*) Development of a simplified formulary.
(*c*) Guidance on purchase, storage, inventory, and control of drugs.
(*d*) Simplification of standardized forms and records.
(*e*) Proper narcotics and barbiturates control.
(*f*) Manufacturing.
(*g*) Professional and administrative audit of pharmaceutical activities.
(*h*) Space, equipment, and staffing requirements.
(*i*) Conferences and educational activities pertaining to pharmacists and pharmaceutical services.

Nursing Activities

Nursing personnel comprises by far the larger portion of hospital personnel. Regional studies are needed on patient nursing services and demonstrations of methods and types of personnel required to meet these needs. Research studies, consultation, and demonstrations should be focused on nursing department administration, and on problems relating to operating room, delivery room, records, central supply, hospital design, equipment, and other factors as they affect efficient nursing functions.

Public Health

The division between preventive and curative medicine no longer exists as a practical factor. Hospital and public health leaders must accept the challenge of fusing all such related activities so that community resources will be utilized to the best advantage to community health and general welfare. This means joint planning of hospital and public health programs; use, where possible, of joint housing,

personnel, equipment, administration; joint operation of common departments such as clinics and out-patient services, records, follow-up, and health education.

A joint statement of the American Hospital Association and the American Public Health Association [2] recommended coordination of hospitals and health departments, and stated:

"Hospitals and health departments have a common interest in providing the best possible technical facilities and administrative tools for the further development of both the preventive and therapeutic aspects of medical practice.

"There are many ways in which health department and hospital personnel can work together effectively. In urban areas, for example, cooperative arrangements between hospital social workers and public health nurses can prevent duplication of services and increase efficiency. In rural hospitals and health departments, although medical social workers are not generally employed by the separate institutions, it should be possible to employ a medical social worker to serve both agencies where there is combined housing of the health department and hospital.

"In urban as well as rural areas the public health nurse can provide continuity of care for discharged hospital patients by carrying out the treatments recommended by the physician and giving home nursing care and supervision. This is true not only for patients with communicable disease but for all hospital patients, whether ambulatory or not, who require further home supervision or care. Physicians, hospitals, and health departments should together agree on and carry out simple and effective referral systems.

"There are several ways in which the medical staff of the hospital can contribute to the activities of the health department. Arrangements may be made for members of the visiting staff to conduct specific health department clinics on a part-time salary basis. Members of the visiting and resident staffs can instruct public health nurses in current medical advances and assist in the health department's educational program by lecturing to community groups. Such service by physicians contributes to the building of a close partnership of physician, hospital, and health department to meet the over-all health needs of the locality.

"It has long been recognized that pyschiatry suffers through its isolation from general medicine. Similarly the average physician, having received little or no training in psychiatry, is handicapped in his ability to recognize, treat or prevent mental disease. The importance of mental illness is indicated by a recent estimate that approximately 1 patient out of every 28 new admissions to general hospitals, and 1 out

[2] Coordination of Hospitals and Health Departments. Am. J. Pub. Health 38: May 1948. American Public Health Association, 1790 Broadway, New York City.

of every 16 new admissions to out-patient departments presents problems requiring the services of the psychiatrist.

"Hospitals can provide an effective environment in which to educate the public in health matters. In addition, hospitals are repositories of much valuable information on the incidence of disease which should be studied and utilized in the development of control programs. They occupy an important position in relation to plans for controlling heart disease and cancer and are natural locations for cardiac and tumor diagnostic clinics. The recent development of cancer detection clinics, in which apparently well persons receive thorough diagnostic examinations, promises to encourage greater concentration on this type of preventive activity by the staffs of general hospitals."

Prevention of Communicable Disease

The above report continues:

"The control of tuberculosis, venereal disease and other communicable diseases affords numerous opportunities for joint action by hospitals and health departments. Tuberculosis and venereal disease clinics belong properly at the general hospital, not at the city hall or some other non-medical institution. Likewise, rapid treatment centers for syphilis should, insofar as possible, be housed in general hospitals rather than organized separately.

"With present knowledge of the control of cross-infection there is very little reason for establishing special hospitals for the care of acute communicable disease. With the possible exception of large urban centers, such special hospitals are economically wasteful and seldom provide services which meet the total needs of the patient. A more rational approach is to use general hospital beds for the care of patients with communicable disease and to obtain the assistance of the health department in developing effective isolation techniques. Such cooperative action will be facilitated if the hospital appoints the health officer to its medical staff as consultant in communicable diseases.

"Routine chest X-rays as well as serological tests for syphilis ought to be undertaken by all hospitals. The interest of the health department in these health-protection activities should take the form of substantial financial and technical aid. With such assistance every hospital can become a strategic center in the community attack on tuberculosis and venereal disease.

"Close working relationships between general hospitals and tuberculosis sanatoria are necessary to afford sanatoria patients the advantages of modern surgical therapy as well as consultation services. For similar reasons a portion of the newly established hospital beds for tuberculosis should be located in or closely connected with general hospitals."

ADMINISTRATIVE SERVICES

The development of this phase of the council's program is the responsibility of the State Hospital Association as well as the council itself. Planning for such a program and implementing it require cooperation. In addition, both the clinical and educational aspects should be considered in the development of any project within this phase of the program.

Administration

Under the guidance of a regional hospital council more efficient expenditure of community funds could be attained through stimulation and exchange of information on the development of improved administrative methods.

This would lead to better utilization of beds. The average general hospital bed is used by about 20 patients each year. It has been shown that by better administration the same bed might serve almost twice as many patients, thus reducing to some extent the need for new facilities within a community.

Direct administrative efficiency demonstrations might well include: (*a*) establishment of efficient and uniform accounting and cost accounting methods; (*b*) establishment of central purchasing of supplies and equipment (reports of such practices indicate savings of 5 to 25 percent); (*c*) insurance and joint fund raising efforts; (*d*) central employment guidance for better utilization of personnel, including uniformity of personnel policies and practices, salary scales, work hours and conditions, employee health and safety programs, training and refresher courses, retirement, and accomplishment stimuli. (In such a program the smaller hospitals can serve as recruiting posts for schools of nursing and for other courses operated only in larger institutions; larger hospitals would serve as reservoirs for personnel for the area.)

Hospital Finance

Analysis and correlation of the prevailing hospital financial structure with special emphasis on sources of hospital income are almost imperative for the region. Due to the uncertainty of the status of patient income and other sources of income, detailed studies of trends are necessary in order to accurately determine the necessity for additional support for hospital operation. Such a study of hospital financing must relate the hospital's operating expenses to the income received. Although little is known about the details of hospital operation and hospital costs, even less is known about the hospital's income except in a very general and broad sense. Factual studies of a region will eliminate a great deal of prevailing guess work and

argument when determining the total amount of support that hospital care may require from both private and public sources. Such an analysis can be made without reference to how this support should be administered, although guidance can be given by the hospital council.

A preface to any detailed studies of hospital finance is a uniform basic system of reporting both hospital expense and income. Such a basis is now being planned by various voluntary representative organizations of the profession and governmental agencies in the form of recommended accounting procedures for hospitals.

Central Purchasing Program

The Rochester Regional Council states that the outstanding features of the central purchasing program are these: Member hospitals have agreed on specifications and standards for certain items such as linens, and it is planned that a single order representing the needs of all participating hospitals for a 6- or 12-month period will be placed at one time. In this connection, it is hoped that inventory and budgetary practices in the small hospitals will be improved. The possibility that participating hospitals would agree to make *all* purchases of certain items through the program was discussed and rejected. Under the present system there is no compulsion to purchase through the council. Hospitals may make such purchases as they choose through the council and others wherever they like. The council acts simply as a central purchasing office, receiving orders from the members and turning them over to suppliers for shipment directly to the hospitals. The council does not warehouse. The council pays cash as bills come in, in turn billing the hospital receiving the goods.

To assist in developing the program, the council employed a consultant on purchasing. It also secured joint membership for its member hospitals in the Hospital Bureau of Standards and Supplies, a cooperative buying organization. Membership dues in the bureau were prorated to hospitals so that many smaller ones whose volume of purchases had been too small to enable them to take advantage of bureau membership became members at a nominal fee. Under the joint plan, dues for the larger hospitals which previously had held individual membership were also substantially reduced.

With the bureau furnishing a nucleus of suppliers, the council began its central purchasing program in November. Its object was to take advantage of cash discounts for members and to secure favorable prices through quantity transactions. Its ability to pay cash was predicated upon a revolving fund of approximately $6,000. The fund consists of a loan from each participating hospital equal to $2.50 per bed. At any time a hospital withdraws from the purchasing program, this sum will be returned to it.

It is believed that the central purchasing program will mean average savings of 20 percent to hospitals, relatively more to small than to large hospitals, although the latter can profit substantially.

Two difficulties have been encountered in this program. First, the tendency of many hospitals to purchase in very small orders, which means increased overhead. Attempts will be made to overcome this difficulty through explanation and education. The second is the poor cash position of some hospitals. Unable to take advantage of cash discounts offered by suppliers and forced to accept disadvantageous, long-term credit terms for items of immediate need, they are unable to honor council billings promptly, possibly endangering the program's revolving fund.

Personnel and Staffing Requirements

This type of study among hospitals within a region should include not only existing practices regarding the number of personnel of each type in relation to beds and patient load, but should be extended to determine for each particular type of illness and patient, the recommended and minimum requirements of both professional and nonprofessional personnel necessary for adequate and safe service to patients. Since wages and salaries represent approximately 60 percent of the hospital's expenses of operation, this area requires careful study for proper consultation to member hospitals. Saving in this area can prove beneficial to the patient in that (1) it reduces the cost of hospital care, or (2) at the same cost provides additional necessary service. An analysis of personnel needs, requirements, relationships, job specifications, job descriptions, classification, and utilization should be related to standard requirements developed from a study of patient needs.

Dietary Services

Next to personnel, dietary services form the major cost in hospital operation. In order to give assistance in proper design and efficient functioning of hospitals for good patient care, there is a great need for study and consultation on dietary policies such as: central tray and bulk food services; personnel requirements, training, qualifications, functions; space needs; refrigeration; equipment selection and care; food purchasing, storage, preparation and service; sanitary practices for food handlers; regular and special diets and menus from service and therapeutic standpoints; costs; administration; waste; and other related factors.

Plant Operation

Studies, demonstrations, and consultation in this field are of direct importance to design and construction of physical facilities and the licensure programs of the States. There is need for consultation on housekeeping procedures and techniques; fire hazards; safety programs for patients and employees; techniques of sterilization; use of germicidal lights or other methods for air disinfection; use of radioactive isotopes and disposal of radioactive materials; disposal and sterilization of linens, particularly in tuberculosis and communicable disease hospitals; insect and vermin control; laundry management, methods, techniques, equipment, supplies and utilization; operating room explosion hazards.

Equipment and Supplies

To carry out a truly coordinated program effectively and to promote efficient hospital management, consultation should be available relating to standardization, purchase, specifications, and utilization of specialized hospital equipment. Increased standardization and simplification of various types of hospital equipment could result in large savings to hospitals. Assistance relating to property records, perpetual inventory, and the storage, depreciation, and replacement of equipment is also needed.

Building Design and Construction

In view of the high construction costs of hospitals and related facilities, there is need for guidance on more compact and efficient design and construction, and the possible utilization of less expensive building materials. Information is also needed in the fields of hospital lighting, heating, ventilation, air-conditioning, communication systems, and fire safety.

EDUCATIONAL SERVICES

The educational phase of the council's program is the responsibility of all groups concerned, clinical as well as administrative. Educational projects will, of necessity, be closely related to the other phases of the program.

Assignment of Interns or Residents on a Rotating Basis to Community Hospitals

Under such an arrangement, although the number of interns is limited, a teaching hospital might assign interns on a rotating basis to participating smaller hospitals ordinarily not able to obtain interns but where adequate supervision is maintained. This arrangement benefits

the small hospital by giving it a resident physician. The teaching activities which should accompany proper training of the intern at the small hospital would benefit all the staff physicians and ought to improve standards of care. Since physicians frequently decide to set up practice in the community in which they have interned, the community as a whole might benefit from this program.

Arrangements of this type can work out to the benefit of all concerned. Thus, Dr. William T. Sanger, president of the Medical College of Virginia, writes:

"For years medical schools have been educating their graduates away from small community practice. The only hope of reversing this process is reaching out with a vital educational program to the small hospitals willing to cooperate, developing strong ties of friendly association, which lead to giving the small community hospital the best the larger medical center has to offer, breaking down isolation, which every professional person fears, and developing a oneness of interest and purpose both for the small and the larger center. Thus, everyone concerned profits, the patient most of all in the ultimate."

Dr. Brooks Ryder, administrator, Bingham Associates program, states:

"One interesting and worthwhile program that has been developed is that of having a teaching resident work in some of the affiliated hospitals. This teaching resident is usually a physician who has completed his basic training for his boards in internal medicine. He is assigned to the regional hospital with the basic purpose of developing and carrying out an organized training program for the house staff. As was expected, however, the benefits are not limited only to the interns and residents, but the visiting staff also attends many of the teaching activities. The duties of such a teaching resident include making rounds with the house staff, discussing methods of diagnosis and treatment, preparing and arranging clinical pathological conferences, death conferences, medical conferences, etc."

Clinical Conferences

The staff of each participating small hospital decides ahead of time the subject of the clinical conference. It might be, for example, "obstetrics," or "psychiatry in relation to general practice," or "the diagnosis and care of cardiac diseases." The regional council, through the medical school, sends a qualified consultant in the particular field to hold the conference at the member hospital. Such conferences are beneficial as training experiences for staff members. In addition, they frequently lead to the development of lasting relationships between the physicians of the locality and the particular consultant.

Continuation Courses

Medical knowledge is expanding so rapidly that the average practitioner soon falls behind unless he keeps up through intensive reading and study. Continuation courses are one means of refreshing and bringing up to date the medical practitioner's knowledge. Such courses should be held by a teaching hospital or medical school. They might last for two weeks, a week, or only two or three days. Each course would be devoted to a particular subject: for example, "treatment of fractures," "therapy of common diseases," "allergy conditions," etc.

Dr. Roy C. Crosly in a report on the Bingham Associates Fund and Tufts Medical School General Practitioners Training Program states:

"The provision of optimum training for medical graduates intending to go into general practice is one of the more difficult problems with which those interested in graduate medical education must contend. Ideally, since a large part of the general practitioner's work will be in the field of general medicine, a prolonged period of medical training is advisable. Since he will be called upon to perform major surgical procedures, at least those of emergency nature, he should be well trained in basic surgical principles and particularly trained to perform those surgical procedures which he may be called upon to perform. Fracture work will often fall to his lot if it is to be promptly and competently handled as it must be for good end results. The American Academy of Pediatrics has found that 75 percent of the medical care of children in this country is provided by general practitioners. The necessity for pediatric training is obvious. Similarly, the practice of better obstetrics necessitates the better training of general practitioners in this field since they provide the major part of obstetric care in this country. It therefore becomes obvious that ideally the general practitioner should have sufficient periods of time in his graduate training to acquire some skill at diagnostic and therapeutic medicine, surgery, orthopedics, obstetrics and pediatrics, which would obviously involve several years of training after medical school. . . .

"Consequently, in order to provide comprehensive training for men who intend to go into general practice, Tufts College Medical School and the Bingham Associates Program instituted a two-year training program for general practitioners in July 1948.

"The first year of this two-year training program is provided in the form of rotating one-year internship in hospitals affiliated with the New England Medical Center with provisions made locally for an attractive and well-rounded program under the direction of men qualified to provide such training. Since training in affiliated hospitals cannot be as comprehensive or as didactic as that in a medical

school teaching center, the second year of the two-year program is provided at the university teaching center and is planned in such a way that each of the men receives a maximum of individual instruction in diagnostic and therapeutic medicine, surgery and specialties, obstetrics, and pediatrics. The services of the men in training are used only insofar as they are directly necessary for their best training."

Such courses should not be confined to physicians. Dentists, nurses, and hospital administrators within the region would benefit by similar arrangements.

Training Leading to Specialization

A regional hospital council might aid in the postgraduate training of physicians from small communities.

The Bingham Associates Fund, in cooperation with the New England Medical Center and the Tufts College Medical School, has a program of postgraduate training designed to prepare graduates for the various specialties. This plan provides for four years of training, with each year offering increasing professional responsibility. The first year is spent as an intern in one of the hospitals affiliated with the New England Medical Center; appointments are made on a competitive basis in the second year which is spent at one of the hospitals approved for residency; the men whose work justified continuation in internal medicine are appointed for a third year as assistant residents at the Joseph H. Pratt Diagnostic Hospital, and during the fourth year opportunity is provided for experience in the medical specialties such as neurology, hematology, or psychiatry. A similar program is offered in surgery. In addition there are residencies offered in neurology and psychiatry, as well as residencies or fellowships in endocrinology, cardiology, pathology, and anesthesiology.

Medical Records

The Rochester Report states that the main source of statistics with which a measurement of the quality of hospital and medical care can be made is the medical record. Unfortunately, medical records kept in many hospitals are inadequate or are not used because of failure of physicians to complete medical records accurately, completely, and within a reasonable length of time; lack of medical record librarians trained to properly keep, classify, and index records and to develop useful statistics from them; and widely varying record systems and nomenclatures.

There are two ways in which the records might be made useful and valid: (1) standardization of systems and of nomenclatures, and (2) training of medical record librarians.

The Tennessee proposal for a coordinated hospital system sets forth the following:

Training of Medical Records Librarians

The improvement of hospital records is an important part of this program. Record systems need to be developed to aid in the entire program. Improvement of records requires an active medical records committee and also training of medical records librarians and clerks responsible for the records in participating hospitals.

(*a*) *Short Courses.* Short courses are to be arranged in one of the large hospitals in which a good record system is developed. Relief librarians may be employed so that clerks may attend the courses.

(*b*) *Fellowships.* For a few hospitals trained records librarians may be needed. (According to the American Medical Association courses are given in several hospitals and fellowships are available.) [3]

(*c*) *Consulting Services.* Consulting services are to be given to the participating hospitals by the medical records librarian on the staff.

Medical Library Facilities

Medical library facilities are to be made available for use by participating hospitals. The University of Tennessee is the ideal place for the development of this library service. Periodicals would be purchased for circulation and in answer to requests papers would be sent out to participating hospitals.

Nursing Education

Procurement and Education of Registered and Practical Nurses. This program is to assist in developing facilities as needed to serve the hospitals in the region. This may mean additional facilities and courses for registered and practical nurses.

Postgraduate Fellowships. Postgraduate fellowships for nurses for training, as in anesthesia, in care of premature infants, in supervision, in surgical nursing, and in other related fields.

Short Courses. Postgraduate short courses on special subjects such as surgical nursing, care of newborn.

Nursing Conferences. Nursing conferences are to be arranged for group discussions.

Consulting Services. The nurse on the regional council staff is to provide service to participating hospitals on a consulting basis.

Training of Administrators

Fellowships. Hospital administrators may be granted fellowships for training for service in some of the hospitals.

Short Courses or Conferences. Short courses and/or conferences may be advisable for hospital administrators.

Consulting Services. Consulting services in hospital administration may be given by a qualified hospital administrator or consultant.

[3] Journal American Medical Association, May 7, 1949.

Hospital Licensure

The aims and objectives of the State hospital licensure programs are essentially identical with those of the coordinated hospital system. Both programs are directed toward the objective of improved patient care. It would be reasonable to assume that in the establishment and conduct of a comprehensive hospital licensure program it might well include consideration of the coordinated hospital system. The basic structure set up by the various States for implementing the hospital licensure laws provides a concrete foundation which may be utilized to demonstrate the over-all benefits to be achieved through the coordinated system. Through their intimate contacts with the individual hospitals, the personnel of the State health department or other regulatory agency would be in an excellent position to point out the benefits to be derived. They would also be in a position to obtain the active support not only of the professional groups concerned with the over-all problem but also the interest of the general public through their connections from a purely public-health standpoint. For example, some of the public-health programs have a direct relationship to hospital service. There has been one instance where the hospital licensure standards of a State provide that the hospitals in the State shall give serious consideration to the development of a coordinated system. This is evidence that some States feel they have a responsibility in the development of the coordinated hospital system in the discharge of their legal responsibilities to insure the patient of safe, adequate care. This concept should be extended to other States. Whether it is desirable to include such a regulation in the licensing standards at this time may be debatable. Nonetheless, the cooperative relationships between the licensure agency, the State hospital association, the professional groups and others would provide a basic structure on which the promotion and development of coordinated hospital systems might well be developed.

Health Education

The health educator can serve as a member of the team in planning, in developing the coordinated hospital system in a State, in interpreting the elements of the cordinated system to professional and technical persons, and in obtaining the understanding and support of the public. To do this, however, there needs to be a body of scientific data upon which the educator can draw, as well as support from other professional persons.

The development of the coordinated hospital system points up the need for considering the use of a health educator as a member of the professional team which develops the plan.

Technician and Other Professional Training

The report of the Bingham Associates Fund states that technicians in each small hospital annually spend one month in Boston for the purpose of improving their techniques and learning new methods and procedures. An itinerant technician is provided to substitute in the affiliated hospital for the duration of the course. Some of the affiliated hospitals are so small (10 to 20 beds) that they do not seem to require a full-time laboratory technician. No hospital is too small to have nurses, however, and, therefore, arrangements have been made for hospitals in this category to send one of their graduate nurses to Boston for three months of instruction in the technique of performing certain simple but important laboratory tests. Through such a course, and annual one-month courses thereafter, it is possible for a graduate nurse to perform, on a part-time basis, common laboratory tests. Arrangements have been made for the more difficult tests to be done in the regional centers.

Similar programs can be developed for other professional personnel.

The Budget

Funds necessary for effectuating a program of coordination will vary, of course, with the extent of the program undertaken, the speed with which the program is to be put into operation, and with the needs of the area. For this reason, it is advisable to indicate only those general areas for which funds must be planned for the operation of the executive staff. Estimated amounts are not indicated because of the variations possible. The following items, in addition to staff salaries, must be considered in the determination of a specific budget: office equipment and supplies, printing, automobiles, gasoline, oil, services, rents, utilities, and travel expenses.

In addition to funds needed to operate the council and its executive staff, there will be a need for funds to carry out the projects and activities indicated under the various services: clinical, administrative, and education. It is not feasible to indicate anticipated expenses for such undertakings since they will be governed to a great extent by the cooperative relationships established with and among participating groups and organizations. It is conceivable that budgets may range from $25,000 to $250,000 depending upon such participation and the magnitude of the program undertaken.

It is probable that many activities, once they have become firmly established, could be made self-supporting, i. e., the participating hospitals could contribute to defray the cost of various services; the cost might be assumed as part of the regular budget of the medical school or the teaching hospital of the region, or the cost might be defrayed through grants obtained from foundations, associations, or

government (local, State, and Federal). Still another means of meeting some of the expenses may be participation of various organizations or groups through personnel utilization. Any one of these means or all of them may be required to finance a well-planned program of regional coordination.

In October 1949, the Eighty-first Congress enacted Public Law No. 380 which amended the basic law authorizing activities of the Public Health Service to include:

STUDIES AND DEMONSTRATIONS RELATING TO COORDINATED USE OF HOSPITAL FACILITIES

Sec. 636. In carrying out the purposes of section 301 with respect to hospital facilities, the Surgeon General is authorized to conduct research, experiments, and demonstrations relating to the effective development and utilization of hospital services, facilities, and resources, and, after consultation with the Federal Hospital Council, to make grants-in-aid to States, political subdivisions, universities, hospitals, and other public and private nonprofit institutions or organizations for projects for the conduct of research, experiments, or demonstrations relating to the development, utilization, and coordination of hospital services, facilities, and resources. Any award made under this section for such project in any fiscal year may include amounts for not to exceed the four succeeding fiscal years, and such amounts for such succeeding fiscal years shall constitute contractual obligations of the Federal Government.

The Division of Medical and Hospital Resources has been given the responsibility for administering this program. Many of the activities suggested in the foregoing outline can be assisted in their establishment through the provision of grants for research, consultation, and demonstration.

Full utilization and practical application of these concepts, philosophies, and programs of coordination will make possible the attainment of the goal—BETTER PATIENT CARE.

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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 NOVEMBER 5, 1949

For the first week since June, the reported weekly incidence of poliomyelitis is below that for the corresponding week last year. A current total of 881 cases was reported, as compared with 1,071 last week (a decline of nearly 18 percent), 954 cases for the same week last year. An aggregate decline of 215 cases was recorded currently in 7 of the 9 geographic areas, partly offset by an increase of 25 cases in the West South Central and Pacific areas, in which declines were reported last week. The largest increases were reported in Iowa (12 cases last week to 35 currently), Texas (35 to 52), Michigan (50 to 63), and California (68 to 79). No other State reported more than 44 cases for the week except New York (126, last week 152), and New Jersey (53, last week 52). The total reported for the year to date is 39,045, as compared with 24,372 and 22,941, respectively, for the same periods of last year and 1946, and a 5-year median of 17,888.

Slight seasonal increases have been reported for 3 consecutive weeks in the incidence of influenza. The current total is 1,648 cases, as compared with 1,458 last week and a 5-year median of 1,612. No State reported currently more than 87 cases except Texas (1,072), and Virginia (197). The respective 5-year medians for these States are 785 and 211 cases.

A total of 76 cases of meningococcal meningitis was reported (last week 66, 5-year median 55), in 29 States. The largest numbers were reported in New York (9), Pennsylvania (8), Texas (7), California (5), and Missouri and Tennessee (4 each).

One case of anthrax was reported during the week, in California.

A case of plague, with fatal termination November 5, was reported at San Patricio, Lincoln County, New Mexico.

A total of 9,160 deaths was recorded during the week in 94 large cities in the United States, as compared with 9,068 last week, 9,031 and 8,704, respectively, for the corresponding weeks of 1948 and 1947, and a 3-year (1946–48) median of 8,706. For the year to date the total is 402,741, as compared with 404,126 for the same period last year. Infant deaths totaled 635, corresponding week last year 670, 3-year median 691. The cumulative figure is 28,755, same period last year 29,371.

Telegraphic case reports from State health officers for the week ended Nov. 5, 1949

[Leaders indicate that no cases were reported]

Division and State	Diphtheria	Encephalitis, infectious	Influenza	Measles	Meningitis, meningococcal	Pneumonia	Poliomyelitis	Rocky Mountain spotted fever	Scarlet fever	Smallpox	Tularemia	Typhoid and paratyphoid fever [d]	Whooping cough	Rabies in animals
NEW ENGLAND														
Maine				19		15	8		4				10	
New Hampshire									1				3	
Vermont				1			3		3				19	
Massachusetts	3			29	1		23		50				107	
Rhode Island						2	10		8				6	
Connecticut		1		5		29	15		8			1	72	
MIDDLE ATLANTIC														
New York	5			61	9	186	126		[c] 53			2	201	22
New Jersey			5	13		43	53		19			1	181	
Pennsylvania	4	1		29	8	40	29		28				133	
EAST NORTH CENTRAL					[illegible]		[illegible]							
Ohio	6			15	3	53	22		96			1	73	17
Indiana	12			12		6	16		17			1	23	
Illinois	1	1	3	19	3	67	44		19				84	4
Michigan [a]	1	1		88	1	37	63		57		1		116	
Wisconsin			6	34		3	25		36			1	118	
WEST NORTH CENTRAL					[illegible]	[illegible]	[illegible]							
Minnesota	1			69	2	5	25		15				7	
Iowa	1			18	1		35		14			2	1	3
Missouri	5		1	3	4	18	18		15		2	2	16	
North Dakota		1	8	2			1		2				2	
South Dakota				3		1	1		[c] 3					
Nebraska	1			5			18		3					
Kansas		4	1	1	3	38	10		12				26	
SOUTH ATLANTIC					[illegible]	[illegible]	[illegible]							
Delaware				10	1		1		2			1	10	
Maryland [a]	4		1	7		29	12		[c] 14			1	44	
District of Columbia	1					8	3		6				1	
Virginia	11		197	7	2	65	9		49		1	5	32	
West Virginia	6		31	27	1		7		24			1	20	
North Carolina	18			11	3		2	1	68				27	
South Carolina	7		13	1	1	8	2		16				2	3
Georgia	28		13	15	1	79	10		15			1	2	6
Florida	3		2	2	2	6	9		7			4	1	
EAST SOUTH CENTRAL														
Kentucky	8			4			14		57			1	3	8
Tennessee	6		16	3	4	24	7		42		1	2	14	
Alabama	13		27	49		29	5	1	28				5	3
Mississippi [a]	9		7	2	1	17	2		9		1		2	

See footnotes at end of table.

Telegraphic case reports from State health officers for the week ended Nov. 5, 1949—Continued

[Leaders indicate that no cases were reported]

Division and State	Diphtheria	Encephalitis, infectious	Influenza	Measles	Meningitis, meningococcal	Pneumonia	Poliomyelitis	Rocky Mountain spotted fever	Scarlet fever	Smallpox	Tularemia	Typhoid and paratyphoid fever [d]	Whooping cough	Rabies in animals
WEST SOUTH CENTRAL														
Arkansas	6		56	1		9	15		8		2	2	5	
Louisiana	2			1	1	8	1		2			2	2	2
Oklahoma	6		53	2	2	19	24		7				2	2
Texas	33	2	1,072	28	7	250	52		17			8	62	
MOUNTAIN														
Montana			4	73	1	1	2		6				2	
Idaho			7	8		3	17		[c] 12				1	
Wyoming				10		2							5	
Colorado	3	1	16	7	3	11	19		4				3	
New Mexico	1			1		9	4		4			1	1	
Arizona	3		87	18	1	13	4		3				5	
Utah [a]	1		1	31		1	11		3		1		4	
Nevada														
PACIFIC														
Washington				39	2		14		40			1	24	
Oregon	4		13	22	2	18	11		20				20	
California	14	3	8	29	5	24	79		71		2	4	63	2
Total	227	15	1,648	834	76	1,176	881	2	997		11	45	1,560	
Median, 1944–48	349	12	1,612	1,261	55		451	3	1,566	1	9	81	1,742	
Year to date 44 weeks	6,443	678	88,330	593,795	2,917	66,114	[1] 39,045	551	64,980	44	971	3,273	53,755	
Median, 1944–48	10,775	560	202,824	562,393	5,134		17,888	508	97,673	302	784	3,602	83,800	
	(27th)		(30th)	(35th)	(37th)		(11th)		(32nd)	(35th)		(11th)	(39th)	
Seasonal low week ends	July 9		July 30	Sept. 3	Sept. 17		Mar. 19		Aug. 13	Sept. 3		Mar. 19	Oct. 1	
Since seasonal low week	2,675		12,463	5,277	401		[1] 38,129		6,720	3		2,813	7,153	
Median, 1944–45 to 1948–49 [b]	4,635		13,233	7,018	468		17,625		11,378	29		3,127	7,925	

[a] Period ended earlier than Saturday.

[b] The median of the 5 preceding corresponding periods (1944–45 to 1948–49).

[c] Including cases reported as streptococcal infection and sore throat.

[d] Including paratyphoid fever; currently reported separately, as follows: Virginia 2, Georgia 1, Florida 3, Texas 2, California 2. Cases reported as salmonella infection, not included in the table, were as follows: New York 1.

[1] Poliomyelitis: Delayed reports, Nebraska 11 cases.

Correction for week ended October 22: Meningitis, meningoccal, South Carolina, 1 case instead of 12, and Georgia, 2 cases.

Anthrax: California 1 case.

Plague, human: New Mexico, Lincoln County, 1 case, fatal Nov. 5.

Alaska: Measles 97, pneumonia 4, scarlet fever 1, septic sore throat 4.

Hawaii Territory: Measles 1.

FOREIGN REPORTS

CANADA

Provinces—Notifiable diseases—Weeks ended October 15 and 22, 1949.—During the weeks ended October 15 and 22, 1949, cases of certain notifiable diseases were reported by the Dominion Bureau of Statistics of Canada as follows:

Week ended Oct. 15, 1949

Disease	Newfoundland	Prince Edward Island	Nova Scotia	New Brunswick	Quebec	Ontario	Manitoba	Saskatchewan	Alberta	British Columbia	Total
Chickenpox	2	-------	27	1	136	113	13	30	52	7	381
Diphtheria	-------	-------	1	-------	4	1	-------	-------	-------	-------	6
Dysentery, bacillary	-------	-------	-------	-------	-------	3	7	-------	-------	-------	10
Encephalitis, infectious	-------	-------	1	-------	-------	-------	2	1	-------	-------	4
German measles	-------	-------	-------	-------	2	8	-------	4	11	1	26
Influenza	-------	-------	14	-------	-------	1	3	-------	-------	-------	18
Measles	-------	-------	41	-------	135	50	36	68	59	25	414
Mumps	-------	-------	53	-------	41	130	5	4	16	12	261
Poliomyelitis	-------	-------	-------	1	21	23	1	3	5	3	57
Scarlet fever	1	-------	1	-------	33	28	5	1	21	9	99
Tuberculosis (all forms)	4	-------	1	7	83	20	27	9	7	33	191
Typhoid and paratyphoid fever	-------	-------	-------	-------	11	4	2	-------	-------	-------	17
Undulant fever	-------	-------	1	-------	-------	1	-------	-------	-------	-------	2
Venereal diseases:											
Gonorrhea	9	1	14	22	129	53	24	[1] 14	82	76	424
Syphilis	3	1	10	7	43	28	4	[1] 95	11	17	219
Whooping cough	-------	-------	4	3	35	27	------	2	2	2	75

[1] The total of 109 cases includes 94 discovered in northern Saskatchewan as a result of a recent survey.

Week ended Oct. 22, 1949

Disease	Newfoundland	Prince Edward Island	Nova Scotia	New Brunswick	Quebec	Ontario	Manitoba	Saskatchewan	Alberta	British Columbia	Total
Chickenpox	------	-------	16	2	106	146	30	39	69	85	493
Diphtheria	------	-------	-------	1	12	3	-------	-------	1	-------	17
Dysentery, bacillary	------	-------	-------	-------	14	1	-------	-------	-------	-------	15
German measles	------	-------	-------	-------	5	7	4	3	11	2	32
Influenza	------	-------	13	-------	-------	2	5	2	-------	-------	22
Measles	------	-------	18	-------	146	99	73	55	30	245	666
Meningitis, meningococcal	------	-------	-------	-------	1	1	1	1	-------	-------	4
Mumps	------	-------	57	1	113	110	15	6	9	62	373
Poliomyelitis	1	-------	13	4	3	21	6	8	8	1	65
Scarlet fever	3	-------	-------	-------	52	22	11	4	28	6	126
Tuberculosis (all forms)	3	-------	6	17	104	22	18	29	-------	40	239
Typhoid and paratyphoid fever	------	-------	-------	-------	9	1	1	-------	1	2	14
Undulant fever	------	-------	1	-------	2	1	1	-------	1	-------	6
Venereal diseases:											
Gonorrhea	8	-------	13	14	88	75	32	31	29	91	381
Syphilis	3	-------	4	10	50	31	8	8	4	15	133
Whooping cough	1	-------	2	1	163	22	-------	-------	-------	1	190

WORLD DISTRIBUTION OF CHOLERA, PLAGUE, SMALLPOX, TYPHUS FEVER, AND YELLOW FEVER

From consular reports, international health organizations, medical officers of the Public Health Service and other sources. The reports contained in the following tables must not be considered as complete or final as regards either the list of countries included or the figures for the particular countries for which reports are given.

CHOLERA

(Cases)

NOTE.—Since many of the figures in the following tables are from weekly reports, the accumulated totals are for approximate dates.

Place	January–August 1949	September 1949	October 1949—week ended— 1	8	15	22	29
ASIA							
Burma	245						
Bassein	183						
Moulmein	2						
Rangoon	[1] 3						
Ceylon:							
Trincomalee	2						
China:							
Amoy	[2] 1						
India	70,621	6,655	[3] 1,076	[3] 270	[3] 650		
Ahmedabad		1					
Allahabad	12	1		2	2		
Bombay	[4] 6						
Calcutta	4,706	179	48	46	37		
Cawnpore	173	15	2				
Cocanada	11	1					
Cuddalore	2						
Lucknow	32	[4] 1					
Madras	348	81	1	1			
Masulipatam	1						
Nagpur	18	6		7			
Negapatam	26						
New Delhi	[1] 18	1			1		
Tuticorin	14						
India (French):							
Karikal	55						
Pondicherry	100						
Indochina (French):							
Cambodia	45						
Cochinchina	11						
Pakistan	24,408	[3] 343					
Chittagong	75						
Dacca	98	1					
Lahore	[1] 15	9					
Siam (Thailand)	9						
Bangkok	8						

[1] Includes imported cases. [2] Suspected. [3] Preliminary figures. [4] Imported.

PLAGUE

(Cases)

AFRICA							
Basutoland	[1] 42						
Belgian Congo	[1] 14						
Costermansville Province	3						
Stanleyville Province	[1] 11	1					
British East Africa:							
Kenya	5						
Tanganyika	15						
Madagascar	74	17				[2] 1	
Tananarive	6						
Rhodesia, Northern	2						
Union of South Africa	[3] [4] 64	[3] [5] 13	[3] 5	[3] [6] 3			
Cape Province	[3] 31	[3] [6] 11	1	2			
Orange Free State	8	2	[7] 1	[7] [6] 1			
Transvaal	4						

Footnotes at end of table.

PLAGUE—Continued

Place	January–August 1949	September 1949	October 1949—week ended— 1	8	15	22	29
ASIA							
Burma	441	3					
Mandalay	1						
Moulmein	[9] 6						
Rangoon	[9] 8						
China:							
Chekiang Province	7						
Wenchow	7						
Fukien Province	20						
Kiangsi Province	9						
India	[9] 26, 526	909	293	47	109		
Indochina (French)	[10] 123						
Annam	66	1					
Cambodia	22	2					
Cochinchina	[10] 32						
Laos	3						
Java	111	114	41	[11] 11	[11] 7	[11] 8	
Jogjakarta Residency	78	114	41	[11] 11	[11] 7	[11] 8	
Siam (Thailand)	155	11			6		
EUROPE							
Portugal: Azores	4						
SOUTH AMERICA							
Brazil:							
Bahia State	[12] 13						
Pernambuco State	[12] 18						
Ecuador:							
Loja Province	4	2					
Peru:							
Lambayeque Department	10						
Libertad Department		1					
Lima Department	4	1					
Piura Department	7						
Venezuela:							
Aragua State	2						
OCEANIA							
Hawaii Territory: Plague infected rats [14]							

[1] Includes 2 cases of pneumonic plague. [2] October 1–10, 1949. [3] Includes suspected cases. [4] Includes 3 cases of penumonic plague. [5] Includes 8 cases of pneumonic plague. [6] Includes 1 case of pneumonic plague. [7] Suspected. [8] Pneumonic plague. [9] Includes imported cases. [10] Includes 7 cases of pneumonic plague. [11] In Jogjakarta City. [12] January 1–March 31, 1949. [13] January 1–April 30, 1949. [14] Plague infection has been reported in Hawaii Territory as follows: On Mar. 12, 1949, in mass inoculation of 2 pools of tissue from 10 rats (8 and 2), taken on Maui Island; on Mar. 16, 1949, in mass inoculation of 3 pools of 29 fleas (7, 12, and 10), on Aug. 4, 1949, in mass inoculation of 15 fleas, on Aug. 18, 1949, in a pool of 31 fleas, and on Sept. 15, 1949, in 49 fleas, all collected from rats trapped on the Island of Hawaii; also, on Oct. 5, 1949, in 1 rat found dead on the Island of Hawaii.

SMALLPOX

(Cases)

(P=present)

AFRICA							
Algeria	181	30			[1] 10		
Angola	[2] 560						
Basutoland		1					
Bechuanaland	2						
Belgian Congo	[2] 1, 481	188					
British East Africa:							
Kenya	25						
Nyasaland	1, 011	36	3	10			
Tanganyika	564	2					
Uganda	37						
Cameroon (British)	21						
Cameroon (French)	64	5					
Dahomey	350	30	13	3			
Egypt	3						
Eritrea	1						

Footnotes at end of table.

SMALLPOX—Continued

Place	January–August 1949	September 1949	October 1949—week ended— 1	8	15	22	29
AFRICA—continued							
Ethiopia	7	1					
French Equatorial Africa	175	58			[1] 2		
French Guinea	1						
French West Africa: Haute Volta	121						
Gambia	58						
Gold Coast	50						
Ivory Coast	254	42					
Liberia	3						
Morocco (French)	8	1					
Morocco (International Zone)	2						
Mozambique	195	62	9				
Nigeria	7,767	[3] 65	[3] 14	[3] 28	[3] 11	[3] 18	
Niger Territory	594	9					
Portuguese Guinea	1						
Rhodesia:							
Northern	6	3					
Southern	479						
Senegal	16						
Sierra Leone	109	4					
Sudan (Anglo-Egyptian)	[2] 205	12	1	5	1		
Sudan (French)	155	4					
Togo (French)	132	4			[1] 12		
Tunisia	1						
Union of South Africa	852	76	P	P	P		
ASIA							
Afghanistan	193	18					
Arabia	45						
Bahrein Islands	55	3					
Burma	[4] 1,612	65	2	11	7		
Ceylon	[5] 2						
China	964	1					
India	61,101	1,785	[6] 316	[6] 68	[6] 153		
India (French): Yanaon	1						
India (Portuguese)	222						
Indochina (French)	2,374	11			3	1	
Iran	288	7	8				
Iraq	[4] 427	48	33		20		4
Israel	5						
Japan	[7] 120						
Korea (Southern)	8,776						
Lebanon	[4] 139	1					
Malay States (Federated)	43						
Manchuria: Port Arthur	9						
Netherlands Indies:							
Java	[4] 9,499	1,602	393	207	232	172	
Riouw Archipelago	2						
Sumatra	[4] 174	[4] 20	2	10			
Pakistan	3,641	[6] 62					
Palestine	[8] 28						
Philippine Islands:							
Mindoro Island	11						
Romblon Island	[5] 4						
Tablas Island	2						
Portuguese Timor	4						
Siam (Thailand)	100	2					
Straits Settlements: Singapore	[4] 2						
Syria	493	13			31	68	
Transjordan	195						
Turkey. (See Turkey in Europe.)							
EUROPE							
Belgium	1						
Germany (U. S. Zone)	1						
Great Britain: England and Wales	[4] 20						
Italy	[9] 98						
Portugal	7						
Spain	2	1					
Canary Islands	6						
Turkey	92						
NORTH AMERICA							
Cuba: Habana	[4] 6						
Guatemala	4						
Mexico	[3] 46	57			10		

Footnotes at end of table.

SMALLPOX—Continued

Place	January–August 1949	September 1949	October 1949—week ended— 1	8	15	22	29
SOUTH AMERICA							
Argentina	[2] 155	[2] 61	8	9			
Bolivia	[10] 35						
Brazil	[2] 118	[2] 8					
Chile	[5] 2						
Colombia	[2] 2,070	[11] 23	[11] 9				
Ecuador	[2] 566	29					
Paraguay	[2] 6						
Peru	2,230						
Venezuela	[2] 1,374						
OCEANIA							
Guam	2						

[1] Oct. 1–10, 1949. [2] Includes alastrim. [3] In the port of Lagos. [4] Includes imported cases. [5] Imported. [6] Preliminary figures. [7] Corrected figure. [8] Aug. 1–31, 1949. [9] Includes 95 cases of varioloid reported in Rome Jan. 1–June 10, 1949. [10] Jan. 1–Feb. 15, 1949. [11] In the port of Medellin.

TYPHUS FEVER*

(Cases)

(P=present)

AFRICA							
Algeria	64	4			[1]	1	
Basutoland	24						
Belgian Congo	[2] 41						
British East Africa:							
Kenya	76						
Nyasaland	4						
Tanganyika	1						
Egypt	176			1		1	
Eritrea	63	4					
Ethiopia	497	11					
Gold Coast	3						
Libya	[3] 171						
Madagascar: **Tananarive**	[4] 10						
Morocco (French)	16	1					
Morocco (Spanish)	22						
Sierra Leone	[2] 1						
Tunisia	64	4					
Union of South Africa	[4] 108	7	P	3	P		
ASIA							
Afghanistan	1,562	8					
Arabia: **Aden**	[5] 2						
Burma	5						
Ceylon: **Colombo**	[2] 5						
China	50	3					
India	232	1					
India (Portuguese)	31	13	2				
Indochina (French)	18						
Iran	159	2					
Iraq	52	13	1		1	3	1
Japan	[3] 91	1					
Korea (Southern)	1,147	5					
Lebanon	[2] 2	2					
Pakistan	590				1		
Palestine	105						
Philippine Islands: **Manilla**	[2] 1						
Straits Settlements: **Singapore**	[6] 2	[2] 1					
Syria	22	1					
Transjordan	60						
Turkey. (See Turkey in Europe.)							
EUROPE							
Belgium	[4] [5] 5						
Bulgaria	384	9					
Czechoslovakia	20	2					
France	5						
Great Britain:							
England and Wales		[7] 4					
Malta and Gozo	[2] 10	[2] 6	[2] 2				
Greece	[4] 56	2					
Hungary	20						

Footnotes at end of table.

TYPHUS FEVER—Continued

Place	January–August 1949	September 1949	October 1949—week ended— 1	8	15	22	29
EUROPE—continued							
Italy	20						
Sicily	21						
Poland	260	7					
Portugal	6						
Rumania	417						
Spain	5	2					
Turkey	149	18	3		4	5	3
Yugoslavia	175	9					
NORTH AMERICA							
Bahama Islands: Nassau	[2] 1						
Costa Rica [2]	30	1					
Cuba [2]	3						
Guatemala	38						
Jamaica [2]	17	1					
Mexico [4]	174	7			1		
Panama Canal Zone [2]	12						
Puerto Rico [2]	32	4	1	1	2	2	
SOUTH AMERICA							
Argentina [2]	2						
Bolivia	53						
Brazil	2						
Chile [4]	152	10	2	3	4		
Colombia [4]	1,925	48					
Curacao [2]	5						
Ecuador [4]	245	47					
Peru	948						
Venezuela [4]	74	3					
OCEANIA							
Australia [2]	95	9	5	2			
Hawaii Territory [2]	9	2	1				

*Reports from some areas are probably murine type, while others include both murine and louse-borne types.

[1] Oct. 1–10, 1949. [2] Murine type. [3] Corrected figure. [4] Includes murine type. [5] Includes imported cases. [6] One case type unspecified, 1 case murine type. [7] Imported.

YELLOW FEVER

(C=cases; D=deaths)

AFRICA								
Belgian Congo:								
Stanleyville Province	D	5						
French Equatorial Africa:								
Bangui	D	1						
Gold Coast	C	22	2		1			
Birim District	C	[1] 3						
Komenda Village [2]	D	1						
Nkwanta Dunkwa Area	D	1						
Oda Area:								
Akwatia	C	[3] 5						
Atiankama	C		[4] 1					
Bawdua	C	[4] 2			[4] 1			
Esuboni	C	[4] 2	[4] 1					
Oseikrome Village	D	1						
Winneba Area:								
Apam	D	1						
Akukuom	D	1						
Nyakrom	C	[5] 5						
Nigeria:								
Kaduna (Airport)	D		1					
Lagos	D	[6] 2						
Sudan (French):								
Bamaku	D	[4] 1						
NORTH AMERICA								
Panama:								
Colon Province	D	2	1					
Pacora	C	[7] 8						

Footnotes at end of table.

TYPHUS FEVER—Continued

Place		January August 1949—	September 1949	October 1949—week ended—				
				1	8	15	20	29
SOUTH AMERICA								
Brazil:								
Amazonas State	D	1						
Para State	D	3						
Ecuador:								
Napo Pastaza Province	D	1						
Peru:								
Cuzco Department	D	2						
San Martin Department	D	1						

[1] Includes 2 suspected cases. [2] Near seaport of Sekondi. [3] Includes 1 suspected case. [4] Suspected. [5] Includes 2 suspected cases (1 fatal), and 3 fatal confirmed cases. [6] Imported. [7] Reported Jan. 15, 1949. Date of occurrence Nov. 11–Dec. 30, 1948. 5 cases (all fatal) confirmed, 3 suspected cases.

DEATHS DURING WEEK ENDED NOVEMBER 5, 1949

[From the Weekly Mortality Index, issued by the National Office of Vital Statistics]

	Week ended Nov. 5, 1949	Corresponding week, 1948
Data for 94 large cites of the United States:		
Total deaths	9,160	9,031
Median for 3 prior years	8,706	
Total deaths, first 44 weeks of year	402,741	404,126
Deaths under 1 year of age	635	670
Median for 3 prior years	691	
Deaths under 1 year of age, first 44 weeks of year	28,755	29,371
Data from industrial insurance companies:		
Policies in force	70,071,379	70,827,848
Number of death claims	12,011	10,319
Death claims per 1,000 policies in force, annual rate	8.9	7.6
Death claims per 1,000 policies, first 44 weeks of year, annual rate	9.2	9.3