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Use of State Advisory Councils in the Hospital Survey and Construction Program

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The purpose of this article is to describe the composition of the advisory councils established by the States under the hospital survey and construction program and to describe and appraise the role the councils play in carrying out the State programs.

Its conclusions may go beyond the confines of the hospital survey and construction program since advisory councils might conceivably be useful and their establishment might be called for in other existing or potential health programs.

This study of the composition and role of the State advisory councils under the hospital survey and construction program was initiated on request of the Federal Hospital Council. The Council was interested in the composition of the various State councils as to adequate representation of the general public, the role councils were playing in the program, and what their role should be.

Federal Requirements and Suggestions Relative to Councils

The Hospital Survey and Construction Act requires States participating in either the survey or construction phase of the program to designate, for each phase, a State advisory council to consult with the State agency in carrying out the program. This council, the act specifies, "shall include representatives of non-Government organizations or groups, and of State agencies, concerned with the operation, construction, or utilization of hospitals, including representatives of the consumers of hospital services selected from among persons familiar with the need for such services in urban or rural areas . . ."

The Grants-in-Aid Manual, developed by the Public Health Service to guide the States in drawing up and carrying out a State plan, provides a number of instructions or suggestions regarding the advisory councils. Thus, the manual states that the State advisory council

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appointed to serve the State agency during the survey and planning period of the program may continue to serve the agency responsible for the construction phase if that agency so chooses. Other instructions or suggestions are:

"The number of members appointed to the council is discretionary with the State agency provided that at least one member of each of the required groups is appointed. It is believed that a small representative council would be more helpful to the State agency than a council which has a large membership. A balance between consumer and professional representation is desirable.

"If a large State advisory council is appointed and a working subcommittee is chosen from the advisory council, the working subcommittee should include members representing the groups, interests and professions required by the act . . .

"The State advisory council shall be limited solely to advisory functions in order that the State plan may conform with the requirements of the act that there be designated a *single agency* as the *sole agency* for the administration of the State plan." [1]

Composition of the Councils [2]

Size of Councils

A study of the composition of the advisory councils as of February 1, 1949, showed that the 50 States and Territories, for which information was then available, had a total of 737 persons on their councils, an average of slightly more than 14 persons per council. The smallest council had 5 members, the largest 42. The distribution of States according to size of advisory council follows:

Size of council (Number of members)	*Number of States*
5	1
6–10	18
11–15	13
16–20	6
21–25	6
26–30	3
31–42	3
Total	50

Interests or Groups Represented

An examination of the affiliation of members showed (table 1) that of the grand total (737) of all the council members, 311, or 42 percent,

[1] Public Health Service, Grants-in-Aid Manual, 23-2, Section 5.

[2] This report deals solely with the permanent councils now advising the States on the continuing survey and construction programs. A few of the States appointed temporary councils to serve in the survey and planning phase of the program, but these have now been superseded by the permanent councils advising on the continuing program.

consisted of persons directly or indirectly engaged in the provision of health services, that is, physicians, dentists, nurses, hospital administrators, druggists, officials of associations of these professions, and persons connected with medical schools. Hospital trustees were also included in this group on the ground that as trustees they are directly concerned with the provision of health services, even though as lay persons they have interests which ally them with the consumers of health services. Of these 311 persons who might be said by affiliation or interest to represent the "providers of health services," the largest group (120) consisted of physicians. The vast majority of these were in private practice; a few were the paid secretaries of medical societies. The next largest group (119) consisted of hospital administrators or officials of hospital associations.

Table 1. *Affiliations of members of State Advisory councils of 50 States and Territories*

[As reported in State plans as of Feb. 1, 1949]

Affiliations	Council members		Number of States having one or more persons of specified affiliations
	Number	Percent	
Total	737	100	50
Persons concerned with the provision of health services	311	42	50
Physicians in private practice and officials of medical societies	120	16	43
Presidents, deans, or faculty members of medical schools	12	2	9
Hospital administrators and officials of hospital associations	119	16	46
Hospital trustees	9	1	7
Druggists and officials of pharmaceutical associations	8	1	7
Dentists and officials of dental associations	13	2	12
Nurses and officials of nursing associations	30	4	25
Persons connected with consumer groups	277	38	49
Business men, and professional persons (other than members of the health profession) and officials of business and professional associations	95	13	36
Officials of Blue Cross plans	9	1	7
Officials of labor organizations	33	5	24
Farmers and officials of agricultural organizations	33	5	26
Church groups	23	3	19
Voluntary health organizations	16	2	12
Other civic organizations and consumer interests	52	7	25
Educational organizations other than medical schools	16	2	12
Persons connected with governmental agencies	125	17	46
Architects	24	3	24

Of the 737 council members, 277, or 38 percent, were lay persons, not connected with any governmental agency, who could be classed as "consumers of health services." The largest group of these persons (95) consisted of business and professional men and women. The next largest group (52) contained officials of, or representatives of, various civic groups or organizations. The next largest groups, each numbering 33, consisted of officials of labor organizations, and of farmers or officials of agricultural organizations, such as the Farm Bureau, Grange, and Farmers Union. Most of the remaining consumer representatives were officials of, or directly connected with,

church groups, voluntary health organizations, and schools or universities. A few States had invited the executive directors of Blue Cross Plans to serve on their councils. These persons were classified as representatives of the consumers of health services because in the purchase of hospital care on a wholesale basis from hospitals their interests would appear to be aligned with those of the consumers of hospital service. However, in some respects these individuals might well be classified among those concerned with the provision of health services.

Of the 737 council members, 125 were connected with governmental agencies. These included State or local public health officers, officials of educational and welfare agencies, heads of State mental institutions or departments of mental hygiene. It was hard to say whether some of these individuals should be classified as representatives of the providers or consumers of health services, and so they were placed in a separate classification.

Also placed in a separate classification were 24 persons who were architects and thus might be said to represent a special interest.

Almost all of the State councils, as shown in table 1, include one or more representatives of the medical profession; almost all include one or more hospital administrators or officials of hospital associations; 25 of the States have a nurse, or an official of a nursing association, as a member of their councils; 9 have a president, dean, or faculty member of a medical school as a member; and 12 have one or more dentists or an official of a dental association.

Turning now to representatives of the consumers, we find that 36 of the State councils had one or more business or professional members (other than members of the health professions); 24 had officials of labor organizations; 26 had one or more farmers or officials of agricultural associations; 19 had representatives of church groups; 12 had persons who were connected with education, or educational organizations other than medical schools, and 25 States had other persons who, in their own right or as an official of some civic organization, could be classified as representing the general public.

Most of the States had councils fairly well balanced among representatives of the professions and agencies providing care, the general public, that is, the consumers of hospital services, and governmental agencies. A few States, however, appeared to have top-heavy representation of one or the other of these groups. Thus, in 13 States more than half of the council members were physicians, hospital administrators or trustees, or officials of medical and hospital associations. In a few of these States the consumer representation was very low; one State had no representatives of the general public other than hospital trustees.

A few States probably had too little representation of the medical

and hospital professions. In six States or Territories less than 20 percent of the council members could be said to represent the medical profession or hospital interests. In one State more than one-half of the members of the council were persons connected with public agencies.

Role of the Councils

To obtain information on how the States were using their councils and the role played by the councils, a questionnaire was sent out to the States through the Regional Offices of the Federal Security Agency in January 1950. Returns to this questionnaire were received from 50 of the 53 State and Territorial agencies.

Number of Meetings

1. "How many meetings of the council were held in the calendar years 1948 and 1949?"

The replies of the States to this question are summarized in table 2. The average number of meetings per council was 3.4 in 1948 and 3.0 in 1949. The average was raised for 1948 by one State which had 19 meetings of its council. If this State were excluded, the average number of meetings was about the same in both years. Five States had no meeting of their councils in 1948 and 4 States had none in 1949; an additional 11 States in 1948 and 9 States in 1949 had only one meeting in the year. Well over half of the States in 1949 had two, three, or four meetings.

Items Discussed at Meetings

2. "What were the items discussed at the last two meetings of the council?"

The items listed covered the entire gamut of all matters relating to the program. Most often listed were: the consideration of revisions or amendments of the State plan; determination of State policy with respect to the percentage of the cost of projects which should be borne from Federal funds (the amendments to the Federal act passed in October 1949 gave considerable discretion to the States in determining the Federal share of construction costs); review of the program; consideration of Federal legislation affecting the program; matters concerned with licensure of hospitals (many of the State agencies are also responsible for licensing hospitals and the advisory council advises on this program as well); allocation of Federal funds among the various categories of facilities, that is, general hospitals, mental hospitals, health centers, etc. Among other subjects discussed were such matters as chronic disease hospitals, coordination of hospital facilities, hospital finances, hospital construction costs, the need of the State agencies for additional personnel or administra-

Table 2. *Number of meetings of council*

Number of meetings	Number of States having specified number of meetings	
	1948	1949
0	5	4
1	11	9
2	4	11
3	8	7
4	10	14
5	2	2
6	6	2
7	1	1
8	2	------
19	1	------
Total	50	50

tive funds, community clinics, and the desirability or use of State grant-in-aid funds.

Matters and Problems on Which Advisory Council Is Consulted

3. "Does the State agency ask the advice of the council on all major policy matters?"

To this question 43 of the States replied "yes," 6 replied "no," and 1 State said that it asked the advice of the council on most policy matters.

4. "What kind of problems does the State agency present to the council for advice?"

Most of the States indicated that they consulted the council on all, or on all major, matters of policy. In general, the lists of specific problems or subjects were similar to the items discussed at the preceding meetings of the council, namely, revision or amendment of the State plan, priorities, approval of applications, allocation of funds among categories of facilities, licensure, etc. One State replied that it had presented only the more serious problems to its council for consideration, and two States indicated that they had not yet presented any problems to the council.

5. "Did the council consider the last revision of the State plan prior to its adoption by the State agency?"

To this question 43 States replied "yes," 6 States "no," and 1 State said that as yet it had made no revision of its State plan.

6. "Does the council consider all amendments to the State plan before they are adopted?"

Of the 50 States, 36 replied in the affirmative and 10 in the negative;

3 States said that the council considered only major amendments, and 1 State said that as yet it had not amended its plan.

Educational Role of the Council

7. "Has the council been useful in educating, as regards the program, the public and professional groups which the members represent?"

The great majority, 36, of the States indicated that the council had been useful in this regard and only 6 States replied that the council had not been useful in this respect. The remaining States gave a qualified answer. Four indicated that the council had been useful to "some extent"; two stated that the matter was questionable; one replied that as yet there was insufficient evidence to indicate one way or another that the council had been useful in this regard; and one State did not reply.

Advisory Character of the Council

8. "Is the council purely advisory in character, or does it, in effect, to a large degree participate with the State agency in the formulation of policy?"

The majority of the States, 27 out of 50, indicated that the council participated in policy formulation. Fifteen States replied that the council was purely, or almost purely, advisory. Another five States stated, in effect, that the council was advisory, but its recommendations are almost always, or usually, accepted by the State agency. Another two States indicated that the council was chiefly or mainly advisory, and the remaining States said that the question was difficult to answer—the council was purely advisory but did participate in the formulation of policy.

Quotation of representative replies will serve to make the situation meaningful:

"The council makes recommendations to the department—administrative responsibility rests with the department to accept or reject such recommendations."

"Yes—purely advisory."

"Mostly advisory, but may participate in formulating policy."

"Assists State agency in the formation of major policies."

"To large degree participates in policy making and decisions concerning administration of hospital construction program."

"The council is advisory on hospital construction but does participate or make recommendations in the formulation of policies. The council is the authority on hospital licensure."

"To quite an extent the council does participate with the State agency in the formulation of policy."

"Relations between council and director are mutually agreeable. Question difficult to answer. However, council scrupulously considers its character as purely advisory."

"It is advisory and to date its recommendations have been accepted in toto by the public health council."

"Council recommends and approves major policies."

"Acts only in the advisory capacity but council's recommendations are usually adopted."

"While the council's function is 'advisory' in effect, it serves as a clearing house for practically all problems involved in the development and enforcement of the State plan. Differences of opinion have been encountered and satisfactory compromises reached in all instances. The council does participate in the formulation of policy."

"Participates with State agency in formulation of policy."

"Establishes policy."

"Participates in policy determination. Follows staff recommendations closely—then recommends to director of public health."

"Legal status of council is advisory, however, it does participate in formulating policies for conduct of hospital program in State."

The opinion of a State as to whether its council is purely advisory or participates in formulation of policy appears to be correlated highly with the extent to which the State uses its council. Thus, the States indicating that their councils participate in policy formulation have also tended to make the greatest use of their councils. They have had a fair number of council meetings, have consulted the council on all policy matters, and asked the council to consider all revisions and amendments of the State plan. Contrariwise, among the States indicating that their councils are purely advisory are found all of the States which have made little or no use of their advisory councils. These States include all of those which had no meetings of their councils either in 1948 or 1949. Among these States are also the few which indicated that they did not ask the advice of the council on all policy matters, and that the council did not consider the last revision of their State plan. The States which indicated that their councils are purely advisory also include most of the States which report that their council has been of little or no value in educating, with regard to the program, the public and professional groups the members represent.

Value of the Council

9. "Has the council been of material value in carrying out the program? If so, in what respects?"

The vast majority, 41, of the States answered "yes" to this question; 7 said "no," and 2 gave qualified answers, namely, "to some extent" and "on two or three occasions." It is significant that the seven States which stated that the council had been of no material value included four States which had no meeting of their council in 1949 and two other States which had no meeting of their council in 1948. Five of the seven States were also among the six States which indicated that they did not ask the advice of the council on all policy matters. The State which indicated that its council had been of value only on "two or three occasions" was the remaining one of the six States which did not ask the advice of their council on all policy matters.

In short, if States make use of their councils, they find the council of value; if they do not make use of the council, they find it of no value. Among the respects in which the States have found their councils of value, five or six are mentioned repeatedly. The council, when composed of capable individuals, promotes discussion of problems by a group composed of individuals of different experiences and background, and the decisions arrived at through this group's thinking are frequently better than might have been arrived at by a single individual. Being composed of representatives of various groups concerned with the program—the medical profession, hospitals, the general public—the council members can interpret to the State agency the needs, desires, and attitudes of these groups. In turn the same individuals can interpret to the group which they represent the agency's program and its decisions on various points. Thus, the council can act as a two-way liaison between the State agency and the various groups concerned with the program. The council, too, can act as a "buffer" between the State agency and the various groups concerned with the program. A decision which is unpalatable to a particular community or group is frequently better received when it can be said that the decision was made by the council than when the decision is announced as made by a single individual. The council, if composed of individuals of high caliber who are widely representative, lends prestige and support to the program. Finally, the council can make recommendations, and its individual members can take action with respect to State legislation (for example, the need for additional administrative funds for the State agency) which the director of the State agency might not be able to do as well.

Direct quotations of some of the replies to the question of whether the council has been valuable, and in what respects, follow:

"Yes—has brought us mature and diverse viewpoints from various areas; helped keep public informed locally; assisted with necessary legislation."

"Yes—(1) it focuses attention to possible means of improving the program; (2) it gives opportunity for the expression of representative opinions and ideas."

"Yes—brought representative but varied viewpoints into discussions and decisions."

"Yes—the composition of the advisory council is such that any matter or problem brought before it usually results in an intelligent discussion and recommendation on same."

"Yes—the various interests of the State are represented; therefore, policies of the hospital construction program reflect the studies, recommendations, and thinking of the various groups interested in the program."

"Yes—it gave broad State-wide participation in program planning."

"Yes—aids the State director of health in making decisions. A help in securing cooperation of groups represented. A group on whom to place responsibility for decisions."

"Yes—better cooperation from certain groups—and a buffer."

"Yes—assists in a better community understanding of the program. Encourages

public acceptance; increases the cooperation of professional groups and associations; makes pertinent recommendations on policy matters."

"No—the council has been helpful in giving advice, but the program is so small that we hesitate to call the council together except on those infrequent occasions when matters of considerable importance arise."

"Yes—has been the liaison between State agency and the general public. Has conducted the public hearings regarding State plan and revision, has contacted legislators regarding appropriations."

Views of States on Proper Role of an Advisory Council

10. "Please state briefly your views as to what role the advisory councils should play in the program."

Perhaps it is best here to let the States speak for themselves. First are quoted the statements of States which reported their councils to be useful:

"An active advisory council with broad viewpoint and willingness to plan a long-range program is a necessity. If the law did not provide for such an advisory council we would develop one to assist in furthering the needs of rural health for our State."

"As a liaison group between all. To conduct any hearings regarding projects if needed; to review State plans as to fairness and adequacy in meeting needs of States. Advise in any and all matters regarding administration of State plan; to advise in special problems that may arise; support legislation pertaining to hospitals and health centers at least informally."

"(A) Reflect attitudes of local and professional groups; (B) recommend and advise on major policy matters; (C) support the department in carrying out major policy and in its administration of the program."

"Educational, promotional, interpretive, advisory. An advisory council brings additional breadth of view to program planning. Brings knowledge of needs of areas or groups, and can interpret desires of groups represented. Can give real guidance, some specialized skills, and valuable advice. Our working relationship is excellent and helpful to State agency."

"To assist in formulating program policy through discussion of major matters with the commission. Disseminating information about the purpose of the program with a view to making the public more hospital-minded. Use should be made of specialized knowledge and position of members to further purpose of program.

"Suggest more frequent meetings of the council to promote thorough familiarity with program and policies, thus making the members better qualified to influence public opinion, particularly in areas where the campaign to instill community interest in the hospital program lacks impetus.

"Careful selection of members of advisory council with a view to appointing those particularly well qualified as to experience in the hospital field, prestige, and enthusiasm for furthering improvements in health services."

"Council helps in policy making. Is of considerable value when controversial issues arise."

"Assist in sponsoring legislation, publicizing the program, formulate major policies, develop research projects relative to the hospital program; act as a representative for the various organizations and interest groups of the State. Act as a buffer for the State Agency."

"Advisory councils should continue to be the clearing houses for the discussion of the general philosophy of the Federal-State program, and State agencies should benefit greatly from the advice and counsel to be gained from the varied interests represented on the councils, interests which represent the public as contrasted with the governmental aspect which is gained by those of us working closely with the program.

"The use of advisory hospital councils can be expanded when the construction program reaches a peak in activities and when further advice and assistance will be needed in consolidating gains made under the program and further guidance required in creating a proper balance among the five categories of facilities eligible under the act. Support of the councils may be solicited in the growing need for the provision of facilities for the long-term patient, i. e., chronically ill, chronic insane, tubercular, etc. The promotion and creation of public health centers is a field in which the council can be of further assistance. I believe that individuals in the hospital and related field, as well as the public, have greater confidence in a program which is reviewed and passed upon by a group other than the governmental bureau or agency working directly with the program."

"Council can be of considerable assistance to the State agency by expressing the views of the different groups represented. Many of the views expressed by council members have been extremely valuable in the development of the plan. In addition, the members can help disseminate information relative to the plan to the people of the State."

"We believe that our advisory council is composed of seven of the most competent and well-qualified men in the State. The commission, consisting of the governor, chairman of the State road department, and three appointed officials, has never failed in a single instance to approve the recommendations of our State advisory council. The value of an advisory council depends almost entirely on the caliber of men serving on the council. Our State has been most fortunate in securing the services of competent men."

"Should advise the State health department on major policy matters of a nontechnical nature in the administration of the program. They should serve as the liaison between the health department and the public which they represent, explaining to their constituents the need for, value, and opportunities under the program.

"Discussion of excessive technical details by untrained persons can result in loss of time of technical personnel and has little other than individual educational value."

"An advisory council serves to bring in the knowledge and experience of many individuals who have real contributions to make in advising on this program. The board of health, which has legal administrative responsibility, still retains final decision in establishing policies after having had the opportunity of considering advice of the council."

"There are no politics in the State's program. This is because of governor's and department's policy—such policy is implemented by support of council members of ability and integrity. The council members are known and respected throughout the State. They lend prestige to the program and have contributed materially to its acceptance by the public as a rational activity of government."

"Advisory council should take a more active part in the program especially in public relations. In this way education, as regards the program, would come from a source other than the State agency, and possibly overcome certain prejudices that may exist toward State and governmental bureaus or agencies."

"Believe the position of the council might be strengthened to make its approval of policies mandatory."

The comments from some of the States which found their councils to be of little or no value are just as revealing:

"Advisory and possibly unnecessary as a State agency."

"From our experience with the advisory council we have found it of little value. If our budget were large enough to permit more frequent meetings and the employment of a liaison officer to work directly with the council, it could serve as a very effective means of interpreting the State hospital program to the general public."

"The State's program is so small that we have had little or no reason to call upon our advisory council; therefore, we have had little opportunity to find what role we feel they should play. It would seem, that a purely advisory role would be, at least in this State, the most beneficial. Our council consists of people from very scattered areas with great distances to be encountered when called to convene, which of course results in extreme difficulty in getting them together at any one specified time."

"The advisory council would be most valuable in interpreting the construction program to the public if it was informed and the present legal limitation amended to broaden the scope of this body."

"Not important when only a few projects are in progress."

Some Comments Concerning Role of Councils

Role of Council When State Agency Is a Commission

One or two of the States which have made little use of their councils are States in which the State agency is itself a commission which has wide representation of the various groups which should be represented on the council. Where this situation exists, an advisory council is probably superfluous. The commission performs all the functions that an advisory council would perform. It might seem, therefore, that in the basic Federal legislation setting forth the requirements for State plans, the requirement for an advisory council should not be mandatory when the State agency is organized as a commission with appropriate representation of producer and consumer interests. One State, where the administrative agency is a commission, has a large advisory council of 42 members and has apparently used this group skillfully, not so much to form policy but to publicize the State program and to familiarize all groups and regions of the State with the State program.

One or two other States—which have commissions but where the commissions did not have broad representation of the public, the medical profession, and the hospitals—have established advisory councils with good representation of the various groups concerned. These States have made good use of an advisory council and report that it is of great value.

Value of the Council in Relation to its Composition

A few of the States apparently have had difficulty in using a council

or have found the council of relatively little value partly because the size or composition of the council has been faulty. A few of the States have established quite large councils, more than 20 individuals. Such councils, it would appear, are likely to be unwieldy and can hardly function as true advisory or policy forming bodies. It is noteworthy that two of these States—one with a council of 21 members and another with a council of 29 members—have established executive committees within their councils and the former meet when it is unnecessary to call the larger group together. Possibly both of these States would be better served by smaller councils. One State which has not made any real use of its council has a very small council (five members) which has insufficient representation of the general public and possibly of the medical profession.

From the replies of the States bearing upon the value of an advisory council as liaison or means of communication between the State agency and the various groups concerned with the program, it is obvious that a council cannot be of maximum value unless it has good representation of all the groups concerned with the program. A council which is overloaded with representatives of the hospitals and doctors may fall short in interpreting the program to labor and farm groups and the general public. Contrariwise, a council which is composed almost entirely of public representatives may fail in helping the State agency to get maximum cooperation and understanding from the medical profession and the hospitals.

Advisory and Policy Formulation Role of Council

Apparently the line between a council's being advisory and participating in the formulation of policy is a faint one. When a State agency makes use of an advisory council and consults this council on all major policy matters, the members of the council inevitably expect that their advice will be followed. If the advice of the council is frequently disregarded, it is probable that the members will begin to feel that their time and trouble are of no avail, and the State agency will end up with no council worthy of the name. Where the State agency feels it wise usually to follow the recommendations of the council, as must probably be the case if an enduring working relationship is to exist, then the council, in effect, makes policy or participates in the making of policy.

Summary and Conclusions

The advisory councils appointed by the States under the hospital survey and construction program tend in most States to give good representation to the primary groups interested in the program, namely, the general public, hospitals, and the medical profession.

However, in a few States there is inadequate representation of one or another group.

Most of the States have made good use of their councils. They have had from two to four meetings of the council annually and have asked the advice of the council on all major matters of policy. The vast majority of the States report that their councils have been of material value to them in carrying out the program.

An advisory council, well composed and well utilized, can be of great value to a State agency in the administration of a program which is of concern to important groups within the State and requires, for maximum success, good understanding and cooperation of the public and the health professions. A council composed of able individuals, who are broadly representative of the groups concerned, will aid the State agency in the development of wise policy; it will interpret to the State agency the needs and attitudes of the various groups represented and, in turn, will interpret the program to these groups. It can lend support and prestige to the program, give backing on controversial decisions, aid in obtaining broad public backing for the program, and assist in obtaining the passage of desired legislation.

A council which is well used tends, whatever its legal status, to become more than purely advisory. Since its recommendations are always or almost always followed, the council, in effect, participates in the formulation of policy.

Preservation of Viability and Pathogenicity of the Nichols' Rabbit Strain of *Treponema pallidum* by Freeze Drying

By Edward G. Hampp, D.D.S., M.S.*

There is some evidence in the literature (Swift (*9*); Eagle (*4*); Oag (*5*); Turner et al. (*11*); Stavitsky (*8*); Probey (*6*)) that, unlike most bacteria and viruses, the spirochetes are not amenable to preservation by desiccation *in vacuo* from the frozen state. However, in 1947, Hampp (*3*) demonstrated that by appropriate methods *Borrelia vincentii* and cultured strains of alleged *Treponema pallidum* could be successfully preserved by the freeze-drying process. Since that time, all pure stock strains of oral spirochetes, including the smaller oral treponemes, have been maintained in this laboratory by this process. The success encountered with these spirochetes prompted the investigation of the possibility of this technique, or some modification of the method being applicable to the virulent Nichols' rabbit strain of *T. pallidum*.

Although we have been able to preserve satisfactorily the oral spirochetes and the Nichols' rabbit strain of *T. pallidum* in the frozen state with CO_2 ice by the method first described in 1938 by Turner (*10*) and subsequently advocated in 1950 by Rosebury and Frances (*7*) for the oral spirochetes, the advantages of being able to maintain spirochetes in the desiccated state are quite obvious from the standpoint of convenience and economy.

This paper presents a method which has been used with success for preservation of viability and pathogenicity of the virulent Nichols' rabbit strain of *T. pallidum* when dried *in vacuo* from the frozen state.

Experimental

The strain of *T. pallidum* was obtained through the courtesy of T. F. Probey of the National Institute of Microbiology, National Institutes of Health. The strain of organisms was perpetuated during the experimental period by intratesticular inoculation at 4- to 6-week intervals in white rabbits raised and maintained at the National Institutes of Health.

For the purposes of this study, rabbit testes were removed aseptically

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at various stages of infection in attempts to preserve *T. pallidum* by freeze drying. In some cases, infected testes were enucleated during the period in which the orchitis had reached the stage of maximum swelling, induration, and edema; others were taken prior to the formation of an external chancre when circumscribed areas of induration were palpable within the organs, and still other testes were employed after ulceration had occurred through the scrotum. In certain instances, the tissues employed were macerated; in others, small pieces of testis or circumscribed nodular areas were used. These samples of tissue were suspended in normal rabbit serum, 5-percent gastric mucin,[1] and in the menstruum employed for drying cultures of oral spirochetes (*3*).

Control samples of the experimental material were inoculated into rabbits (1) prior to drying, (2) immediately after freezing in a dry ice-methyl cellosolve bath, and (3) after drying of tissues from the frozen state. In the first two instances, without exception, all specimens remained infectious for rabbits. However, it was found that when specimens were dried from the frozen state in the various menstra, the viability and virulence of *T. pallidum* were lost even though the time of being held frozen under vacuum and the time of drying following the removal of the freezing mixture from the samples were varied considerably. Darkfield examination of dried material reconstituted with physiologic salt solution showed spirochetes with a minimal amount of distortion and no demonstrable fragmentation, but no motility of the organisms could be demonstrated even though specimens were held at room temperature and at 37° C. for periods of 24 hours and examined at frequent intervals. It should be noted that it has been demonstrated under similar circumstances, in the case of oral spirochetes, that loss of motility is not necessarily an indication of loss of viability (*3*).

It was assumed from these initial experiments that the number of organisms present in the experimental specimens were insufficient to insure recovery of viable *T. pallidum* when subjected to the freeze-drying process. Therefore, it was decided to use whole testes to take advantage of all organisms present. The use of a suspending menstruum was discontinued since it was felt that the tissue fluids present in the edematous infected organs would act as a protective colloid.

The following procedure has resulted in the successful preservation of *T. pallidum* when dried *in vacuo* from the frozen state. Well developed, young male white rabbits with large testes were employed for purposes of inoculation. During these experiments rabbit passages of *T. pallidum* were made every 3 to 4 weeks to insure a good source of material. Darkfield microscopic examinations were made on all specimens employed for animal inoculation. Testes were re-

[1] Wilson's gastric mucin 701W.

moved at the height of the infection, usually 3 weeks following inoculation, and one of the organs was cut into small pieces with scissors, then macerated in a mortar with a pestle. Sufficient physiologic salt solution was added, usually 7 cc., and the material was further triturated until a semifluid emulsion was formed. A 60-mesh stainless steel screen mounted in a collar of the same metal was placed in a Buchner funnel and was used for filtering the saline emulsion under vacuum. Further fluid was expressed from the residual tissue on the screen by grinding it against the screen with a flat end ground glass rod three-fourths of an inch in diameter. The resulting filtrate contained very finely dispersed tissue, and 0.5 cc. was employed for inoculation of each testis of the experimental animal. A 2-inch, 20-gage needle was employed on a 2 cc. tuberculin syringe; the needle was inserted at the upper pole of the testis and carried the full length of the organ to its lower pole. The needle was slowly withdrawn, and at the same time the inoculum was deposited along its course. A few drops of inoculum was also deposited within the scrotum before removal of the needle.

The experimental animals were examined frequently until an orchitis became evident and then examined daily until the swelling of the organ was maximal and the tissues were grossly edematous. At this time the testes were greatly enlarged, usually 2 to 2½ times their normal size. This response occurred approximately at the end of the third week following inoculation. Darkfield examination of tissue fluids obtained from the testes revealed numerous spirochetes in each field observed. The animals were sacrificed by introduction of 25 cc. amounts of air into the marginal vein of the ear; the testes were removed under aseptic conditions and freed of their capsular material leaving the parenchyma of the organ exposed. A transverse cut about 4 mm. deep was made on one side of each testis in a mid position of the organ to facilitate drying of the tissue. Each organ was placed in a separate centrifuge tube, 3 cm. x 12 cm., prepared with a rubber stopper containing a small length of glass tubing to facilitate attachment to the drying apparatus. The containers were immediately connected to the machine, the chamber of which had been previously charged with CO_2 ice-methyl cellosolve mixture. The lower half of the tubes were then immersed in the same type freezing mixture and the testes frozen, then maintained for 7 hours with a vacuum of 5 microns of mercury. At the expiration of this period the tubes were placed in cracked CO_2 ice contained in an improvised ice chest; the tops of the tubes were permitted to protrude from the box to prevent frosting of their exhaust openings and were maintained in this manner for an additional 17 hours at a vacuum of 5 microns. At the expiration of this period the tubes were removed from the ice chest and the drying time continued for an additional

48 hours at the same vacuum. At this time the tubes were sealed off under vacuum and the material stored in a refrigerator at 8° C.

At the time of use, a dried testis was placed in a mortar and a small amount of saline added to moisten the dehydrated tissue. A saline emulsion was prepared in the same manner as previously described. Only sufficient saline was added, approximately 11 cc., to obtain about 3 to 4 cc. of filtered emulsion. It was found at this stage that trituration is extremely important so that the tissue may be finely ground and dispersed. The use of the metal screen and the grinding of the residual tissue against the screen during filtration is imperative to obtain a maximum yield of organisms in the filtrate along with finely dispersed tissue that would pass through a 20-gage hypodermic needle. Prior to use, the inoculum was examined by darkfield microscopy to ascertain roughly the concentration of organisms present and to observe any altered morphologic characteristics. Very little alteration in these characteristics and no demonstrable fragmentation were found. Suspensions were maintained at room temperature and at 37° C. for 24 hours and observed frequently for signs of motility which was not observed at any time. These findings again bear out the observations that motility is not necessarily an indication of viability. The inoculum was then introduced into rabbit testes by the methods previously described except for animal 5A and its mates, as noted in the table. Two rabbits were employed for each dried specimen tested; the size of the inoculum varied from 0.25 to 1.0 cc. of saline emulsion, and of this amount a few drops were deposited in the scrotum prior to the removal of the needle. All experimental animals were checked periodically both microscopically and grossly for evidence of infection.

Results

The results of the animal virulence tests are documented in detail in the table. As noted, in previous experiments prior to the use of whole tests and of the 60-mesh screen when portions of testes or circumscribed nodules were employed for desiccation, only one rabbit, 5A, out of six was infected by rehydrated specimens containing *T. pallidum*. In this case only one testis was involved of a total of 12 organs. In all instances 0.25 cc. of inoculum was employed per testis as in the case of the seed rabbits. Following this experiment, whole testes were employed for desiccation from the frozen state, and a 60-mesh screen was used for preparation of the saline emulsion containing *T. pallidum*. In addition, the inoculum was increased to at least 0.5 cc. both in the preparation of testes for drying procedures and in the animal virulence tests following desiccation of *T. pallidum* containing testes.

Of the two rabbits in the second group, one animal, 11B, developed

symptoms of syphilis, and in this instance both testes were involved. The total period of drying of the experimental testes was 48 hours and of this time the testes were in the methyl-cellosolve freezing mixture for 7 hours as in the case of rabbit 5A. Following this experiment, the testes were kept in the frozen state for 24 hours and then 48 hours without the freezing mixture as previously described.

As noted in the table, six rabbits, 201A–203B, were infected with *T. pallidum* obtained from dehydrated testes, and a total of 12 testes were involved. In order to obviate the chance that testicular tissue was incompletely dehydrated and the organisms might survive a short drying period, the elapsed time following dehydration of *T. pallidum* containing whole testes and the animal virulence test was purposely varied in these cases from 3, 58, and 66 days, respectively. In these instances all animals demonstrated a definite orchitis in a period ranging from 41 to 55 days following inoculation. It is evident that these incubation times are slightly in excess of the period required for infection when routine animal passages of *T. pallidum* are made.

Chesney (*2*), Wakerlin (*12*), and Bessemans, et al. (*1*) have shown that the smaller the number of *T. pallidum* contained in the inoculum the longer the incubation period and that once infection was initiated there was no marked effect upon the course of the disease in the experimental animals. These findings are comparable with the slightly prolonged incubation period encountered in these experiments and seemingly lends credence to the assumption that every precaution should be taken to obtain adequate quantities of *T. pallidum* for freeze drying to insure maximum yield of organisms in reconstituted testicular emulsions for animal virulence tests.

Those animals that did not succumb to infection by *T. pallidum* dried from the frozen state were observed for 6 to 7 months and at frequent intervals were examined both grossly and microscopically without demonstrating evidence of infection.

From the results presented, it cannot be overemphasized that every precaution should be taken in attempting to obtain relatively large numbers of organisms if success is to be obtained in the preservation of viability and pathogenicity of *T. pallidum* by drying *in vacuo* from the frozen state. Special consideration should be given to the selection of infected testes, preparation of tissue emulsions, method of inoculation of animals, and use of a large amount of inoculum for the animal virulence test.

Further studies are in progress to determine the length of time *T. pallidum* will survive following drying in a vacuum from the frozen state.

Summary

A method is presented for the preservation of viability and pathogenicity of the Nichols' rabbit strain of *T. pallidum* when dried *in*

vacuo from the frozen state. The methods employed and the results obtained are described in detail.

Infectivity of Treponema pallidum *following drying* in vacuo *from the frozen state*

Number of rabbits inoculated	Number of dried testes employed for inoculation	Type of dried samples	Total time of drying	Microscopic examinations of inoculum[1]	Time elapsed following drying	Quantity of inoculum per testis	Results: Rabbits: Negative	Results: Rabbits: Positive	Results: Testes, Positive	Time required to become positive	Observation period of negative rabbits	Reference number of positive rabbits
			Hours		*Days*	*Cc.*				*Days*	*Mos.*	
6	3	Circumscribed nodule	24	†	7	0.25	5	1	1	50	7	5A
2	1	Whole testes	48	††	3	.5	1	1	2	49	6	11B
2	1	Whole testes	72	††††	66	.5	0	1	2	41	------	201A
						1.0	0	1	2	41	------	201B
2	1	Whole testes	72	††	58	.5	0	1	2	48	------	202A
							0	1	2	48	------	202B
2	1	Whole testes	72	††††	3	.5	0	1	2	55	------	203A
										[2]55	------	203B

[1] Plus signs are arbitrary designation of relative spirochetal concentrations in the inoculum; 1† being few organisms per field, 4† numerous spirochetes per field

[2] Orchitis in left testis at 55 days; the right testis exhibited an orchitis at 76 days.

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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 Ending March 31, 1951

Influenza

The following reports have been prepared in collaboration with the Influenza Information Center of the National Institutes of Health.

The total number of cases reported for the current week was 8,982 compared with the 12,699 for the previous week and 13,259 cases for the same week last year. However, deaths from all causes reported in major cities of the United States were significantly greater for the current week compared with the 3-year median in the following areas: New England, 12.3 percent; Middle Atlantic, 4.5; East North Central, 9.8; and the Pacific, 9.8.

Dr. T. P. Magill, Director of the Strain Study Center, New York State University Medical Center, Brooklyn, has reported on the antigenic analysis of 20 strains of influenza virus isolated in the winter of 1950–51, from the British Isles, Western Europe, and the United States, and has compared them with strains isolated in previous winters. Eighteen of the recently isolated strains differed from the earlier A-prime strains in that although hemagglutination was inhibited to a fairly marked degree by the FM–1 and Nederland 1/49 antiserum, it was not inhibited by the Coamo antiserum. That is, the 1950–51 strains with two exceptions seemed to have lost the Coamo "component" but retained the FM–1 and Nederland 1/49 "component."

Dr. Albert Milzer, Collaborating Laboratory, Michael Reese Hospital, Chicago, reports a significant rise in complement-fixing antibody titer against the FM–1 strain of influenza A-prime virus in two patients recently ill. One patient had an influenzalike illness, and the second was clinically diagnosed as having atypical pneumonia: Sera from two other patients showed evidence of influenza A and influenza B infections.

Dr. Edwin H. Lennette, Director of the Regional Laboratory in Berkeley, Calif., reports serologic evidence by the complement fixation test for influenza in 20 patients tested from March 17 to 23.

Dr. C. R. Freeble, Jr., Ohio Department of Health, reports an

explosive outbreak of upper respiratory disease, presumably influenza, among students at Bowling Green State University. The outbreak appeared early in March with subsequent cases building up, and in the opinion of Dr. J. W. Halfhill of the Student Health Services, the peak had not been reached by March 31. Approximately 400 cases have been observed. Onset of illness was usually sudden, with cough and general aching. Leukopenia was common. Serum specimens are being obtained for hemagglutination inhibition testing.

Other Diseases

There was a slight increase in reported cases of measles for the current week, 19,471, compared with the previous week, 17,546. These figures exclude Idaho for which no report was received. One case of anthrax was reported in each of three States—Massachusetts, Connecticut, and Pennsylvania.

Epidemiological Reports

Diphtheria

Dr. J. P. Ward, Director, Arizona Department of Health, reports that 21 cases of diphtheria have occurred in three communities within a 20-mile radius in the southeastern part of Yuma County near the Mexican border. The onset of the first case was February 23 and the last was March 25. There have been no deaths. Cases were diagnosed bacteriologically and clinically.

Dr. R. O. Saxvik, South Dakota State Health Officer, reports an outbreak of eight cases of diphtheria in a State School for the Feeble Minded during the week ended March 30. All cases were reported to have had a preliminary upper respiratory infection and positive cultures were obtained from nasal discharges. None had evidence of diphtheritic membrane. Several children had elevations of temperature to 105°. All cases were in children between 1 and 10 years of age.

Infectious Hepatitis

Dr. A. W. Freeman, Maryland Department of Health, reports a marked increase in the number of reported cases of infectious hepatitis since January 1. Ten cases were reported in January, and 15 in February compared with a total of 38 cases during all of 1950. One outbreak in 1951 occurred in a State institution where 10 to 12 cases were observed. Another small outbreak occurred in northeast Maryland among children between the ages of 7 and 13 years, attending a white elementary school.

Rabies

Dr. George W. Cox, Texas State Health Officer, reports that rabies in foxes is spreading eastward toward the Louisiana border. Another

focus of infection is in central Texas counties. In one county, more than 30 persons have been given antirabies vaccine in the last few weeks.

Psittacosis

Dr. Albert Milzer of the Michael Reese Hospital, Chicago, has reported psittacosis infection in two individuals presenting the physical findings of severe atypical pneumonia. It was reported that one of the patients had contact with a parakeet. Diagnosis was made by serologic evidence of an increase in antibodies against the psittacosis group of viruses.

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 1946–50	Seasonal low week	Cumulative total since seasonal low week		5-year median 1945–46 through 1949–50	Cumulative total for calendar year—		5-year median 1946–50
	Mar. 31, 1951	Apr. 1, 1950			1950–51	1949–50		1951	1950	
Anthrax (062)	3	2	2	(1)	(1)	(1)	(1)	20	7	13
Diphtheria (055)	110	110	179	27th	4,115	6,281	9,083	1,208	2,010	2,725
Encephalitis, acute infectious (082)	16	13	11	(1)	(1)	(1)	(1)	187	167	106
Influenza (480–483)	8,982	13,259	1,908	30th	104,740	116,358	116,358	90,198	105,774	105,774
Measles (085)	19,471	10,964	23,784	35th	205,117	116,235	234,152	176,416	97,105	199,206
Meningitis, meningococcal (057.0)	98	118	82	37th	2,365	2,144	2,089	1,404	1,230	1,119
Pneumonia (490–493)	2,047	3,089	----	(1)	(1)	(1)	(1)	26,201	33,798	----
Poliomyelitis, acute (080)	46	62	24	11th	87	124	55	1,299	1,255	680
Rocky Mountain spotted fever (104)	----	1	----	(1)	(1)	(1)	(1)	4	12	12
Scarlet fever (050) [2]	2,125	1,752	2,783	32d	[3] 45,428	39,764	59,516	[3] 29,737	23,325	35,869
Smallpox (084)	----	4	4	35th	[4] 13	38	54	[4] 5	17	33
Tularemia (059)	20	15	15	(1)	(1)	(1)	(1)	188	287	287
Typhoid and paratyphoid fever (040,041) [5]	55	44	49	11th	85	92	93	520	602	573
Whooping cough (056)	1,311	2,810	1,881	39th	42,070	55,381	55,381	20,468	33,845	28,738

[1] Not computed.
[2] Including cases reported as streptococcal sore throat.
[3] Addition: Arkansas, week ended Mar. 24, 9 cases.
[4] Deduction: Idaho, week ended Mar. 3, 1 case.
[5] Including cases reported as salmonellosis.

NOTE.—Data exclude report from Idaho for week ended Mar. 31, for which no report was received.

Reported Cases of Selected Communicable Diseases: United States, Week Ended Mar. 31, 1951

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

Area	Diphtheria (055)	Encephalitis, infectious (082)	Influenza (480–483)	Measles (085)	Meningitis, meningococcal (057.0)	Pneumonia (490–493)	Poliomyelitis (080)
United States	**110**	**16**	**8,982**	**19,471**	**98**	**2,047**	**46**
New England	**3**	**2**	**759**	**671**	**4**	**157**	**2**
Maine			139	5		33	
New Hampshire			94	34	1	18	
Vermont			10	76			
Massachusetts	3	2		481	1		2
Rhode Island			1	1		5	
Connecticut			515	74	2	101	
Middle Atlantic	**6**	**4**	**151**	**2,315**	**11**	**324**	**3**
New York	2	3	[1] 44	890	7	90	3
New Jersey		1	107	502	1	108	
Pennsylvania	4			923	3	126	
East North Central	**8**	**1**	**192**	**3,172**	**14**	**209**	**4**
Ohio	2			871	2		2
Indiana	4		19	164		13	
Illinois	1	1	26	764	7	102	2
Michigan			147	474	5	94	
Wisconsin	1			899			
West North Central	**16**	**1**	**43**	**1,136**	**13**	**49**	**2**
Minnesota	1		13	224	3	7	1
Iowa				20	2	1	
Missouri			5	352	6		
North Dakota	14	1	23	126		35	
South Dakota				15	1	1	
Nebraska				13	1		1
Kansas	1		2	386		5	
South Atlantic	**27**		**3,380**	**1,580**	**16**	**283**	**9**
Delaware			41	21			
Maryland	5		10	124	1	28	
District of Columbia			4	58	1	27	
Virginia	4		1,027	665	3	125	
West Virginia	1		1,596	161	5	40	1
North Carolina	12			127	2		1
South Carolina	2		231	39	2	36	1
Georgia	2		471	312	2	27	
Florida	1			73			6
East South Central	**11**		**664**	**721**	**14**	**194**	**8**
Kentucky	3		532	392	7	51	1
Tennessee	2		80	121	2		
Alabama	6			133	4	108	2
Mississippi			52	75	1	35	5
West South Central	**13**	**5**	**954**	**4,371**	**15**	**576**	**6**
Arkansas	3		648	423	1	79	
Louisiana			8	37	3	17	1
Oklahoma			298	460	1	57	1
Texas	10	5		3,451	10	423	4
Mountain	**20**		**1,558**	**1,407**	**2**	**134**	**4**
Montana	1		38	72		2	1
Idaho	[2]	[2]	[2]	[2]	[2]	[2]	[2]
Wyoming				54	1	5	
Colorado	1		18	566		23	
New Mexico	1		14	38	1	29	1
Arizona	17		1,486	569		75	2
Utah				87			
Nevada			2	21			
Pacific	**6**	**3**	**1,281**	**4,098**	**9**	**121**	**8**
Washington			248	1,005	4	4	3
Oregon	3		680	348	1	49	
California	3	3	353	2,745	4	68	5
Alaska			17			4	1
Hawaii			18	3		1	

[1] New York City only. [2] Report not received.

Anthrax: Connecticut, Massachusetts, and Pennsylvania, 1 case each.

Reported Cases of Selected Communicable Diseases: United States, Week Ended Mar. 31, 1951—Continued

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

Area	Rocky Mountain spotted fever (104)	Scarlet fever (050)	Smallpox [3] (084)	Tularemia (059)	Typhoid and paratyphoid fever [1] (040, 041)	Whooping cough (056)	Rabies in animals
United States		**2,125**		**20**	**55**	**1,311**	**182**
New England		**191**				**98**	
Maine		7				23	
New Hampshire		[2] 19				3	
Vermont		3				3	
Massachusetts		133				52	
Rhode Island		5				14	
Connecticut		24				3	
Middle Atlantic		**363**			**29**	**183**	**20**
New York		[2] 209			29	62	16
New Jersey		58				62	
Pennsylvania		96				59	4
East North Central		**767**		**7**	**2**	**168**	**20**
Ohio		164				41	
Indiana		52			2	6	17
Illinois		147		7		30	2
Michigan		341				50	1
Wisconsin		63				41	
West North Central		**115**		**3**		**83**	**44**
Minnesota		22				7	1
Iowa		16				12	12
Missouri		38		3		15	31
North Dakota						4	
South Dakota		3					
Nebraska		8				2	
Kansas		28				43	
South Atlantic		**189**		**2**	**8**	**240**	**30**
Delaware						1	
Maryland		18				13	
District of Columbia		12			1	3	
Virginia		34		1	1		2
West Virginia		17				100	3
North Carolina		72			1	78	
South Carolina		6				11	18
Georgia		11			4	19	7
Florida		[2] 19		1	1	15	
East South Central		**100**		**2**	**3**	**62**	**32**
Kentucky		47				16	17
Tennessee		40			2	7	13
Alabama		7			1	27	
Mississippi		6		2		12	2
West South Central		**122**		**4**	**8**	**280**	**30**
Arkansas		3		2	2	38	2
Louisiana		4		1	1	1	
Oklahoma		64				12	
Texas		51		1	5	229	28
Mountain		**133**		**2**	**3**	**116**	**3**
Montana		12					3
Idaho	(3)	(3)	(3)	(3)	(3)	(3)	(3)
Wyoming						2	
Colorado		13			1	30	
New Mexico		3				23	
Arizona		5			2	58	
Utah		[2] 100		2		3	
Nevada							
Pacific		**145**			**2**	**81**	**3**
Washington		108				30	2
Oregon		37			1	6	
California		(3)			1	45	1
Alaska						1	
Hawaii		2					

[1] Including cases reported as salmonellosis. [2] Including cases reported as streptococcal sore throat.
[3] Report not received.

FOREIGN REPORTS

CANADA

Reported Cases of Certain Diseases—Week Ended March 17, 1951

Disease	Total	Newfoundland	Prince Edward Island	Nova Scotia	New Brunswick	Quebec	Ontario	Manitoba	Saskatchewan	Alberta	British Columbia
Brucellosis	4					3					1
Chickenpox	939			45		192	445	34	17	78	128
Diphtheria	2						1		1		
Dysentery, bacillary	11					5	3	1			2
Encephalitis, infectious	1						1				
German measles	431			116		38	187		4	27	59
Influenza	1,678	65		180	16		137	206	132		942
Measles	1,506	8		66	105	403	737	140	4	17	26
Meningitis, meningococal	10			1	1	1	3	1			3
Mumps	914			16		214	300	58	65	140	121
Scarlet fever	229	1		4		75	50	31	2	23	43
Tuberculosis (all forms)	225	12		3	15	139	32	8	9	7	
Typhoid and paratyphoid fever	7					5				1	1
Venereal diseases:											
Gonorrhea	223	3		14	4	48	48	17	4	43	42
Syphilis	104	3		2	3	64	19	1	2	6	4
Primary	8	1				4	3				
Secondary	4	1		1		1				1	
Other	92	1		1	3	59	16	1	2	5	4
Whooping cough	111					15	50	18	4	5	19

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 March 24, 1951, 14 cases of cholera were reported in Moulmein as compared with 24 for the previous week.

Smallpox

India. Indications are that the smallpox epidemic is subsiding in India. For the week ended March 24, 1951, all ports reporting on smallpox showed a decrease in reported cases from the previous week. Ports reporting large numbers were as follows: Calcutta (516 cases), Madras (119), Bombay (74), Visakhapatnam (11), and Cocanada (8). During the week ended March 17, 51 cases were reported in Nagpur.

Indonesia. For the week ended March 17, 1951, five cases of smallpox were reported in Java—three in Semarang and two in Tjilatjap.

Japan. During the week ended March 10, 1951, one imported case of smallpox was reported in Yokohama. For the week ended March 17, one case was reported in Tokyo and for the week ended March 24, one case was reported in Fukuoka.

Pakistan. For the week ended March 24, 1951, smallpox was reported in ports as follows: Karachi, five cases; Lahore, three; and Chittagong, one.

Typhus Fever

Mexico. For the week ended March 3, 1951, typhus fever was was reported in Mexico as follows: Mexico City, four cases; Monterrey, two (murine), and Merida, one. During the week ended February 24, one case of murine typhus fever was reported in Tampico.