A SPECIAL SECTION: **Part I**

The Practice of Public Health, 1952

"WE ARE MET to reexamine our responsibilities, to analyze our progress, and to plot our future course. During our deliberations we shall discuss the health needs and problems of the people whom we serve. We shall study new scientific and social developments which should be incorporated into public health programs, and we shall analyze the progress we have made in bridging the vast gap between scientific knowledge and its application to the health needs of the people. Underlying all these discussions will be a strong sense of our stewardship for the health protection of our nations, a realization that as public health workers we have both the privilege and duty of serving the people who have entrusted us with the responsibility of safeguarding their health and have given us a specific mandate to concern ourselves with the interests of health and life among the people."

GAYLORD W. ANDERSON, M.D., Dr.P.H.,
President, American Public Health Association, 1951–52

a topical
and selected
report of the
80th
annual meeting
of the
AMERICAN
PUBLIC
HEALTH
ASSOCIATION
and related
organizations
held at
Cleveland, Ohio,
October 20–24, 1952

Reader's guide on page 86.

The APHA Conference Report

This is *Public Health Reports* third effort—the first being in 1950—to summarize the scientific and technical discussions at the annual meetings of the American Public Health Association and related organizations. We consider it a privilege so to serve our readers, many of whom have expressed their satisfaction with our previous efforts, and to be able to carry on as urged by the Executive Board of the Association.

The earlier pattern of a news-type reporting of the highlights of many of the sessions has been followed in this presentation, the second portion of which will appear next month. We have attempted to give the essence of the papers, but by no means the complete story in each case. We have endeavored to reflect accurately the intent of each speaker although necessarily we have had to take extensive editorial liberties in the interest of brevity and under the press of time. It must be clear, of course, that the author—not the Public Health Service—is the authority in each case for facts and opinions reported.

This is a selective report, largely because we work from authors' written texts as made available through the pressroom facilities of the Association at Cleveland, and by authors on direct request. Material which was not available in satisfactory script form obviously could not be used. Reporting of informal panel-type discussions is, in consequence, incomplete.

The report this year is, item by item, somewhat longer and possibly more complete than in the past since virtually all summaries were prepared from full texts. Even so, only highlights could be reviewed, reports averaging in length from 10 to 15 percent of the originals. Thus, reading of our news-reviews cannot in any way substitute in concept or details for examination of the full papers when published.

This special two-part section deals only with the scientific sessions. Association and section business and reports have not been reported, this being a function of the official *Journal.* No full papers, of course, are published in this summary report. Complete texts of leading papers have already begun to appear in the *American Journal of Public Health.* Subsequently, others may appear in *Public Health Reports* and in appropriate specialty journals.

Our appreciation is extended to the many authors who provided us with texts—especially those who did so early—and to the officers and staff of the American Public Health Association for their cooperation and encouragement.

THE EDITORS

On the origins of the American Public Health Association

Continued from page ii.

policed—the description and exemplification of successful methods of preventing the progress of pestilences by stamping them out, the mapping out of the course of epidemics, and the demonstrated progress of science which is destined to grapple successfully with the combined factors of epidemic and other preventable diseases, show how great are the tasks and the triumphs which Preventive Medicine has proposed. . . .

Sanitary officers and boards of health have to perform their duties under laws which, in most of the States, are not worthy of an enlightened people. A sanitary system worthy of the present state of the physical sciences and of hygiene hardly has existence in any of the States. But in eight States a central Board of Health has begun its work of inquiry and the framing of a project of public health laws, a parliamentary commission in the Dominion of Canada is at present devising a sanitary code, and in nearly half of the States of our Union efforts to secure good laws and a sanitary system have commenced. Certainly it is not in vain that the American Public Health Association pursues its voluntary inquiries and now presents these contributions to a great cause in which philanthropists and statesmen are enlisted as co-workers with medical and sanitary authorities.

—ELISHA HARRIS, M.D., secretary of the Association, in an "Introductory Note" to "Public Health Reports and Papers presented at the meetings of the American Public Health Association in the year 1873."

The Control of Chronic Illness and Efforts in Rehabilitation

Chronic illness and rehabilitation were among the leading topics discussed by the some 4,000 professional people in public health who participated in the APHA's 80th annual meeting in Cleveland, Ohio. From Georgia came a report on a cardiac control program; from North Carolina came news of diabetes control clinics. Investigators in Canada reported on social and environmental factors in multiple sclerosis. Incapacitated American coal miners do not take kindly to enforced idleness nor public assistance, and a total physical medicine and rehabilitation program can realize important social and economic savings . . . such were some of the findings, summarized in the following.

Cardiac Clinic Network Feature of Georgia Plan

The cardiac control program developed in Georgia has, in the opinion of J. Gordon Barrow, M.D., director of the cardiac clinic at Grady Memorial Hospital, Atlanta, done more to advance the fight against heart disease than would have been possible by any other means with such a small expenditure of money. The program, made possible by the combined efforts of many individuals and agencies, both public and private, includes a State-wide network of clinics for diagnosis and care of indigent patients, professional education, and research.

When the program began, Dr. Barrow stated, only two cardiac clinics existed in the State, one at each of the two medical schools. These were made into strong regional clinics with the intention that they would provide consultation services and diagnostic and treatment facilities for local clinics. At present eight local clinics are in operation and three more are ready to begin.

Initial Steps

Outlining the steps taken to develop a local clinic, he listed these: find qualified physicians willing to devote their time without charge to the operation of the clinic; obtain approval of the project by the local medical society; enlist the aid of the local health officer; and finally, call a conference of representatives of the State health department and the State heart association, the local physicians who have volunteered their services, the local health officer, and often members of local civic organizations to formulate final plans.

These clinics, according to Dr. Barrow, provide diagnosis and treatment, including surgery; utilize methods of prophylaxis to prevent heart disease or halt its progression; give medical, nursing, and social service care to patients with serious heart disease; provide a home-care program; and aid in rehabilitating patients. The average total number of patients visiting the clinics per month has been 2,911, Dr. Barrow reported. Home nursing visits average 830 per month. On the average 31 doctors attend each clinic session, of which there have been 82 per month.

A system of recording the diagnosis and functional and therapeutic classifications of each patient was devised, following the standards of the American Heart Association, Dr. Barrow explained. Copies of notes made by the physicians are sent to the nurses in the field, and the nurses' reports are made available to the physician. "We feel that each member of the medical team must be fully familiar with what is going on if proper follow-up of the patient is to be accomplished," Dr. Barrow maintained. "Good records are the only possible way this can be done."

Professional Education

Discussing the educational phase of the program, the speaker noted that in the past 2 years more than 25 symposiums have been held under the sponsorship of the State health department and the State heart association to acquaint physicians and nurses with recent advances in heart disease therapy. He mentioned also that the clinics have cooperated in the educational program by holding staff conferences for the nurses and physicians and by making available their facilities for use by medical students.

"The research program is necessarily centered at the two medical schools," Dr. Barrow pointed out. At present several different cardiovascular research projects are under way. But, he added, each clinic is urged to sponsor clinical research programs since these require only carefully kept records and critical analysis.

Many Served Economically In North Carolina Clinics

The belief that the operation of a clinic for diabetes offers an opportunity for the public health department to do much good for many people for a comparatively small expenditure of money was expressed by W. B. Hunter, M.D., health officer of the Harnett County Health Department, Lillington, N. C.

"Six years ago," Dr. Hunter said, in describing the beginning of the Harnett County Health Department's clinic, "we found some diabetic patients who were not receiving adequate care. We helped a few

of these people with such gratifying results that . . . we soon found ourselves conducting a clinic for diabetes." Later, he explained, it was decided to admit obese patients too, since obesity and diabetes are closely related. The clinic has had a total of 506 patients, well over 1 percent of the county's population.

The management of diabetes is preventive medicine, Dr. Hunter pointed out. Physicians do not treat diabetes—they teach the patient how to manage his own individual case, he said. The objective is to prevent complications and to keep the patient as near normal as possible.

Clinic Procedures

When a new patient is admitted to the clinic, he continued, he is weighed, his height is measured, and his ideal weight is estimated. A urinalysis and a blood sugar determination are done. Usually, these data establish the diagnosis, show whether the patient is overweight, and give some indications of the severity of his disease. If it appears that the patient will require insulin, he is taught how to administer it. Finally, he is given instructions concerning diet. At this first visit, then, the patient is well started on the management of his disease. At subsequent visits the insulin dosage is regulated according to results of urine tests and occasional blood sugar tests. Diet is regulated according to the gain or loss of weight.

Describing the diets prescribed by the clinic, Dr. Hunter emphasized that they are simple and versatile. Diabetics do not require any special foods, he said, but if overweight they must restrict the total calories they consume. For several years, the clinic has used exclusively the meal plans and the booklet "Meal Planning," prepared by the American Diabetes Association, the American Dietetic Association, and the Public Health Service, as a basis for their diet instructions.

Dr. Hunter recommended that the staff for a diabetes clinic include a physician, a dietician, a laboratory technician, and a clerk. The physician may be either the health officer or a clinician employed for the purpose. And, as happened in the Harnett County Health Department clinic, the nursing personnel may learn to serve as dietician and laboratory technician.

Social Factors Absent In Multiple Sclerosis

A comparative study of 112 multiple sclerosis patients and a selected control group of 123 representative individuals in Winnipeg, Manitoba, found no environmental or social factor that could be considered significant in the etiology or subsequent course of the disease, reported Knut B. Westlund, M.D., M.P.H., and Leonard T. Kurland, M.D., Dr.P.H.

Dr. Westlund is research associate of the department of epidemiology, Johns Hopkins University School of Hygiene and Public Health and Dr. Kurland is an epidemiologist with the National Institute of Mental Health and medical director of epidemiological projects, National Multiple Sclerosis Society.

Information obtained from each patient, they explained, included a thorough chronological and clinical history and description of himself and his illness, embracing such facts as important symptoms, previous illnesses, places of residence and number of rooms and persons in the households, occupations and hazards involved, emigration origins of himself or ancestors, travel, education, military service, exposures to animals, vaccinations and inoculations, and dietary habits.

Neurological and hematological examinations and serological tests for syphilis were made and the patient's hospital records were studied. No attempt was made to evaluate the influence of emotional upsets or minor trauma in the patient's premorbid experience, since it was felt that both the patient and his physician might tend to rationalize the onset of his disease symptoms with such explanations. Except for questions relating directly to multiple sclerosis, similar information was elicited from the control subjects.

A comparison of the data showed no significant difference between the patients and the controls which might account for the onset of multiple sclerosis, the epidemiologists concluded. A controlled study of a large number of healthy people with a long follow-up period to see what types of them develop multiple sclerosis would be desirable, they added, but its incidence of 1 to 2 cases per 100,000 population per year is so low that the investigator can only obtain and try to evaluate premorbid information from persons already having the disease.

Rehabilitation Program For the Incapacitated

Incapacitated industrial workers do not remain unemployed or unemployable by choice, nor do they prefer to support their families through public assistance if there are any reasonable alternatives, declared Kenneth E. Pohlmann, rehabilitation director of the United Mine Workers of America Welfare and Retirement Fund.

UMWA rehabilitation efforts were begun in June 1948, said Mr. Pohlmann, by using outside (the mining areas) medical center services for the severely disabled, followed by expanded efforts when further needs, such as physical restoration services, were indicated. Subsequent steps included cooperation with Federal-State vocational rehabilitation agencies whereby selected patients, were referred for rehabilitation services to qualified agency representatives. By June 30, 1952, 8,693 handicapped people had been so referred by the UMWA.

As an example of the rehabilitation program's effectiveness, he continued, of 738 UMWA disabled beneficiaries leaving physical medicine or

rehabilitation centers by January 1952, 600 (81.3 percent) are still 'n discharge status and 169 are actively employed, 20 percent of them returning to mining. Thirty percent are in other industries, 32 percent are self-employed, 7 percent are in farming, 4 percent sought appointive or elective offices, and 8 percent are in diverse jobs.

Follow-up Care

All persons discharged from such centers are given extensive follow-up study and care by local physicians, hospitals, or one of the UMWA's 10 area medical staffs, Mr. Pohlmann said. Half of the 738 dischargees show marked physical improvement, 43 percent have maintained various rehabilitation gains, and an impressive number have regained mobility with mechanical aids or are capable of self care.

Sixty-four percent of the 575 patients referred to local vocational rehabilitation groups participated in training and employment services. Only 18 percent quit because of physical regressions and unsatisfactory vocational goals. Mr. Pohlmann emphasized that if the 169 of these participants now employed were public assistance charges, the maintenance cost of each individual and family would be 500 to 1,400 dollars per year. This would entail a tremendous expenditure for the entire group over a number of years, he said.

Present workmen's compensation, relief and rehabilitation programs are inadequate to do a constructive job in rehabilitating the severely disabled, he concluded.

Washington, D.C., Solving Problems of Disabled

A total physical medicine and rehabilitation program offers the community an opportunity to realize significant economic and social savings and, more important, to help restore to the disabled person that human dignity which is lost to the helpless and the dependent, declared Josephine J. Buchanan, M.D., of the Division of Chronic Disease and Tuberculosis, Public Health Service.

The Program

To show how such a program can be developed and what it can accomplish, Dr. Buchanan described the program begun 2 years ago at Gallinger Municipal Hospital in Washington, D. C.

"We began with two things," she said, 'the barest minimum in personnel, space, and equipment, and a firm belief in the validity of the work we proposed to do." She explained that the philosophy on which the program is based is that a patient is not well until he is returned to his community as nearly a whole human being as our science, our work—and equally important, his effort—can make him. To cure a patient of a disease or heal him of an injury is but the first step in the total treatment of a patient.

Home-Made Devices

Certain basic specialized medical equipment had to be purchased, she remarked, but the greater part of the equipment was built by the hospital: devices for lower and upper extremity exercises, parallel bars, practice stairs, and various self-help devices. A "gadget board" holding items, such as a dial telephone, water-faucet handles, and light switches, was devised for persons with residual disabilities in their hands and arms. An outdoor functional activity area, including a gravel pit, loading platform, garden, obstacle course, and even a city bus, was also developed, primarily for training those who earn their living by manual labor.

"Our Basic Mandate . . . To Keep People Well, Not Simply Keep Them Alive"

In his APHA presidential address, Gaylord W. Anderson, M.D., Dr.P.H., Mayo professor and director, School of Public Health, University of Minnesota, said:

"Many definitions of public health have been advanced, but probably none so simply or so clearly expresses the will of the people as the 1869 statute establishing the Massachusetts State Board of Health and instructing that board to 'take cognizance of the interests of health and life among the citizens.' No other concept has had comparable influence in shaping the course of the public health movement in this country . . . [It] has governed the evolution of public health and still defines the scope of our activities . . .

"Public health is an organized community program designed to prolong efficient human life. It has no artificial limitations that would restrict its activities to certain types of problems. It must deal with and endeavor to combat those forces that tend to impair or to shorten efficient human life and must meet each problem according to its particular needs. The essence of democracy is the concept of rule by the people, who have a right to protect themselves against all forces that lead to illness or to death. As public health workers and servants of the people we have been specifically instructed to 'take cognizance of the interests of health and life among the citizens.' If we neglect or fail to do so we will be derelict in our duty."

(Dr. Anderson's remarks appear in full in the *American Journal of Public Health* for November 1952, pages 1367–1373.)

The development of special devices, Dr. Buchanan pointed out, requires only a knowledge of the needs of the patient and the ingenuity to fulfill those needs.

Most important to remember, she said, is that "this newest and oldest form of medical care" must begin immediately with the onset of the disabling condition and must progress concurrently with the patient's other medical care. Delay in beginning treatment may mean failure.

60.9 Percent Independent

The program has given care to about 2,000 patients, she reported, 60.9 percent of whom have left the hospital totally independent and another 21.6 percent have been made partially independent. She mentioned two particularly dramatic cases—one, a young quadriplegic who, through the use of a special splint, has been enabled to take up cartooning; the other, a young man paralyzed in a swimming accident who now manages to type his correspondence school lessons.

Suggests Activities

Dr. Buchanan suggested the public health officer, or other member of a health department staff, as the person in the community to stimulate action in developing a program of physical medicine and rehabilitation. He can acquaint the community with the ways in which total restorative and rehabilitation services can help solve the problems which surround the disabled. He can participate on health and welfare planning committees. He can offer consultation service to his local vocational rehabilitation office and to the welfare department. He can encourage physicians to extend their limits of responsibility to the disabled patient. He can encourage the voluntary agencies to join together in planning for such a program.

Community Organization for Health: Practice and Precept

Concepts of "community organization for health" received refurbished definitions buttressed by concrete examples of cooperative action from widely separated areas of the country at sessions of the Conference for Health Council Work.

Under the title, "Community Planning for Local Health Services," reports were heard from Wisconsin, Massachusetts, Ohio, Pennsylvania, and Virginia. An evaluation of current concepts and a discussion of local relationships to national programs completed the presentations, all but one of which are reviewed below.

Community Organization Welds Social Groups

Discussing "new concepts" in community organizations for health—concepts which he felt were not new but did need review—Earl Lomon Koos, Ph.D., chairman of the sociology department of the University of Rochester, said:

"Community efforts directed toward better health are necessarily custom built. . . . Community organization for health cannot be carried on in an icy apartness from the social worlds in which the people live for whom it is designed, and because community organization cannot ignore the strength of the factors which create distinctive values regarding health, and which place

Practice of Public Health, 1952

Reader's Guide

those values high or low in the whole hierarchy of values that are part of American life. For we must remember that health is a value—and one which is forever in competition with other values in our society."

In Dr. Koos' view, community organization is a form of activity which attempts to "weld together" the individual members and groups of an area into "one group having a common purpose." He went on to discuss two kinds of concepts: those related to the individuals and groups, and those related to community organization as a social process.

Three Community Groupings

There are several types of identifiable groups in the community, Dr. Koos pointed out. The first centers in "ethnic identification," that focused upon the recognition of a common religious, nationality, or racial characteristic. "To plan programs without understanding the prescriptions and proscriptions of behavior which are present in each group's culture is to be unrealistic about what can be accomplished through formal organization."

"Ethos identification" is a second group, pointing up the reality of social class membership, the sociologist noted. He called attention to a recent study of a community of less than 5,000 which shows "that there are sharp differences in health attitudes and behavior among the social strata of that community, and that these relate very directly to the way in which that community organizes for health."

The third grouping centers on the family, which functions as an active agent in providing an atmosphere in which health can flourish and as an agent in caring for the individual in time of illness. Dr. Koos underscored the fact that the family also, "is the matrix within which many basic ideas and attitudes of the young are formed, and that it is genuinely effective in maintaining such ideas and attitudes throughout the adult years."

The Family Matrix

"We may well search," Dr. Koos went on, "the logic of industry- or school-centered programs that ignore the importance of the family as a 'conditioner of attitudes,' and that may send the individual back into his family to face conflicting ideologies about health and its value. . . . Such programs can work effectively only if they send the individual back to his family prepared to adjust differences that may have been engendered, to make him, in effect, a health organizer in his own small family world. If the individual is not so prepared—because the health program ignores the individual's emotional ties to his family—the cost in tensions and frustrations can outweigh any small good the program may have accomplished."

Turning to community organization as a social force, Dr. Koos recalled the truism that the individual gains from his membership in the group, and contributes to that group, only in proportion to his participation. The condition for effectiveness was described as an "atmosphere" in which the members have high morale, the opportunity and encouragement to communication with each other on a democratic basis, and the opportunity to "define the situation" or to "establish common values" on equal terms.

Conversely, the speaker pointed out that there are three concepts that can only inhibit effectiveness. One of these, he said, is the idea of the "hierarchy of ability," the belief that "we know what is best for people." Another is the "vested interest, that pride of possession and proprietary interest that tends to exclude others from dynamic participation." The third he cited as "the domineering need to dominate, characteristic of many individuals who stem from the authoritarian past."

"We cannot deny," Dr. Koos maintained, "that there is a hierarchy of ability, but it should be pointed out that special abilities and knowledge should serve only to commission those who possess them to help the less fortunate to gain needed insights. It is not easy for many members of the community, especially those with a strong sense of *noblesse oblige*, to rid themselves of the second and third of these concepts, but somehow community organization must find the means—again through the group process—by which these can be abolished."

Milwaukee Groups Study Postwar Problems

Milwaukee County, Wis., like other metropolitan areas, faces public health problems resulting from postwar expansion and has begun to interest itself in community health planning, declared John S. Hirschboeck, M.D., dean, Marquette University School of Medicine. The citizens themselves, their elected county officials, public and private health agencies, and the Community Welfare Council of the city of Milwaukee are cooperatively planning public health programs.

County citizens and part-time health officers of the 18 suburban communities were opposed to a suggestion for a combined city-county health department. Despite some opposition, but facing an increasing number of complaints about inadequate sewage disposal, the Milwaukee County board of supervisors created a citizens' committee to study county public health needs, explained Dr. Hirschboeck. The citizens' committee, with the help of the research department and the social planning committee of the community welfare council, searched for a way to meet present public health needs without disrupting existing suburban programs.

Dr. Hirschboeck outlined the committee's proposed plan: A county bureau of health services would operate under the direction of a full-time public health officer. According

to their requirements, suburbs would purchase services from the bureau. The cost of operating the bureau would be prorated among the participating suburbs. The bureau would be responsible for sanitation in the county parks and would supervise medical aspects of civil defense planning. Hearings on the proposals have not been completed.

Ohio Emphasizes Local Health Planning

In Ohio, State public health planning is being stimulated by 50 community health councils and by many local units organizing health councils, reported Sewall O. Milliken, M.P.H., chief, division of public health education, Ohio Department of Health. Rural Ohio counties have received nation-wide acclaim for their health studies and successfully executed plans, he said.

Active local participation in State health planning is the concern of the Ohio Rural Health Council, organized in 1941, explained Mr. Milliken. Composed of 46 members representing 22 State organizations, an equal number of elected rural members, and 2 representatives of the Agricultural Extension Service, the council has developed a definite relationship between State and local community health service planning, by placing emphasis on local responsibility and by aiding local activities. Health education, dissemination of health information, the training of leaders, and study and survey of individual area health needs are projects under council sponsorship.

Other Organizations

The Ohio Committee on Public Health, an outgrowth of the Ohio Rural Health Council in 1949, studied the State's financial obligation to local health departments as provided by law. Other public health organizations cited by the author for their interest are: the Ohio Citizens' Council for Health and Welfare, the Ohio Public Health Association, and the State Planning Committee for Health Education.

An example of productive responsibility shared by several organizations is the brucellosis control pamphlet which Mr. Milliken described as prepared cooperatively by the Ohio State Medical Association, the Ohio State Veterinary Medical Association, the State Departments of Health and Agriculture, and the Ohio State University Agricultural Extension Service.

Council Improves Services

Reorganization and expansion of city, county, and suburban health departments, a children's mental health center, hospital construction, a tuberculosis registry, a 5-year experiment in mass health education, institutes and courses in community health programs—these are among the accomplishments credited to the Metropolitan Health Council of Columbus, Ohio, according to the report by Russel G. Means, M.D., past president of the council.

Pennsylvania Revamps Laws and Structure

The revamped Health Department of Pennsylvania was described before the Conference for Health Council Work by Gilson Colby Engel, M.D., professor of clinical surgery,

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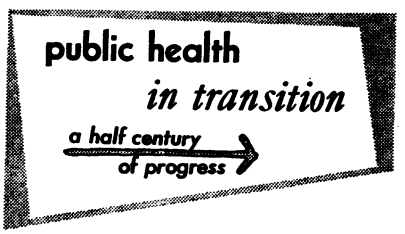


The first 5 decades of America's 20th century have been a time of social and economic change and development . . . a time of population growth, sparked by immigration and the call of a free and bountiful land . . . a time of industrial expansion and urbanization, producing a rising standard of living and a greater longevity. This half-century has been a time of change and challenge to a new amalgamation of professions: public health. In these 50 years many needs, many problems came into view.

1900 Tuberculosis is leading single cause of death . untreated water, unpasteurized milk spread enteric diseases . one-third of all deaths occur under 5 years . 19,000 diphtheria **1910** deaths . heart disease and cancer deaths increase . influenza epidemic strikes Nation . pellagra, rickets, goiter prevalent . 9 mothers die for 1,000 live births . traffic deaths **1920** appear among "first 10 causes" . malaria costs Nation half-billion dollars annually . 100,000 smallpox cases in 1921 . health hazards in industry mount . chronic diseases **1930** cause half of all deaths . over 500,000 VD cases reported each year . half of Nation's hospital beds for mental patients . 6 million sick on average winter day . **1940** disabling illness rivals premature death . shortages in personnel and facilities hamper health services . proportion of 65-year-olds doubles since 1900 . industrial and **1950** community wastes pollute United States waters . atomic age introduces new problems . health named a major factor in building international peace.

Beginning on the facing page, Part I of this album summarizes recognized needs and primary programs up to mid-century. Part II—next month—focuses on current and developing areas with an eye to tomorrow.

University of Pennsylvania Graduate School of Medicine, Philadelphia.

The Medical Society of the State of Pennsylvania, the 46 member organizations of the Pennsylvania Health Council, and the League of Women Voters were instrumental, he said, in the campaign for new health legislation, and the changes in the State's health organization were based on recommendations made in a survey by the American Public Health Association.

The APHA survey, "Keystones of Public Health in Pennsylvania," was used as a guide for the public health program reforms, Dr. Engel continued. The new laws created an Advisory Board of Health which advises the Secretary of Health and plans and fosters new health legislation; a merit system, applying to all public health personnel, to assure permanence of employment, equality and adequacy of pay, and impartial treatment, and to make provisions for economic security upon retirement; permissive legislation allowing any community to set up its own local health unit.

Community Units

The objective in Pennsylvania is to decentralize health services to the local level, with power to control at that local level, stated Dr. Engel.

The permissive legislation allows a community to set up its own health department, Dr. Engel explained. This local health unit, using qualified personnel, should provide six basic services: vital statistics recording; communicable disease control; environmental sanitation; laboratory services; maternal and child health care; and health education. One such unit now operating in Butler County is showing good progress, he said.

The Pennsylvania Health Council works closely with the Secretary of Health and the Advisory Board of Health. It is fostering the local health unit plan in communities by education programs.

In Pennsylvania 78.4 percent of the population are covered by five Blue Cross plans, the Intercounty plan, and commercial carriers against hospital costs. A Blue Shield plan is State-wide in activity and growing rapidly in membership.

"Health education is the prime step in making the citizens health conscious, and it is only when they become health conscious that we get real support in projects for prevention of illness," concluded Dr. Engel. "The educational job with the public is monumental and never ending as new generations are born."

Rural Health Progress Noted in Virginia

Growing out of the need of rural people for more adequate medical services, the Virginia Council on Health and Medical Care has stimulated health progress in Virginia since its beginning in 1946, Edgar J. Fisher, Jr., director, told the Conference for Health Council Work.

Mr. Fisher listed many accomplishments. The council, he told the conference, has:

Spearheaded and promoted an over-all health program with emphasis on coverage of the State with public health services. Now 91 of the 98 counties have full- or part-time health officers.

Centered attention on the mentally ill in State mental hospitals. Institutions are becoming hospitals.

Taken the initiative in getting acceptance of the Hill-Burton hospital program, hospitalization of the indigent, and the regional hospital plan through which interns from the two medical schools are rotated to seven hospitals in the State.

Assisted Negro hospitals in meeting American Medical Association standards for approved internships.

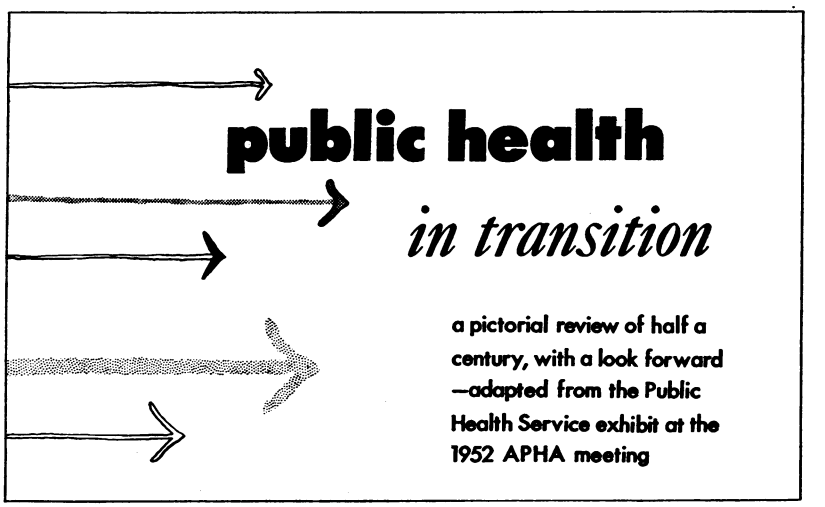
Worked for tuberculosis and cancer control, transforming beds in sanatoriums from pavilion to hospital type and establishing 11 tumor clinics.

Supported programs for medical, dental, and nursing scholarships (50, 4, 74, respectively) offered alike to white persons and Negroes. Doctors pledge a year of rural practice for each year of scholarship.

Aided medical colleges in improving facilities for training health personnel; encouraged teacher training institutions to build adequate health curriculums.

Recognized the need for recruitment of medical auxiliary personnel, beginning at the high school level, and adequate salary schedules to make recruitment possible.

Inaugurated a nationally recognized physician placement service administered by the council to encourage doctors to settle in rural areas.



Sponsored a conference for workers with handicapped children as a result of which the Nemours Foundation has granted a substantial sum for strengthening the program.

Helped local health councils get started and interested the nutrition council in becoming a standing committee of the health council.

Health Programs Depend On Citizen Participation

Health councils are formal expressions of the trend by which public health has become a community endeavor and has ceased to be the exclusive domain of professionals, Harald M. Graning, M.D., regional medical director, Federal Security Agency, Region V, Public Health Service, told a joint session with the Conference for Health Council Work.

Public health has broadened from the control of contagious diseases to treatment of delinquency, mental and emotional disturbances, ills of the aging, obesity, and alcoholism, Dr. Graning remarked. The expansion of health planning is observed in such national programs as that on aging, he noted. Medical research and medical treatment are the core of any planning, but the aging program's broad sociological scope takes it "beyond the embrace of medicine," he said.

Dr. Graning said that the consequences of the decreases in communicable diseases are to be seen everywhere and noted that the professional, the specialist, and the laboratory isolate are more and more sharing the field with those who practice where medicine allies itself with the social sciences. The effect is to think in broad concepts rather than specific disease entities when planning the integration of local, State, and national programs, he believes.

Council's Impact

Conquest of the social problems of disease depends to a major degree on community participation in health services, the regional medical director stated. There is a practical value in selecting members of the community for service on health councils, for they are often in a much better position than professional or official members to see a program in its entirety and to identify any lack of balance or excess emphasis on professional specializations, he advised. Citizens with executive capacity and budget experience or with knowledge of resources and relative needs in program fields and welfare areas could increase the competency of a health council in fiscal and budget matters, Dr. Graning said.

"Participation in a health council by nonmedical members of the community may be vital in recalling the professional to the felt needs of the community which may be quite different from what he imagines them to be or perhaps even wants them to be," Dr. Graning asserted.

The effectiveness of health councils will be multiplied by their gaining acceptance before legislative committees or budget groups prior to decisions which may mean the life or death of a program. Many councils have permanent committees on legislation to analyze Federal, State, and local legislation affecting health programs. "If there is any more important job than this, which a council or its legislative committee can do, in relating its own plans to other health programming, I do not know what it is," said Dr. Graning.

New Research, Service Roles For the Bacteriologist

The increasing development of antibiotics and their widespread use is creating new problems for, and laying new responsibilities upon, the bacteriologist and his laboratory. But these are only a few of the newer and expanding areas of activity in which the laboratory figures, as shown by review of the many papers and discussions presented before the APHA laboratory section and related groups.

Laboratory Has Share In Therapy Guidance

The introduction of new antimicrobial agents has caused a shift in the responsibility incumbent upon the bacteriologist, said Frederick C. Fink, Ph.D., coordinator in the hospital laboratory advisory service of Chas. Pfizer and Co., Inc., Brooklyn, N. Y.

The speaker based his remarks on the antibiotics conferences held in 100 large cities in this country and Canada at which antibiotic testing authorities discussed the observations made in the bacteriology laboratories of medical schools, public health facilities and hospitals, and industry.

Mr. Fink pointed out that now the laboratory faces the tremendous problem of guidance for antibiotic therapy after the cause of infection is discovered by the clinician. In shared responsibility, the clinical-diagnostic laboratory and the industrial research facilities are develop-

ing assay techniques and sensitivity tests—reliable indexes to the therapeutic effectiveness of antibiotics, he said.

Historical Stage

The past 20-year history of laboratory bacteriology was divided by Mr. Fink into three stages: the presulfonamide, the sulfonamide to penicillin, and the penicillin to "broad-spectrum" antibiotic (chloramphenicol, aureomycin, and terramycin). During the first stage, a bacteriology laboratory received clinical specimens, made and studied smears and cultures, and then made a report. With the etiologic agent thus identified, the clinician usually decided upon the course of therapy from among the palliative or specific curative drugs at hand.

Soon after the clinician and bacteriologist became aware that some cases did not respond to sulfonamide therapy, Mr. Fink continued, researchers developed in vitro sulfa sensitivity tests on pathogen isolates. Doctors then found that in vitro tests, using the entire family of available sulfonamides, saved much haphazard choosing of drugs to suppress infection.

Antibiotics

From the extension of the original work on penicillin came the antibiotics. Mr. Fink explained it was soon learned that many of the sulfa-resistant organisms were penicillin-sensitive and that many of the penicillin-resistant strains were sulfa-susceptible. Carefully performed laboratory sensitivity tests predict the response of organisms, Mr. Fink indicated. The broad-spectrum agents, bacitracin, polymyxin, streptomycin, and others, each with a slightly different spectrum of activity and varying degrees of toxicity, are used for routine check of microbial sensitivity in vitro.

Techniques in laboratories will continue to be determined by the mode of performance and the validity of conclusions, Mr. Fink said. The ideal sought by scientists hinges on the care with which they select for adoption the newly described techniques of other workers, and the manner in which they approach and tackle original research problems.

Popular Tests

The three most popular techniques for in vitro testing, the broth dilution, the agar dilution, and the agar diffusion (disc-plated) methods, have in common six features which Mr. Fink lists as: inoculum; preparation and storage of antibiotic stock solutions; choice of diluent medium; pH of the medium; time and temperature of incubation; and interpretation of the tests.

"Whichever technique is adopted, it should definitely be standardized for that laboratory with respect to the inherent variables," he suggested. "We must more often rely upon information from the laboratory as we realize the existing response variation among species of the same genus or among strains of the same species."

Mr. Fink stressed that the only absolute criterion of success or failure in the use of one or another sensitivity testing technique is the clinical response of the patient following administration of adequate dosage of the agent indicated as "drug of choice."

Laundry Recontamination Hazards Emphasized

Laundry processes are efficient in removing bacteria from fabrics during washing, but the materials become recontaminated in the spin dryer or while hanging in the laundry to dry, reported Brooks D. Church, M.S., and Clayton G. Loosli, M.D., of the preventive medicine section, department of medicine, University of Chicago.

In an extensive bacteriological study in two laundries—one hospital and one commercial—it was found that during the sorting of linen and other activities the air became contaminated with bacteria and in turn contaminated clean woolen blankets and fabrics.

Also, airborne bacteria were drawn through the spin dryers and impinged on the washed textiles, and while large numbers of organisms were killed in ironing, many survived. One factor in survival, they stated, is the extraneous dried mucous covering the bacterial cell.

The findings in this study are of public health importance, they maintained, because the surviving organisms, mainly nonhemolytic and alpha streptococci and *Staphylococcus albus* and *S. aureus*, are all potential human pathogens. Clean

linen which has been recontaminated in the laundry may be the source of serious infections in hospitals and military barracks.

Authorities should recognize the danger of recontamination of washed bedding by airborne bacteria dispersed while sorting and handling unwashed linen, they concluded, and should institute preventive measures by requiring proper construction, ventilation, and mangement of laundries, both hospital and commercial.

Solid Immunity Provided By Diphtheria Toxoid

A high level of immunity to diphtheria and tetanus can be induced in adults by small, properly spaced doses of precipitated diphtheria toxoid, Geoffrey Edsall, M.D., director of the Commission on Immunization, Armed Forces Epidemiological Board, Walter Reed Army Medical Center, and J. S. Altman, commander, Medical Corps, United States Navy, reported.

In an investigation of diphtheria-tetanus immunity, 1 Lf-unit doses of precipitated or adsorbed diphtheria toxoid were given to 519 volunteer Navy Service School students, they stated. The first two doses were administered 3 weeks apart, the third, 5 months later. Antitoxin titers were determined before the first and third doses and after the third dose. After the third dose, they said, 250 of the 252 men who completed the study showed solid immunity.

Antibiotics Assayed By Serial Dilution

The application of antibiotic therapy for the control of infectious diseases necessitates the adaptation of antibiotic assay methods to routine use, maintained Carolyn R. Falk, B.S., bacteriologist in the New York City Department of Health. In the past 9 years, the antibiotic testing unit of that department has tested more than 2,700 organisms for antibiotic sensitivity and over 10,000 body fluids for antibiotic level, Miss Falk reported.

The laboratory technique found to be the most practical for both tests is the test-tube twofold serial dilution method. It is easily mastered by the average technician, affords more quantitative results than the disc-plate method, and distinguishes between bacteriostatic and bacterial levels, Miss Falk stated.

She described the method briefly, pointing out that the tests for the new antibiotics follow essentially the same pattern as those for penicillin and streptomycin. In determining possible effective pairs of antibiotics, the scheme suggested by Jawett and co-workers is of assistance, Miss Falk said.

Experience With Home Care In Four Large Cities

Planned medical care at home offers striking promises of economy of operation and satisfaction for patients and relieves pressures on hospital occupancy, but many problems remain—particularly those involving the financing of services for the medically indigent.

These were among the main points presented before a joint session of the health officers, medical care, and public health nursing sections of the APHA, with the Conference for Health Council Work.

Boston's Voluntary Plan Has Financing Problem

Financing medical care for the medically indigent remains an unsolved problem for a voluntary project, Henry J. Bakst, M.D., indicated in a discussion of a home care program that meets the dual purpose of serving the needy and providing a vehicle for medical education.

Dr. Bakst, professor of preventive medicine at the Boston University School of Medicine and director of home medical and out-patient services for the Massachusetts Memorial Hospitals, based his observations largely upon the long experience of the two institutions. A home care program for the needy and medically needy has been a joint activity since 1875.

Public relief agencies financed by Federal, State, and local funds help the totally needy meet the cost of medical care, Dr. Bakst explained. But this group, he said, makes up only one-third of the annual patient load of the Boston home medical service, about 35 percent of the 15,173 home calls made in the 12 months from April 1950 to March 1951.

The Medically Needy

Two-thirds of the visits are made to the medically needy—persons who are able to provide for ordinary day-to-day needs but cannot meet medical costs, he said. Usually, nonofficial agencies, such as the hospital volunteering the service, must subsidize the medical care for this group, he stated.

Outlining the Boston program briefly, Dr. Bakst pointed out that eligibility for admission for out-patient treatment in the medical school-hospital program is based on an income limitation of $40 a week for a single person. Groups of senior medical students provide the medical service under the supervision of two full-time second- and third-year residents and the staff of the department of preventive medicine. The service is supplied on request to eligible persons among the 50,000 in the square-mile area surrounding the hospital and school.

From November 1949 to October 1950, 84.23 percent of the patients were treated at home, 8.83 percent were referred to the out-patient department for further evaluation, and 6.94 percent were admitted to the hospital.

Six Basic Elements

Dr. Bakst named six requirements as essential to a home care program:

1. The services and resources of a general hospital.
2. Coordinated use of community resources such as the visiting nurse association, the health department, the family society, and other official and voluntary health and social agencies.
3. Centralized administration with emphasis on continuity of care and unit records.
4. Integrated cooperation of professional personnel—especially the physician, visiting, public health and school nurses, and the medical social worker—for consideration of the patient as a social being in his environmental setting.
5. Specific geographic area of responsibility in the larger cities.
6. Adequate financial support, with particular attention directed to the problem of medical indigency.

Dr. Bakst noted that hospitals participating in a home care program extend their services beyond the institution walls and add a real contribution to the health of the community. Such a program becomes, in part, the nerve and communications center of personal health services for the community area, he said.

Hospital Stay and Costs Reduced by D. C. Project

Home care service for patients with long-term illness saves $100 per patient by reducing hospital stay and costs of patient care, Sidney Shindell, M.D., in charge of the home care pilot study at Gallinger Municipal Hospital, Washington, D.C., told a joint session with the conference of Health Council Work.

The home care unit was set up as an independent administrative unit at Gallinger Hospital which treats indigent patients in cooperation with the District of Columbia Department of Health and Hospitals. Its purpose, Dr. Shindell said, was to determine: the nature of the eligible patient population; the effect of home care in reducing hospital stay costs; and the extent to which the program conserved the total number of beds. By a random selection, 177 eligible patients were divided into a study group and a control group. The control group was observed to determine what happened to such individuals using existing community facilities. Dr. Shindell made the following points in his report.

Potential Is 2.1 Percent

During the study, approximately 7,500 patients were admitted to Gallinger Hospital. Of this total, 5.5 percent were medically qualified for home care service, but two-thirds of these were disqualified because of inadequacies in the home situation. This is equivalent to a home care potential of but 2.1 percent of all admissions.

The home care patients averaged 17.2 days stay in the hospital, 24 days less than the patients in the control group. They received 118 days of home care. The cost of hospital care was approximately $13.50 per day and of home care, $3.70. Significant savings to the community accrued during the 24 days of home service; but the costs of the two groups paralleled each other upon the discharge of the control patient to his home with out-patient care.

Hospital beds made available by the use of home care service totaled 10 or an equivalent of 1.9 percent annual increase in available beds. The savings in bed availability, like the savings in cost of care to the community, would be increased if a larger proportion of medically suitable patients had adequate homes or if domiciliary facilities were available.

Health Unit and College Give Richmond Service

Richmond, Va., now provides excellent medical and dental care for its indigent persons at a reasonable cost through the cooperation of the Richmond Health Department and the Medical College of Virginia.

This program was described by E. M. Holmes, Jr., M.D., M.P.H., director of public health, Richmond, and professor of community medicine, Medical College of Virginia; Kinloch Nelson, M.D., clinical director of home care service and director of continuation medicine, Medical College of Virginia: and Charles L. Harper, Jr., M.S.P.H., administrative assistant of medical aid bureau, Department of Public Health, Richmond.

In 1909, Richmond assumed responsibility to its indigents by a physicians' home visiting service as part of its over-all medical care program, the officials reported. Weaknesses in this service became so glaring that in 1947 the Richmond Area Community Council was asked to survey the problem. The recommendations resulted in a quality medical care program administered by the health department and using technical services provided by medical professors and students of the Medical College of Virginia. The medical care program begins with the onset of illness and continues to the restoration to economic usefulness or throughout chronic illness to death, they said.

Over 4,000 Patients

The officials described the gradual inclusion in the community service program of hospitalization, auxiliary medical services, sick-room loan chest, and rehabilitation counsel. During the past fiscal year 9,674 calls were made on 4,006 patients, an increase of one visit per patient over the old district physician arrangement.

The fiscal 1952 per capita cost of $1.52 for this well-coordinated medical care program is considered extremely low, they stated. The city's budget for its entire medical care program, which includes emergency hospitalization, chronic illness care, nursing home care, dental care, outpatient clinics, and 80 percent of the home care cost, is $350,600. The cost of the home care program is $82,501.

Under Richmond's new medical care program, the same amount of money spent has produced a greater range and a greater volume of service, the officials noted. In the year 1948–49, the city provided 18,925 hospital days, but last year it provided 36,100 days for essentially the same amount of money. This high quality medical care at a reasonable expense to the taxpayer has been achieved by coordinating the activities of the many agencies involved, by utilizing the available resources most effectively, and by maintaining a close administrative control, they concluded.

Ward Occupancy Lowered In New York Facilities

The difference between ward occupancy rates of 101 percent in hospitals with home care programs and 117 percent if these hospitals had none "is the most eloquent indication of what home care programs mean to a hospital system operating under the pressures of the Department of Hospitals," stated Marcus D. Kogel, M.D., Commissioner of the Department of Hospitals of New York City before a joint session with the Conference on Health Council Work.

Beginning with 5 hospitals in 1948, he reported 16 now participating in the home care program providing nearly 350,000 home care days during the first 6 months of 1952, an average daily home care census of 1,907 patients. At the same time, 2,171,000 ward days were provided by the same hospitals, an average daily census of nearly 12,000.

The program's impact was illustrated by Dr. Kogel by the experience of the Harlem Hospital. The home care service was set up reluctantly because of unfavorable housing facilities in the underprivileged neighborhood of the hospital. However, in the first 6 months of 1952, the home care census was 133 patients and the ward occupancy rate dropped to 124 percent from a high of 140 in 1949. This service now ranks fifth among the 16 programs.

Will and Leadership

"The Harlem Hospital experience demonstrates that it is quite possible to set up an effective home care service in any general hospital provided there is the will to do it and the dynamic leadership to guide it," stated Dr. Kogel.

The Department of Hospitals refers to home care as a continuation of hospital care in the patient's home—or a boarding or nursing home, Dr. Kogel pointed out. No patient is treated on a home care service without thorough hospital evaluation. One of the decisive medical factors determining eligibility for home care is the status of need of the patient for all of the medical facilities and services provided by a general care hospital; and if occasional medical supervision and nursing attendance can care for the patient.

16 Hospitals in Plan

Patients in general hospitals are the main users of home care services. Thirteen of the sixteen programs are associated with general hospitals. In addition, a chronic disease research hospital and two tuberculosis hospitals are operating such services. Chronic disease patients, however, make up the bulk of the cases.

Problems encountered in the program include the suitability of the patient's home, lack of housekeeping services in the home, and transportation. Another difficulty is getting support for the program from hospitals' attending staffs. Staff shortages have necessitated the cutting down on home visits by house staff members, Dr. Kogel reported, adding that Welfare Department panel

physicians or full-time physicians employed especially for visiting home care cases, have taken their place.

In spite of these difficulties Dr. Kogel feels that the "home care idea has given us in the Department of Hospitals a breathing space until modernization and replacement programs are completed and it has made a permanent place for itself in the scheme of hospital operation."

Terminal Cancer Patients Receive Home Care

Home care of indigent terminal cancer patients over a 2-year period made 676 hospital days available to persons with acute illness or chronic disease necessitating hospitalization, and saved the hospital $12,000 as well.

These results of a study at the Hospital of the Woman's College of Pennsylvania, Philadelphia, to determine the feasibility and value of providing medical care for terminal cancer patients who could be cared for at home as well as, or better than, in a hospital bed were reported by Mildred C. J. Pfeiffer, M.D., M.P.H., director of the division of adult cardiovascular diseases, Pennsylvania Department of Health, and former director of the department of oncology of the Woman's College of Pennsylvania, and Eloise M. Lemon, M.D., fellow in oncology and clinical assistant in medicine at the college.

The need to continue the hospital's responsibility for medical management of indigent cancer patients was recognized by the Woman's Medical College shortly after establishment of a tumor clinic in September 1948, the physicians said.

Case Load

The medical social worker and the physician cooperated closely in selecting patients for the study, which was originally conceived as a method of filling immediate and direct patient needs. However, it proved to be excellent for teaching medical students, and made information about follow-up of cancer patients available to the tumor clinic staff teachers, Dr. Pfeiffer and Dr. Lemon reported.

The daily case load ranged from 1 to 11 patients, usually varying from 7 to 11; visits totaled 439, an average of 8 per patient before death, hospitalization, or other disposition. Indigency varied from absolute, in terms of public assistance and hospital ratings, to partial financial lack. Occasionally a staff specialist referred a patient who was a suitable subject for teaching purposes. Ages of the patients were 21 to 90 years; average, 61 years; 84 percent over 50. Most women were between 50 and 61; the men between 60 and 79.

Cancer Control Projects And Research Activities

That progress against cancer—in terms of control if not direct prevention—is possible was suggested in reports of current activities from Puerto Rico, Connecticut, and Massachusetts. At the same sessions of the Public Health Cancer Association and the epidemiology section, new data were presented on socioeconomic aspects, cancer detection, medical teaching, and the role of heredity.

90% of Cancer Patients Served in Puerto Rico

At least 90 percent of the cancer patients in Puerto Rico now receive diagnosis, treatment, or follow-up care through a cancer control program of the Puerto Rican Government, reported Lyndon E. Lee, Jr., M.D., Roberto Fuentes, B.A., and Luisa Lefebre, B.S., from the Puerto Rico Department of Health and the University. They predicted that a contemplated broadening of the program will insure the provi-

sion of governmental aid to all cancer cases.

The cancer program was initiated in October 1949 when it became evident that the increasing public health problem of cancer among Puerto Ricans required an organized official control effort, the speaker stated.

Case Reporting

A statistical registry was established for the recording and analysis of pertinent data from all cancer cases in 72 hospitals. All physicians and hospitals were required by law to report to the Bureau of Cancer Control the details of any case diagnosed as cancer. Now pending are amendments to the law to require such reports from diagnostic and clinical laboratories, they said.

In considering immediately practicable steps to be taken, it was found that Puerto Rico's major difficulty in cancer service was a lack of personnel and facilities for microscopic examination of tissue. Consequently, an expert pathologist was retained to review and recommend solutions for the pathology problem, and additional equipment was provided for the broader functioning of a central pathology laboratory. It was noted that facilities for X-ray diagnosis and therapy also were increased and improved.

Cytology Center

Upon discovery that cancer of the cervix was the most frequently encountered condition, an intensified effort for early diagnosis of this type of cancer was promoted and a cytology center established. The initiation of a cooperative case-finding program for lung cancer produced gratifying results, they noted.

Educational aspects of the program, the Puerto Rican group reported, included distribution of a cancer manual to general practitioners and, in order to obtain uniformity in reporting, a "Manual of Tumor Nomenclature and Coding" to pathologists and hospitals. Weekly tumor conferences for physicians were held at three major cancer centers and 10-week postgraduate courses, including lectures, clinics and operative demonstrations, were presented weekly in seven local areas by an itinerant instructor. Lectures also were given to ancillary medical groups and to lay organizations with mass education facilities.

At present, they continued, $75-,000 in service contracts for cancer diagnosis and treatment is allotted each year to two hospitals which care for 50 percent of Puerto Rico's cancer patients and an additional $25,000 a year is divided among 11 other hospitals through a merit system of referral. This had made approximately 1,000 hospital beds available for cancer patients, but it was emphasized that such measures should be considered only as necessary, temporary expedients. They recommended construction in Puerto Rico of a central, government-supported cancer institute, devoted exclusively to the diagnosis and treatment of cancer patients and the investigation and teaching of all aspects of cancer.

Massachusetts Studying 24-Year Cancer Effort

The Massachusetts Department of Public Health has reappraised its cancer control program in a new series of studies on the effects of present day cancer control methods, reported Herbert L. Lombard, M.D., M.P.H., director of its Division of Cancer and Other Chronic Diseases. Cooperating in the study were Barbara Bennett, A.B., Barbara J. Drake, A.B., and Margaret E. Quinn, B.S., assistant biometricians.

The method of calculations and presentation of statistics on therapy used were the recommendations of the subcommittee of the World Health Organization. Records analyzed were those of 4,291 females with breast cancer who attended the Massachusetts cancer clinics during 1927–50. Cases were classified in age groups, according to site of cancer originally diagnosed, and according to diagnosed or microscopically verified cancer, Dr. Lombard explained. From these data, tables and charts were prepared in all of the classifications for the computed rates of life expectancy for breast cancer admissions and for crude survival. Time period comparisons were made.

Survival Rate

In highlighting some of the findings, Dr. Lombard pointed out that the age-adjusted survival rate, corrected for deaths from causes other than breast cancer, probably gives one of the most representative pictures of the situation. The over-70 age group showed the greatest increase for the 5-, 10-, and 15-year survival periods; credit for this improvement is given to radical operations and better pre- and postoperative treatment. In earlier years, elderly persons with cancer were not usually treated by radical operation; now operations on 80-year-olds are not unusual.

The under 50 years of age group showed the highest percentage of cures as well as a larger percentage of highly malignant tumors. The high percentage of cures may be because the young have profited by their receptiveness to the educational programs in Massachusetts, he said.

Trends in breast cancer survival are upward, concluded Dr. Lombard, but further study is needed to determine all of the causative factors.

Patient, Physician Aided By State Cancer Register

A State-wide cancer record register is of practical value to the medical profession, the individual patient, and the community, as well as the public health worker, experience in Connecticut shows.

These benefits, all intermeshing, were discussed by Matthew H. Griswold, M.D., chief, and Earl S. Pollack, M.A., research statistician, division of cancer and other chronic diseases, Connecticut State Department of Health, before the Public Health Cancer Association.

The register, maintained by the State health department since 1935, contains histories of some 55,000 cancer patients treated in 31 of 36 general hospitals in the State, they reported.

Health Workers

From these histories the medical profession gets information on the extent of the cancer problem, the trends of cancer incidence and prevalence, methods of diagnosis, treatment and results, and survival time, the Connecticut officials indicated. The register also provides a starting point for special clinical investigations, which, in addition to providing valuable information, stimulate interest among the medical profession in evaluating the results of their work with cancer and also tend to improve reporting, they said.

Patients

The patient, in turn, benefits through better care as knowledge and interest in cancer increases, the officials indicated. But more directly, they said, the periodic follow-up system conducted as an integral part of the register assures the patient of adequate attention after treatment. The private patient is followed through the attending physician; the service case, by the tumor clinic. The information obtained for each case is recorded in the local register and forwarded upon request to the central register.

Research

The register is now being used in a study of environmental carcinogens, the officials reported. The records make it possible to select individuals who may have been exposed to carcinogens and to obtain details of their various occupations. Analysis of the data should point toward specific hazards in specific industries as areas for further investigation, they pointed out.

Socioeconomic Factors In Female Cancer

A correlation between low socioeconomic status and cancer of the stomach was found for women, but not for men, implicating cultural factors as a cause, Edward M. Cohart, M.D., of the Department of Public Health, Yale University, said in reporting on part of a study conducted in New Haven.

The study was undertaken to determine if there was a correlation between cancer sites and socioeconomic status in the United States, as had been found in England and Denmark. A second phase of the study will attempt to trace the bionomic factors responsible for the correlation, he said.

Records of 347 cases of stomach cancer in men and 263 cases in women between 1935 and 1948 in New Haven were obtained from the Cancer Register of the Connecticut State Department of Health, supplemented by death certificates. The cases were grouped in seven socioeconomic divisions and, more broadly, in three socioeconomic regions, he explained.

A highly significant excess of observed to expected cases was found among women in the lowest of the three groups. No socioeconomic correlation was evident for men on this basis, Dr. Cohart asserted.

Better Cancer Teaching In Medical Schools

Most medical schools in the country have subscribed to a program of improved cancer teaching, Murray M. Copeland, M.D., director of the oncology department at Georgetown University Medical Center, Washington, D. C., told the Public Health Cancer Association.

The program of coordinated cancer teaching, recommended by the National Advisory Cancer Council, is based on the premise that the family physician is the pivotal figure in cancer control because he has the first opportunity to discover cancer, Dr. Copeland reported. Medical educators have agreed that medical training should offer every physician better opportunity to understand the cancer problem by instruction in early detection and treatment, he said.

Dr. Copeland called attention to the disparity between the proven

good results cancer treatment can give and the less satisfactory cancer statistics actually obtained.

The work of local and national organizations has apparently stimulated more people to recognize cancer symptoms and to seek aid early, he said, with reference to the studies of the Memorial Hospital of New York City on cancer diagnosis delays. The 1946 data showed that in 32 percent of the cases, patients were responsible for delay in diagnosis; in 1923–30 this figure was 44.3 percent. In 1946 the physician was responsible for 27.8 percent of delayed diagnosis, in contrast to 17 percent in 1923–30.

Credits Coordinator

Dr. Copeland credited the "cancer coordinator" with being the one common denominator in the various medical school programs and for gaining for cancer instruction an improved place in curriculums. One main objective, he noted, has been to give students a comprehensive concept of neoplastic diseases by integrating cancer instruction in the general curriculum.

The cancer coordinator has stimulated the internist, surgeon, pathologist, and radiologist to participate in cancer teaching, usually through advisory cancer committees, Dr. Copeland said. He has broadened the concept of cancer as a disease worthy of special attention, urging its distinct, but not necessarily separate, identification, as a public health, therapeutic, and research problem.

The cancer coordinator has also influenced many schools to achieve better cancer facilities and services, he said. Twenty schools had started tumor clinics, and 39 additional schools had expanded or improved their cancer clinics in 1950. Many have enlarged on visual education materials, record systems, and follow-up services. And 31 schools have undertaken clinical research, bringing the departments of medicine more actively into the cancer teaching program, Dr. Copeland concluded.

Cancer Detection Service Aids Preventive Medicine

In fulfilling its main objective of finding cancer cases, a cancer detection center otherwise serves the cause of preventive medicine by discovering many other pathological conditions and referring them for treatment.

Emerson Day, M.D., Thomas G. Rigney, M.D., and Dorothy Fahs Beck, Ph.D., of the department of public health and preventive medicine, Cornell University Medical College, drew this conclusion from analysis of 2,111 initial examinations of adults at the Kips Bay-Yorkville Cancer Detection Center.

The project was set up by the Cornell Medical College and the New York City Department of Health to study the role of cancer detection in adult health services and preventive medicine.

The findings revealed that 27 of the 2,111 examinees had cancer even though the group had been prescreened to exclude persons with symptoms suggesting malignancy. More than half of the 27 had no symptoms, and were "true detections."

Precaution Rewards

Precancerous neoplasms and other lesions requiring care as a precaution against cancer contributed an average of 14.3 diagnoses for each hundred examinees. Polyps of the colon and rectum constituted the largest component of the precancerous group.

The other pathological conditions found in a presumably well group were about nine times as numerous as cancer and precancerous lesions, and 65 per hundred of these required medical care.

Diagnosis of all types of conditions totaled 3,094, or an average of 1.5 per examinee. Of these, 66 percent were not previously known to the patient. Forty-seven percent of all examinees were referred for medical care. Four out of five referrals were to private physicians.

Diagnoses Requested

Younger age groups sought the center's services more than did the older, but the latter produced more diagnoses of all types.

The investigators concluded that a cancer detection service diagnoses a small but individually important number of asymptomatic cancer cases and supplies the impetus for the study and treatment of conditions assumed to be precancerous. It detects many other conditions needing attention and initiates corrective measures and early treatment by referral of all types of conditions for medical care.

Suspect Hereditary Factors In Breast Cancer

Common hereditary factors rather than a common environment would be the logical explanation of the fact that breast cancer occurs approximately three times as often in relatives of persons who have had breast cancer than in relatives of those whose family history shows no mammary cancer, Madge T. Macklin, M.D., research associate and lecturer in medicine, Department of Medicine, Ohio State University, told the Public Health Cancer Association.

This does not mean that a woman will have breast cancer because her mother or sister had it, Dr. Macklin went on, but if she does develop the disease it is more likely to be in the breast than in any other organ.

A group of 272 women with breast cancer was interviewed, Dr. Macklin reported, to bring about data leading to these indications. Control groups included 200 women who matched age for age the cancer patients, and a group of 180 patients with cancer other than breast cancer. The study analyzed data obtained from familial histories, correspondence from living relatives, and death certificates and hospital records.

Laboratory and Epidemiological Reports From Overseas

Reports from laboratory investigators and epidemiologists from widely separated areas of the world—Korea, Australia, Costa Rica, Egypt—brought to the APHA meetings observations and data on a variety of diseases infrequently noted in the United States but always potential threats, directly or indirectly.

Salmonella and Shigella Cause Epidemic in Korea

In Korea for the first 5 months of 1951, *Shigella* and *Salmonella* infections were epidemic among the critically ill, starved, and wounded prisoners captured by United Nations forces late in 1950.

Lt. Col. Lorenz E. Zimmerman, MC, USA, Armed Forces Institute of Pathology, Washington, D. C., who was with the 8217th Mobile Laboratory in Pusan at that time, said *Salmonella* infections produced a larger variety of clinical manifestations, and *S. paratyphi* was the predominating *Salmonella* type. Two dramatic manifestations of salmonellosis believed to be rarely, if ever, encountered in the United States were reported by Dr. Zimmerman.

Paratyphoid Ulcers

The first—acute perforation of an ileal ulcer and absence of significant bleeding among patients with paratyphoid fever—occurred in epidemic proportion. Surgical exploration was performed on over 200 patients because of signs of peritonitis incident to intestinal perforation. *S. paratyphi* were consistently recovered in the culture studies that were possible, he said.

Dr. Zimmerman attributed the low incidence of positive results partly to the unavailability of many surgical specimens until 36 hours after operation. He found the paratyphoid ulcers to have certain distinct clinical, bacteriological, and anatomic differences from typhoid ulcers. He continued with the following observations:

Many patients were symptomatic and ambulatory or only mildly ill until the time of perforation. Of 98 with known duration of illness before perforation, only 31 had been sick for more than 6 days. About one-half had denied illness preceding perforation, a striking contrast to perforation of a typhoid ulcer, which usually occurs during the second or third week of illness. Massive gastrointestinal hemorrhage—the complication most feared in typhoid fever—was conspicuously absent. No instance of hemorrhage was found in over 30 autopsies on patients dying of peritonitis or of other manifestations of *Salmonella* infection.

Preliminary investigation established that the perforating paratyphoid ulcers, like typhoid ulcers, occurred in the lower ileum—73 percent within 30 cm. of the ileocecal valve. Multiple ulcers were more common than single ulcers. On gross examination, paratyphoid ulcers were distinctive and could be differentiated from those of typhoid fever. They were ovoid, usually narrow, often slit-like, and lay transversely between folds of mucous membrane on the antimesenteric border of the ileum. Some were shallow, involving only the surface mucosa, while others penetrated deeply, causing perforation. They were often more easily located by exploration for evidence of peritoneal action.

Salmonella Septicemia

The other unexpected clinical manifestation of especial epidemiological significance was demonstrated in the cases of two patients who, though treated successfully for relapsing fever with mepharsen, succumbed to a concurrent *Salmonella enteritidis* septicemia. *Borrelia* could not be demonstrated, but *S. enteritidis* was recovered, on autopsy, from the blood, urine, bile, and spleen of the first, and from the blood and spleen of the second. The second case also revealed an acute bacterial endocarditis.

In the great European epidemic of 1920–22, mortality rates from *Salmonella* septicemia in relapsing fever

reached 63 percent. Abcesses, gangrene, chondritis, osteomyelitis, arthritis, and thrombophlebitis occurred in as high as 13.8 percent of the typhus and 3.4 percent of the relapsing fever cases. The 1937 findings of P. Y. Liu, S. H. Zia, and H. L. Chung showed that body lice obtained from patients indicated that *Salmonella* infection should be added to the list of louse-borne diseases.

It is important, Dr. Zimmerman felt, that the clinician recognize the therapeutic implications of the two concurrent infections since experience in Korea has shown chloramphenicol to be of value in both *Salmonella* and *Borrelia* infections.

By May 1951, most prisoners had been taught the basic elements of sanitary discipline; the malnourished had been well fed; and the wounded were recovering. These factors, combined with many others, brought the once serious epidemic under control.

Infect Australian Rabbits With Myxoma Virus

"In October 1951 I spent a night in a country hotel in northern Victoria and was intrigued to read a notice in the bar: 'An officer of the Lands Department will attend at the stockyards on Tuesday next to inoculate rabbits with myxomatosis. Landowners should bring 10–20 live rabbits.' That sort of thing went on over most of Australia," Sir F. MacFarlane Burnet, M.D., director of the Walter and Eliza Hall Institute of Research, Royal Melbourne Hospital in Victoria, Australia. told APHA epidemiologists.

Sir MacFarlane outlined the rabbit's significance to Australia before telling the epidemiology story of the dissemination of myxomatosis virus to effect biological control of the animal.

"Our rabbit is the European species that is found wild in England and is the ancestor of all the breeds of laboratory rabbits," he said. Introduced by homesick colonists around 1860, it spread from Victoria and New South Wales until rabbit colonization of the land was completed about 1930. Between 1 and 3 billion rabbits flourish in all the settled country below the tropics, spreading to arid areas according to seasonal conditions. Ten rabbits consume as much pasture as one sheep—a conservative estimate.

Elimination a Necessity

"The elimination of the rabbit would be by far the most effective single step to increase food and wool production," he stressed. The rabbit destroys natural vegetation in the marginal zone, causing wind erosion and sand drift. Once rabbits were recognized as serious pests, rewards were open for ways of exterminating them.

The Australian physician mentioned Pasteur's interest in the 1880's when the latter sent one of his men to Australia with *Pasteurella* cultures, but owing to the understandable skepticism of government officials he was not allowed to liberate the cultures. The possible use of myxoma virus was mentioned at various times, Sir MacFarlane said, and the first objective experiments dealing with Australian rabbits began in England in 1934. Investigations were moved to Australia when it became apparent that myxomatosis had no significant power to infect any other common animal.

It took 15 years more before the virus was effectively liberated, he said, because of "the rather illogical aversion of health authorities to allow field studies of the virus in any but sparsely populated areas, and the failure to grasp the importance of mosquito vectors for the spread of the disease."

Mosquitoes Are Vectors

In prewar field tests, one on an island off the South Australian coast, another in a dry inland area, he reported, "mosquitoes were inconspicuous or absent, and only a very limited spread of the virus occurred."

When experiments were resumed in 1950, tests were made in higher rainfall zones in eastern Australia. Infection was mainly by contact, it was believed. Tests were made in the autumn, winter, and spring, but only a few local infections were observed.

Uncertainty existed as to how the virus spread in nature. The Australians had missed Aragao's work in 1942 on the natural history of myxomatosis in Brazil, and the realization that effective spread in Australia needed mosquito carriage came as a surprise.

In November 1950, Sir MacFarlane continued, the testing team was prepared to report a fruitless experiment. Then, word came in early December that rabbits were dying by hundreds along the Murray River flats near Balldale, where the liberations had been made. "This was front-page news for Australia, and everyone in the country was on the lookout for sick rabbits." The disease spread rapidly across New South Wales, reaching southern Queensland in 3 to 4 months—by the end of the Australian summer.

Evidence pointed to *Culex annulirostris* as the important vector. According to Sir MacFarlane, this very common mosquito breeds in shallow water at the edges of streams and in temporarily flooded regions. "It has a restricted flight range," he explained, "rarely moving as far as half a mile from its breeding place. The cross-country leaps of a thousand miles in 3 months could not have been due to this species, and there are a number of rival hypotheses to account for it—*Aedes theobaldi*, wind, human transport of mosquitoes in vehicles of one sort or another."

Inoculations

Commenting on the artificial dissemination of the virus, Sir MacFarlane said: "It is hard to be sure that the inoculations made any significant difference to the result."

The following summer, one with normal rainfall, saw the development of *Anopheles annulipes* as another important vector.

The virus investigations of Frank John Fenner, M.D., and his Melbourne colleagues may have general epidemiological significance, the speaker said. Studies show that myxomatosis is a member of the pox virus group. Field observations confirmed that vectors of myxomatosis need not be specific. The mosquito becomes infective for rabbits only by feeding through myxomatous lesions of the skin, resulting in mechanical contamination of the insect's mouth parts, and transfer to other rabbits is through a local lesion in the skin, not by injection of infected saliva into the blood. Any biting or sucking arthropod which feeds through the skin should serve. The role of the mosquito is merely that of a "flying pin," a phrase coined when Dr. Fenner discovered he could closely parallel his findings with mosquitoes by using an entomological pin pricked with a myxoma lesion. .

"In myxomatosis, now by human action enzootic among Australian rabbits, we have a unique opportunity to watch a 'new' disease," Sir MacFarlane concluded. "I shall be surprised if the results do not eventually help us greatly in understanding some aspects of the past and present behavior of infectious disease in man."

Antibody Patterns Higher In Egypt Than Miami

Most Egyptian natives develop poliomyelitis antibodies in infancy and early childhood in contrast to the much slower and later antibody development found in Miami, Fla., residents.

This geographic and socioeconomic antibody pattern, possibly attributable to differences in living conditions, were reported by S. J. Liao, M.D., J. L. Melnick, Ph.D., and J. R. Paul, M.D., of the section of preventive medicine, Yale University School of Medicine.

More than 60 percent of the infants tested in Cairo, Egypt, showed evidence of maternal antibody in the first 6 months of life, the investigators found. They lost this evidence of immunity during the second 6 months and reacquired it at the age of about 18 months. By age 5 most Cairo children had appreciable amounts of antibody.

Similar Patterns Found

A similar antibody pattern for poliomyelitis was found in the other crowded and low sanitation areas of Havana, Cuba, and the Latin-American areas in the Lower Rio Grande Valley of Texas, the investigators reported.

Serologic tests on Miami residents presented a different picture, they said. While about 40 percent of the newborn infants tested had poliomyelitis antibody, only 10 percent had reacquired the antibody at ages 5 to 9 years. The increase was slow: 50 percent had developed antibody at 5 to 9 years, and more than 80 percent in their 20's.

A child of 2 years in Cairo has an antibody development equivalent to that of a 15-year-old in Miami, the investigators stated.

They reported less marked difference in the Cairo and Miami antibody pattern for mumps. In both populations the proportion of persons with positive complement fixation tests rose rather slowly in the younger age groups. And in both areas, only 75 percent of the adult population was positive. This level of immunity to mumps was reached by 10 years of age in Cairo and by 15 years in Miami, they said.

Epidemic Hemorrhagic Fever Studied by Army

Epidemic hemorrhagic fever was first experienced by Americans last year in Korea, where it is now under intensive Army study, commented Joseph E. Smadel, M.D., chief of the department of virus and rickettsial diseases, Army Medical Service Graduate School, Walter Reed Army Medical Center, Washington, D. C.

A "place" disease—not a contagious disease—and unknown to Korea prior to this time, epidemic hemorrhagic fever was the subject of Japanese and Russian studies in Manchuria and Siberia during the last two decades, Dr. Smadel said in reviewing the etiology and epidemiology of the disease.

"There were approximately 1,000 cases of this disease during 1951 and about 700 cases since then. Such

an incidence of a serious disease always constitutes an important military problem," he stated.

Dr. Smadel reviewed the information on the disease which has been accumulated in a brief time. He described the epidemic area in Korea as a belt extending across the peninsula from Seoul to the present main line of resistance, with sharply defined foci in rural areas. "Most cases occur as isolated events, but small outbreaks are encountered which appear to result from almost simultaneous infection of the members of the group," he said.

Etiological Agent

According to Dr. Smadel, both the Japanese and Russian scientists believed that the etiological agent was maintained in nature through a cycle involving rodents and arthropods, but the two groups were inclined to incriminate different rodents and different arthropods.

The American studies during the past summer produced similar opinions regarding rodents and arthropods. Their findings, however, pointed to trombiculid mites as the likely vectors, he said, adding that this general group of mites provides the vector for scrub typhus, another classic example of a "place" disease.

Dr. Smadel emphasized that definitive information on the mode of transmitting epidemic hemorrhagic fever to man and the natural cycle of the disease in rodents and arthropods will not be obtained until the agent can be readily handled in the laboratory and used in crucial tests.

There are many lines of investigation which hinge upon the theoretically simple procedure of finding a suitable laboratory host for the agent, he said. Both the Russian and Japanese researchers demonstrated that the disease agent was filterable and could be transmitted from man to man by inoculation of body fluids obtained during the first few days of the febrile illness, but were not able to establish and maintain the agent in a common laboratory animal.

"Since the disease was first encountered among United Nations troops, extensive and laborious efforts have been made to find the answer to the crucial question of a suitable laboratory host," Dr. Smadel reported, adding that as yet these efforts were not successful.

Wild Birds May Carry Encephalitis Virus

The hypothesis that the appearance of the encephalitis virus in temperate regions during the summer may be due to bird migrations, was presented by Sir F. MacFarlane Burnet, M.D., of the Walter and Eliza Hall Institute of Medical Research, Melbourne, Australia.

In discussing Murray Valley encephalitis, the speaker compared four severe epidemics which occurred in Australia during the years 1917, 1918, 1925, and 1951. He said studies indicate that the epidemics occurring in Australia differ only in detail from the epidemics of Kern County, Calif., and Yakima, Wash.

"What I have in mind is the possibility that persistence of these viruses in nature is confined to tropical or near tropical areas where mosquitoes capable of transmitting the virus are present all year," he said. Then, he depicted a bird in the stage of transient viraemia moving toward a temperate region, being bitten by and thus infecting several mosquitoes, which a week later infect another migrating susceptible bird. The second bird, continuing its flight, develops viraemia a hundred miles further away from the tropic and initiates another focus of infected mosquitoes. The presence of nesting birds in any locality so infected would soon build up a high infective potential.

"This is at present speculation, but it does provide a working hypothesis to account for the main features of the disease as seen in Australia, and just possibly, it may be equally applicable to conditions in other parts of the world," Dr. Burnet said.

Serologic Survey

The findings of an extensive serologic survey in the epidemic area of the Murray-Darling River Basin led to Sir MacFarlane's hypothesis. In the summer of 1951 a large proportion of the population, the horses, dogs, domestic fowl, and wild birds, particularly water birds, showed serologic evidence of encephalitis infection. In 1952, the virus had vanished from the area, the speaker said.

Conditions in the area did not permit the virus to survive over winter, Sir MacFarlane concluded. He surmised that encephalitis "is not endemic in the Murray Valley, but reaches it from some other region only when climatic and ecological conditions are appropriate."

The abnormally heavy rainfall over the subtropical headwaters of the Darling River that preceded each epidemic in the area supplied a possible clue to the differences in the seasonal variations of encephalitis in the regions further north since the infection is common in tropical Australia.

While it has not been proved that Murray Valley encephalitis is spread by mosquitoes, Sir MacFarlane said, circumstantial evidence implicates as the principal vector the *Culex annulirostris*, a river bottom mosquito that feeds freely on water birds and rabbits, and indicates that wild birds are the main vertebrate host of the MVE virus.

A Barrier Zone Required For Sylvan Yellow Fever

The only hope of arresting the progress of sylvan yellow fever in Central America is to establish a barrier zone with effective insecticides and adequate control studies in a small terrain funnel between the

present location of the disease and its future zones of activity. Whatever the results, "we shall have learned much more for having made the effort, but if no attempt is made to establish this barrier zone . . . the grim mechanism will continue to advance unchallenged . . . and we shall remain merely the spectators in a great drama of our era." So Col. Norman W. Elton, MC, USA, director of the board of health laboratory, Health Bureau, Canal Zone Government, Ancon, C. Z., reported.

Pattern of Progress

Continuing his reports made earlier this year (one of which was published in the May issue of *Public Health Reports*), Colonel Elton made the following points:

In Central America the current sylvan yellow fever wave will move steadily northward through Nicaragua and Honduras and then north and west.

To deal with the disease effectively and to prevent needless confusion, a concerted effort has been made to determine its progress pattern and to maintain close contact with its activity. The wave has progressed approximately 13 miles per month although this might increase to 100 miles, he said, and incompletely controlled epidemic centers remain active up to about 2 months.

Types of Barriers

Open, deforested country and regions of minimal precipitation are barriers to the spread of yellow fever. The continental divide is not in itself a natural barrier. It was effective in Panama, west of the Canal Zone, but in Costa Rica, although higher than in Panama, it has been crossed in two localities. Further study is needed of the significance of rain forest continuity across the divide, similarities and differences in rainfall on the two sides, migrant farmers, and the various species of *Haemagogus* mosquitoes other than *spegazzinii falco*, as well as other canopy mosquitoes, as possible vectors at higher altitudes.

Working Links Between Hospital, Private, State Laboratories

Relationships between State public health laboratories and private and hospital laboratories were variously described as consultation, reference, evaluation, regulation, stimulation during a panel discussion sponsored by the Conference of State and Provincial Public Health Laboratory Directors. Reports were heard from three State laboratories, a private laboratory, and a hospital laboratory.

State Interest Encourages Private Laboratories

State departments of health should supervise, evaluate, regulate, and stimulate the expansion of privately operated laboratories in order to promote laboratory services which are uniformly ethical, adequate, and accurate, declared Albert Dickman, Ph.D., director of the Dickman Laboratories in Philadelphia, in the panel discussion.

Because of rapid and continuing advances in the medical sciences, he continued, laboratory services and requirements are becoming increasingly technical and complex. As an example he cited the 125 determinations now commonly performed by various Pennsylvania laboratories.

In urging an integrated laboratory program which he felt would best serve the public interest, Dr. Dickman warned that delays in stabilizing the laboratory profession complicate an already serious situation and stressed the need for cooperation among three main laboratory groups.

Three Main Groups

First, the analytical-biochemical-biological laboratories, offering to the medical profession analytical services exclusively; second, the pathologist-directed clinico-pathological laboratories, handling customary requests and referrals from the analytical laboratories and offering to the medical profession additional consultation, interpretation and diagnosis; and third, the public health

and reference laboratories, offering services for the indigent, analytical procedures beyond the scope of the other laboratories, and dealing primarily with the laboratory aspects of communicable disease and broad public health problems.

Dr. Dickman felt that a clear differentiation of the analytical-biochemical-biological laboratories and the clinico-pathological laboratories would eliminate the obstructions which in the past have prevented a cooperative solution of many laboratory problems.

He said that during the first 10 months of State health department supervision and licensing of laboratories in Pennsylvania—exclusive of hospital, governmental, and physicians' laboratories—many of the laboratories enlarged their accommodations, others installed new and modern equipment, and many directors attended meetings specifically arranged for study, discussion, and demonstration of modern procedures. Also, many were stimulated to initiate their own periodic evaluations of their services in anticipation of those to follow from the State.

Dr. Dickman expressed the hope that eventually the State department of health laboratory can become an educational institution for all the laboratories of the State, training suitable personnel, providing proper evaluation of techniques, and assisting in obtaining materials and reagents of adequate purity and reliability.

Consultation, Reference, Evaluation in California

The working relationship between the State public health laboratory and local clinical laboratories in California has become one of consultation, reference, and evaluation, Howard L. Bodily, Ph.D., acting chief of the division of laboratories, California Department of Public Health, told the Conference of State and Provincial Public Health Laboratory Directors.

This relationship began in 1927, he said, when laboratory technicians began a voluntary certification program in cooperation with the State health department. The clinical laboratory law, passed in 1938, provided for licensure of laboratory technicians and nonmedical laboratory directors, or technologists, he continued. It prohibited performance of laboratory tests by anyone except technicians, technologists, and physicians or surgeons licensed in California, and limited direction of laboratories to licensed technologists and California licensed physicians and surgeons.

The State board of health, through the division of laboratories of the health department and two advisory committees, administers this law. It was recently amended to require a permit to operate a laboratory, as well as approval of laboratories and schools which train technicians, Dr. Bodily stated.

In addition to the two major committees, special committees assist in determining the part to be taken by the State public health laboratory in Rh determination, and in blood bank and similar activities, he said.

Administrative Links "Making Us Friends"

The administrative relationship between the bureau of laboratories of the Pennsylvania Department of Health and the hospital and private laboratories has "made us acquainted" and the service relationship "is making us friends," C. J. Gentzkow, M.D., director of the bureau, told the panel.

The administrative relationship originates in the laws and in the regulations issued under them, such as the law requiring premarital and prenatal serologic tests for syphilis (STS), said Dr. Gentzkow. Applications of laboratories for approval are reviewed by the health department and the Advisory Committee on Laboratory Procedures. If the application is approved, serum specimens are sent to the laboratory and its performance is evaluated from the results of the tests. Quality of performance is evaluated regularly.

The value of the relationship under this act is evidenced by the general improvement in performance of the STS in approved laboratories, Dr. Gentzkow reported. Failures to turn in a satisfactory performance have decreased from 23 percent in 1950 to 9 percent in 1952. "Our laboratories feel free to call on us for assistance at any time," he said.

The passage of the so-called Analytical-Biochemical-Biological Laboratory Act in 1951 brought about a new administrative relationship between State laboratories and "certain laboratories making examinations of materials originating in the human body," Dr. Gentzkow continued. The act makes provision for the department of health to investigate and inspect laboratories, to deny permits, and to revoke permits previously issued. "We are now getting acquainted with some 60-odd laboratories for the first time," Dr. Gentzkow reported. Contacts have been established which will lead to service-type relationships.

Service

The second relationship is one of mutual service, according to Dr. Gentzkow. The State laboratory works beyond the scope of local laboratories, and in turn can refer to the Communicable Disease Center and National Institutes of Health laboratories of the Public Health Service, as well as to the various departments of the University of Pennsylvania and its graduate school and to the Armed Forces Institute of Pathology.

Technical personnel from hospital and private laboratories are given refresher training for varying periods. Laboratory personnel from the entire State participated in one recent conference at the Pennsylvania State College, he said.

Laboratories throughout the State study reports of methodology advances and also carry on their own studies. "When improvements in techniques or new methods have been studied and prove worth while, they are made available to all our laboratories," said Dr. Gentzkow. Hospital and private laboratories in turn report anything new and promising that they may discover. "These service relationships . . . are growing. All of us are becoming increasingly aware of the fact . . . we are mutually interdependent."

Comparative Proficiency Ratings Use Suggested

State public health laboratories should function as reference laboratories for private and hospital laboratories, J. V. Irons, Sc.D., director of laboratories, Texas State Department of Health, told the conference of Laboratory Directors.

They provide services useful in the prevention, recognition, and control of communicable diseases of public health importance, he noted. Nearly all perform bacteriological and serologic tests; most offer sanitary bacteriology and chemistry services; but few offer extensive diagnostic services in either medical mycology or virology. They do not generally perform clinical laboratory tests, which are the primary concern of the private and hospital laboratories. There is a growing need, he said, for the State laboratories to add some clinical tests "to meet the challenge of chronic diseases and diseases of old age."

In addition, the State laboratories should provide opportunities for refresher or specialized training of qualified personnel from private and hospital laboratories. They can also inspire confidence in the work of the private and hospital laboratories by evaluation of their services. He recommended the use of comparative proficiency ratings to detect deficiencies.

Prevention of Poliomyelitis With Gamma Globulin and Vaccine

Two advances in the search for preventive measures against poliomyelitis were reported at the Cleveland APHA meeting. William McD. Hammon, M.D., Dr. P.H., professor of epidemiology of the University of Pittsburgh Graduate School of Public Health, gave preliminary results of mass gamma globulin trials. Howard A. Howe, M.D., adjunct professor of epidemiology at the Johns Hopkins University School of Hygiene and Public Health, reported on use of a killed virus vaccine in six children.

Report Marked Protection In Gamma Globulin Test

Field tests involving some 55,000 children in 3 epidemic areas indicates that injections of gamma globulin containing antibodies against the 3 known poliomyelitis viruses gave marked protection that lasted through the fifth week, at least, Dr. Hammon reported.

The tests took place during epidemic outbreaks in Provo, Utah (September 1951), and in Houston, Tex., and Sioux City, Iowa (July 1952). The gamma globulin was processed from blood collected during World War II by the American National Red Cross and contained in approximately equal amounts antibodies against Brunhilde, Lansing, and Leon types.

Preliminary findings based on clinical diagnoses were summarized by Dr. Hammon as follows:

". . . 54,772 children between the ages of 1 and 11 years were inoculated, one-half of them with gamma globulin and one-half with a solution of gelatin. These three field tests were conducted in areas that were experiencing severe epidemics of poliomyelitis. The injections were given to apparently normal, healthy children living in the area, with the full understanding, permission, and cooperation of the parents. Which of the two materials any one child had received was unknown to all—

children, parents, and investigators —until completion of a follow-up period considered to be adequate for determining a final diagnosis.

Protection Demonstrated

"A preliminary tabulation of results as of October 1, 1952, shows that paralytic poliomyelitis had been diagnosed in 90 cases in the study groups. Analysis of these patients on the basis of the type of injection received shows that significant protection was conferred by the gamma globulin. During the first week after injection there was no significant reduction in the number of cases in the group receiving gamma globulin, but the severity of paralysis appears to have been modified. From the second through the fifth weeks highly significant protection was demonstrated. After the fifth week this was less evident, but more definite conclusions regarding the duration of the protection and possible modification of disease should be available after a longer period of follow-up. Laboratory studies, still incomplete, should give information regarding the effect of gamma globulin on inapparent infection and the subsequent development of active immunity."

The report—from which the above is taken—was read before the epidemiology and laboratory sections on October 22. Together with two other papers, one giving the plan of controlled field tests and the results of the 1951 pilot study in Utah, and the other outlining the conduct and early follow-up of the 1952 Texas and Iowa-Nebraska studies, it was published in full in the *Journal of the American Medical Association* for October 25, 1952, pages 739–760.

In Trial Stage

Looking ahead, Dr. Hammon said that "if it is found that gamma globulin has not interfered with inapparent infection and the development of active immunity during the period of protection against clinical disease, this agent will have a wide field of usefulness, at least until a more effective and equally safe means of prevention has been developed."

"The present supply of the blood fraction suitable for poliomyelitis prevention use is extremely limited and completely inadequate to meet expected needs," Dr. Hammon said. Since World War II, he pointed out, there has been a sharp decline in public blood donations. However, he noted, the most heartening aspect of the situation is the willingness of the public to cooperate in the solution of a public health problem, as demonstrated by their participation in the field trials.

Associated with Dr. Hammon in the conduct of the field studies and as co-authors of the reports were Dr. Lewis L. Coriell of the Camden (N. J.) Municipal Hospital, Dr. Paul F. Wehrle of the U. S. Public Health Service, Dr. Christian R. Klimt, fellow of the Rockefeller Foundation, and Dr. Joseph Stokes, Jr., of the Children's Hospital in Philadelphia and of the University of Pennsylvania. The work was supported by the National Foundation for Infantile Paralysis.

Six Children Respond To Polio Vaccine

A satisfactory antibody in humans to killed poliomyelitis virus was reported by Dr. Howe in an exhibit at the meeting. Tests of six children in Baltimore showed antibody levels to the Lansing, Leon, and Brunhilde viruses comparable to levels found in vaccinated laboratory chimpanzees.

The vaccine, prepared from formalin-treated virus, is the result of studies over nearly 10 years on monkeys and chimpanzees which have shown conclusively that it is possible to immunize the animals against all types of the disease even when they are "challenged" by injection of active virus directly into the brain.

The children tested were between 2 and 5 years of age. All are inmates of the Rosewood Training School, a Maryland state-operated institution for the mentally retarded. They were chosen for the study because of their isolation from most outside contacts and the fact that they could be kept under continuous observation. Five ward mates of the children under study were not vaccinated and served as controls.

Written permission was obtained from the parents or guardian of each child for the studies, which were conducted with the cooperation of physicians and officials of the Maryland Department of Mental Hygiene.

Although Dr. Howe expressed his satisfaction with the results of the tests, he cautioned that the vaccine used is experimental and that more extensive laboratory work would be necessary before an effective and practical vaccine could be made available for general use.

Many Unknowns

There are many "unknowns" still to be determined, he pointed out, and, undoubtedly, the present vaccine will undergo changes before it can be used on a large scale.

Such factors as exact amounts of antibody necessary to immunize, the length of time immunization levels remain effective, the elimination of substances in the vaccine which might cause side reactions, and new methods for growing the active virus on a large scale must be worked out in the laboratory, he declared.

The human immunization tests were made during the summer and fall of 1951. Blood samples from the six children were taken on June 26, 1951, and the first dose of vaccine administered by intramuscular injection the following day. Only a very small amount of vaccine was given. As an extra precaution, gamma globulin, a human blood derivative which provides a passive or short-term immunization and prevents paralysis by destroying active virus in the blood stream, was given at the same time.

Antibody Response

Fifteen weeks later a second and smaller "booster" injection of the vaccine was given. Blood tests to determine the antibody response were made at regular intervals over 6 months.

Response to the Lansing and Leon varieties of the disease was the highest, while that to the Brunhilde strain was poor. Nevertheless, the reaction of two children to the latter type was definite and consistent with the responses to the other types. This same finding was recorded also in the tests on chimpanzees, and Dr. Howe expressed confidence that a larger quantity of the vaccine would produce higher levels of response.

At no time have any of the children shown any apparent discomfort or any untoward local reaction to the vaccine. The children will be followed closely for an indefinite period to determine how long detectable antibody will remain. The work was supported by the National Foundation for Infantile Paralysis.

Polio Follow-Up Program Revised in New York

Periodic evaluation of long-term follow-up of poliomyelitis patients—and for other similar programs—results in more efficient and more economical operations and frequently in radical changes in focus and procedures, reported Helen M. Wallace, M.D., director of the bureau for handicapped children, Patricia Heely, R.N., director of the bureau of nursing, and Herbert Rich, senior statistician, all of the New York City Department of Health; and Margaret A. Losty, R.N., director of nursing service for the National Foundation for Infantile Paralysis.

Follow-up Care Analysis

They made an analysis of the follow-up care given to 1,523 poliomyelitis patients during 1949 in New York City. The program studied had been set up in the 1940's and provided for a 2-year period of home visiting by public health nurses. The plan represented an agreement of opinions of medical leaders in the field, members of the health department, and the voluntary nursing agencies.

Analysis of the plan as it operated in 1949 revealed:

1. The same amount of home nursing supervision was given to the nonparalytic, and the bulbar and other paralytic types of patients.

2. The same amount of home nursing supervision for the period of follow-up was given to all patients regardless of their medical status at 3 months after onset of illness.

3. 1,200 or 10 percent of the home visits were made after the patient had been discharged medically.

4. Fifty-two percent of the nonparalytic school age children who might have been followed through the school health service were not seen by that service.

5. Other examples of wasted home visits were the multiple visits made while the patient was hospitalized or away at school.

6. In only 4 percent of the patients a subsequent or new paralysis was detected; almost all of these patients were under continuous and competent medical care.

7. In one-half of the nonparalytic group subsequent paralysis was detected within 3 months after onset; one-third of the paralytic group developed new paralysis within 1 year after onset.

8. One-half of the paralytic patients under private medical care did not receive such care from a qualified specialist.

9. There is some evidence that physical therapy was continued beyond the period when it is usually considered productive.

Wallace and her colleagues observed that "had the data obtained through this study been available in 1949, and the follow-up plan revised accordingly, approximately 8,350 of the 12,437 public health nursing visits actually made by health department nurses alone might have been saved and made available for other patients."

Priorities Set

Priorities, the authors felt, must be established, and they suggested that these "would logically seem to be: the nonbulbar paralytic group; the bulbar paralytic group; and the nonparalytic group. Patients who are homebound because of paralysis should receive high priority. Existing programs, such as the school health and child health services, should be used to their maximum for follow-up of patients, rather than superimposing another service."

As a result of this study, the follow-up program has been revised, Dr. Wallace reported. A guide for visiting has been set up. The number and frequency of home visits will be based on the needs of the patient and his family, and will be determined by the public health nurse in consultation with the patient's physician. The nurse, of course, may call upon her supervisor and consultants in the field for guidance. The suggested priorities are established, the New York group said, and included is the principle of use of existing school health and child health services. It is recommended that nonparalytic patients generally be visited for a 3-month period, and paralytic patients for 1 year.

Wallace and colleagues reviewed, also, problems of referral to specialists, interchange of information between hospitals and community nursing services, and physical therapy. They pointed out that while this study resulted in revisions, "it should not be taken for granted that this . . . is the final answer. Undoubtedly, periodic reevaluations will result in further modifications." They reported that a similar study is under way concerning follow-up of children with cardiac handicaps.

Polio and Rabies Viruses Show No Cross Immunity

Contrary to recent news reports that rabies vaccination may protect man from poliomyelitis are the recent findings of two scientists from the medical research institute connected with the Michael Reese Hospital in Chicago. In a series of three experiments using 200 Swiss mice. no evidence of cross immunity was found between the poliomyelitis virus and the rabies virus by Albert Milzer, M.D., and Freddie Nicholson, B.S.

Dr. Milzer, chief of the microbiology department of the institute, reported that immune Lansing antiserum failed to neutralize the rabies virus, and hyperimmune rabies antiserum did not neutralize the Lansing virus. In every experiment the vaccine or hyperimmune serum tested showed significant protection against homologous virus.

The researchers warned that rabies virus has the possible hazard of producing allergic encephalomyelitis in vaccinated individuals and that its use should be restricted to proven indications.

New Methods and Approaches In Laboratory Techniques

Laboratory procedures have been made easier by the achievements of research bacteriologists in Baltimore, in the Public Health Service Communicable Disease Center, and in the Chemical Corps at Camp Detrick.

The laboratory section heard reports covering recent studies on the re-use of streptococcus cells, population changes in Brucella *cultures, the virulence of* Corynebacterium diphtheriae, *and the use of* Clostridium sporogenes *to indicate sterility in laboratory instruments.*

Virulence Induced in Avirulent Bacilli

Additional data on the effect of bacteriophage to virulence in *Corynebacterium diphtheriae* were reported by Elizabeth I. Parsons, Sc.D., bacteriologist, Communicable Disease Center, Public Health Service, and Martin Frobisher, Sc.D., head of the bacteriology department, University of Georgia.

Reviewing literature, they noted that several investigators have shown that toxigenic strains of *C. diptheriae* from cultures of avirulent *C. diptheriae* developed from contact or infection with specific bacteriophage, repudiating the earlier theory that avirulent strains never acquire virulence.

Findings

Following a description of methods and materials used at the communicable Disease Center in studying this problem, they summarized the findings:

The activity of a given phage of some strains of diphtheria bacilli may be increased from 10 or 100 up to 10,000 or even 100,000.

Of 37 strains of avirulent *C. diphtheriae* so far tested, the change to virulence has been induced in only six, using six different bacteriophages for each culture.

Virulence may be induced in a given strain by one phage but not by another.

Although two phages specific for, and propagated continuously on, virulent, gravis-type *C. diphtheriae* have been among the six phages used in these studies, no avirulent gravis strain has acquired virulence as a result of phage action.

The change of virulence has so far been induced only in mitislike strains, in spite of as many as 50 culture-to-culture passages with some avirulent strains.

What appeared to be bacteria-free bacteriophage suspensions yielded typical virulence tests in rabbits. The reactions seemed to be due to toxin, but origin of the toxin is not clear.

New Washing Method Permits Cell Re-use

A procedure for reclaiming and reusing bacterial cells employed for adsorption of antibody in the production of streptococcus typing serums has been devised by Elaine L. Updyke, Sc.D., and Elizabeth Conroy, M.S., bacteriologists with the Communicable Disease Center, Public Health Service.

The large volumes of broth cultures that must be handled to obtain enough streptococcus cells for the adsorption process make it advantageous to use the same cells repeatedly, the bacteriologists explained.

The packed cells are reclaimed after use by suspension in 4 to 5 volumes of N/5 HCl in physiological saline and overnight refrigeration at 4° to 10° C. The acid-cell suspension is centrifuged and the cells washed three times in 4 to 5 volumes of physiological saline. The second saline suspension is adjusted to pH 7.0–7.2 with N/1 NaOH. Cells receiving this treatment have been satisfactory for as many as eight adsorptions, they reported.

Practical Technique

Resuspension of the tightly packed cells for the acid and saline washes is facilitated by a midget household electric mixer, the blade of which fits easily into a 50-ml. centrifuge tube. The mixer blade is transferred from tube to tube after a tap water rinse, and 20 specimens can be suspended in the time previously required for 1.

This technique, the bacteriologists said, has proved practical in routine use and was adopted without further study to ease the laboratory workload. It takes less time and labor than the growth and collection of fresh cells, even with a Sharpless centrifuge available, they found.

Other workers, they suggested, may want to investigate the procedure further—to study the efficacy of other concentrations of HCl, of other acids, of alkalies, or of high salt concentrations, and to determine the optimum time of all exposures to acid and the length of refrigeration. Possibly, they concluded this technique can be adapted to other bacterial antigen-antibody systems.

Better Procedures for Culture Recognition

A variety of environmental conditions capable of modifying metabolite production can affect population changes in *Brucella* cultures, both quantitatively and qualitatively, and better recognition of them can assist in improving routine laboratory procedures, asserted Werner Braun, Ph.D., and Robert J. Goodlow, Ph.D., of the Chemical Corps Biological Laboratories, Camp Detrick, Frederick, Md.

Pertinent Data

In reviewing the problem of stabilizing *Brucella* cultures, the bacteriologists stressed the recognition of alanine and valine as two naturally produced amino acids which can selectively enhance the establishment of cells with different antigenicity, immunogenicity, and virulence. Pertinent in vitro data and their evaluated relationship to some problems of routine laboratory procedures were outlined as follows:

The degree of heterogeneity in heterogeneous cultures should be ascertained whenever possible and every effort made to start new cultures with a homogeneous inoculum. Colonial morphology is a helpful indicator of antigenicity and virulence.

Cultures should be incubated as briefly and transfers made as infrequently as possible since population changes are likely to occur during any period of growth.

Solid media are preferable to liquid media for maintaining stock cultures. The inhibitory effects of metabolites and the effects upon population changes are far less pronounced on solid media.

Transfers from single colonies of cells with the desired characteristics are preferable to mass transfers. Single colony isolates tend to promote the maintenance of homogeneous cultures since it is more likely that even a small proportion of mutant cells in the parent culture would be excluded in transfers from single colonies. Conversely, they might carry over such mutant cells,

thus preserving existing heterogeneity by giving the cells opportunity for further establishment.

The recognition of the role of the substrate in the production of selectively inhibitory amino acids and the discovery that with alanine such inhibition can be overcome by adding pentothenate indicate that appropriate modifications of the medium can greatly reduce the opportunity for population changes.

Ultimate Goal

The bacteriologists concluded that the "ultimate goal for the isolation of *Brucella* from the bloodstream should be a method permitting direct cultivation onto solid media." They warned that alanine production is greatly enhanced in liquid media in the presence of immune serum, and that under such conditions population changes can occur rapidly which might cause erroneous identification of the type present *in vivo*.

Search Goes on for Agent Of Nonspecific Urethritis

Nonspecific urethritis and prostatitis could not be related causally to any particular microbial agent, concluded Capt. Bernard M. Wagner, MC, Capt. William H. Morse, MC, and Col. Dwight M. Kuhns, MC, members of the laboratory service and urology section, Walter Reed Army Medical Center, Washington, D. C.

Seeking to define an etiologic agent, to determine the role of pleuropneumonia-like organisms (PPLO), and to find the most satisfactory treatment method, the Army researchers studied nonspecific urethritis and prostatitis in 84 young males with a history of sexual exposure preceding the onset of acute conditions.

Increase in Korea

Nonspecific urethritis and prostatitis were observed in the last war but have increased since the Korean action, especially among servicemen overseas, they reported. Although it was once thought that nonspecific urethritis resulted from inadequately treated gonorrhea, the Walter Reed studies indicated that only 32.1 percent of the patients had a gonorrhea history. Fifty-eight percent had received antimicrobial agents for acute urethritis—gonorrheal or nonspecific.

"By far, urethritis was the outstanding clinical picture," they reported. "However, 11 percent of the cases had signs and symptoms of a primary nonspecific prostatitis. In 29 percent, urethritis and prostatitis were present in equally severe form."

The study confirmed previous findings, they announced. "We were unable to demonstrate an agent or agents which could be considered as etiologic in the light of present knowledge. While human strains of PPLO may be found in an unpredictable number of cases, they cannot be implicated as causal agents at this time."

Terramycin Effective

They continued: "The almost constant parallel isolation of staphylococci with PPLO in our study and others raises the question as to whether the PPLO might not be L variants of the staphylococci." But the criteria for PPLO identification needs further investigation, they said.

No relationship was apparent between the type of organisms isolated and the ultimate effect of therapy, Capt. Wagner and his colleagues reported. Terramycin induced the most striking changes by effecting clinical response early and more completely than aureomycin plus a sharp and statistically significant reduction in the total relapses, they said. The simultaneous development of resistance to terramycin when organisms were resistant to aureomycin has been demonstrated, but it is not true that clinical failure with one means failure with the other, they said. The efficacy of terramycin observed in nonspecific urethritis suggests that the drug acts on susceptible agents relatively resistant to aureomycin, but the exact mechanism of its action must remain speculative at this time, the researchers concluded.

Histoplasmosis Antigens Reported Isolated

The isolation of an antigen that apparently is more specific for histoplasmosis than the long-used histoplasmin which reacts with other mycotic infections was reported in a preliminary study by Charlotte C. Campbell, B.S., mycologist of the Army Medical Service Graduate School, Walter Reed Army Medical Center, Washington, D.C.

This antigen, Miss Campbell said, is produced in abundance by the mycelial phase of *Histoplasmin capsulatum* and reacts only with serums from histoplasma infections, but it does not detect very early complement-fixing antibody.

Another antigen isolated in the same study, is produced in greater quantity by the yeast phase of the organism and detects antibody in serums from very early cases of mild histoplasmosis. However, this antigen also reacts with serums from early cases of other mild mycotic infections.

Miss Campbell emphasized the importance of using the yeast phase antigen to detect primary histoplasmosis and use of the mycelial phase antigen to follow the serologic course of more severe cases of the disease.

Neutral Red Reaction Proves Valuable

A study of 168 freshly isolated acid-fast strains culturally consistent with *Mycobacterium tuberculosis* suggests that the neutral red test measures the virulence of mycobacteria as satisfactorily as the conventional inoculation of experimental laboratory animals.

The tests were evaluated by Maj. Warren C. Morse, MSC, Martha C.

Dail, and Lt. Irving Olitzky, MSC, in the bacteriology department of the Army Medical Service Graduate School, Walter Reed Army Medical Center, Washington, D. C., and in the Second Army Area Medical Laboratory, Ft. George G. Meade, Md.

Timesaver—Reduces Hazard

They found that the use of the neutral red reaction effects an appreciable saving of time in the laboratory diagnosis of tuberculosis, taking 2 hours as compared to the 3 to 6 weeks required for animal virulence studies. Furthermore, they found that the use of the neutral red reaction reduces the health hazard to laboratory personnel working with infected animals maintained for pathogenicity studies.

Index of Sterility Proves Reliable

Use of a heat-resistant, spore-forming organism as an indicator of the sterility of laboratory instruments—similar to the process canners use on experimental packs—was recommended by Harriette D. Vera, Ph.D., research bacteriologist of the Baltimore Biological Laboratory.

Dr. Vera suggested that a few units contaminated with an organism like *Clostridium sporogenes* and included with the other units to be sterilized would be a reliable index of sterility. "It is possible to test large numbers of units of unknown contamination and obtain no evidence of failure," she said.

Experiment Results

The results of a sterilization experiment on 75 test tubes of unknown contamination and 25 tubes deliberately contaminated with *C. sporogenes* were given as an example. The tubes, dried, stoppered, evacuated, and given a heat application of about 800° F. briefly at the base, were tested about 2 months after preparation.

No organisms were found on the 75 test tubes of unknown contamination. But *C. sporogenes* was recovered from 19 of the 25 contaminated tubes—proof that the sterilization was not sufficiently effective. None of the 75 tubes had been contaminated by chance by a resistant organism—but they might have been.

"If the contaminated control tubes had not been included in the test, the heating procedure would have seemed satisfactory, and the results would have given a false sense of security," stated Dr. Vera, pointing out that a process that kills *C. sporogenes* will assuredly kill the more common contaminants such as cocci or coliform organisms.

Isolation of *C. sporogenes* from rolls of dental cotton after they had been autoclaved at 121° C. for 15 to 30 minutes led to a series of tests and the use of the organism in the Baltimore laboratory as an indicator of sterilization efficiency. The cotton was being investigated for use as air filters on the needles of bleeding units.

Efficiency Indicator

A *Bacillus* could also be used as an indicator, Dr. Vera said. But a 5-day culture of *C. sporogenes* in dextrose-free thioglycollate broth ordinarily shows heavy spore production and is convenient for use in contaminating control units, she reported. It can be washed through the lumen of hypodermic needles and tubing, and can be applied to cotton, glassware, and other articles. Contaminated units are preferably prepared weeks or months in advance, dried, stored, and used as needed.

Reports on Antigen Tests For Brucella Infection

Work on the laboratory confirmation of *Brucella* infection was reported by Nell Hirschberg, Ph.D., of the North Carolina State Laboratory of Hygiene, and Mary E. Yarbrough, Ph.D., of Meredith College at Raleigh.

Results of tests using dilute phenol extracted antigens of *Brucella*, adsorbed onto collodion and onto sheep erythrocytes, were described in detail. Time and temperature at which adsorption of the antigen takes place, are important factors in the results obtained, they said.

Long extraction and simple concentration by evaporation have not increased the reactivity after adsorption onto collodion. Both procedures result in extracts unsuitable for use with sheep cells, they commented. All antigens prepared by dilute phenol extraction show a very low carbohydrate content by the anthrone reaction.

The Tuberculosis Control Problem And Modern Therapy

The newer methods of treating tuberculosis, such as chemotherapy, excisional surgery, and vaccination, were viewed with tempered optimism at the special session on tuberculosis control. The results so far are promising, the conferees were told, but as yet there is neither a widely specific cure nor effective immunization. Tuberculosis, they were reminded, is by no means a disappearing disease.

Careful Evaluation Urged For Therapy Programs

The current world-wide drop in tuberculosis mortality is a phenomenon that is gratifying but not wholly explained, Esmond R. Long, M.D., director of medical research for the National Tuberculosis Association, and director of the Henry Phipps Institute, University of Pennsylvania, stated. Dr. Long believes the decrease in tuberculosis mortality rates should supply leads for extensive social and medical research.

Optimism of experts toward chemotherapy of tuberculosis, he declared, is justified by the enthusiastic and massive accumulation of data, but he urged further unbiased assessment of the results of different methods of administration of the drugs.

Other developments in tuberculosis treatment and control cited by Dr. Long were: (1) chest surgery to remove small infected segments of the lung; (2) advancement of methods to limit sources of contagion; (3) continuous and repeated chest surveys with X-ray; and (4) expanding BCG programs, particularly the investigations relating to the methods of administration of this vaccine.

Interest in analytical evaluations of the BCG vaccination programs, which are being conducted by the Tuberculosis Research Office of the World Health Organization, was expressed by the speaker. Also he hoped that WHO will investigate the results of oral administration of BCG as practiced in Latin America.

Surgery and New Drugs Helping More Patients

Newer methods of therapy offer assurance of recovery and freedom from relapse to an increasing proportion of tuberculosis patients, Harold L. Israel, M.D., M.P.H., of the Graduate School of Medicine, University of Pennsylvania, stated. The last half dozen years have brought new advances in chemotherapy and excisional surgery, he continued, although prolonged bed rest is still necessary in treating tuberculosis.

"The objective of treatment is no longer merely to abolish symptoms or to render the patient noninfectious; the present aim is to excise, whenever possible, residual lesions that may be responsible for relapse," Dr. Israel said.

Chemotherapy is effective, "in small measure or great," in almost every case of tuberculosis, he stated. It often results in healing of minimal or moderately advanced tuberculosis and, in advanced cases, makes surgery possible.

Surgical Risk Small

In excisional surgery, Dr. Israel said, the surgical risk is "reasonably small." He added that, in the future, surgery may be advised for small tuberculous infiltrations "as promptly as it is now advised for tumors." Surgery should be followed by a 6-month period of bed rest and chemotherapy to insure healing of the smaller residuals, he pointed out, urging that large scale, carefully controlled studies be made to determine the importance of bed rest, "the most costly and onerous factor in present day treatment."

Discharges against advice and case mortality rates have declined markedly in the last 15 years, the physician reported, largely because of the greater receptivity of patients to the newer methods of treatment.

The present aim is to go beyond inactivity of the disease as a criteria to eradication of any residuals large enough to cause relapse, Dr. Israel stated. If this is to be accomplished no immediate saving in time or money can be expected, he continued, but both will be well spent if observation confirms the growing belief that most tuberculous patients can be cured, rather than patched up.

Ohio County Coordinates Tuberculosis Control

Administration of tuberculosis control organizations in many metropolitan areas lags behind therapeutic advances, and, unfortunately, legislative attempts to cope with the problem have not always considered the epidemiology of the disease, reported Joseph B. Stocklen, M.D., Cuyahoga County, Ohio, tuberculosis controller; Dean Halliday, executive secretary of the Anti-Tuberculosis League of Cleveland and Cuyahoga County; and Harold J. Knapp, M.D., Cleveland's commissioner of health.

The three officials cited Ohio's situation as typical. Although control is a health department responsibility, the county government is obligated to finance hospitalization and the health department finances case finding and follow-up, making standardization of control impossible except by cooperative agreement.

Control coordination has been achieved in Cuyahoga County, Ohio, by naming the medical superintendent of the county tuberculosis hospital to the position of deputy health commissioner in each of the six health departments of the county, thus giving the health units continued control responsibility for case finding, hospitalization, and follow-up.

A Community Function

The superintendent directs control activities from a centrally located clinic in Cleveland rather than from the hospital. "We believe this is important," Dr. Stocklen and his colleagues stated, "since the personnel of the tuberculosis hospital, which often is isolated geographically, tend to develop an insular attitude," and, they added, control of tuberculosis is a community function, operating inefficiently if overemphasis is placed on any one phase of control. Tuberculosis clinics in the county are staffed by part- and full-time physicians who have had extensive experience in tuberculosis hospitals.

The Anti-Tuberculosis League leads in education program and has supported the official control program whenever needed, stimulating the development of the county-wide program which culminated in the creation of the position of county tuberculosis controller in 1943. It is believed that this interlocking program with official agencies is unique among large city voluntary tuberculosis agencies in the country, the three leaders remarked.

Chest X-ray surveys in the county have been continuous since 1943, and the percentage of tuberculosis cases found among persons X-rayed has decreased from 1.5 to .6 in 1949. From the 579 deaths and approximately 1,500 new cases reported in 1940, and 262 deaths and 2,165 new cases in 1951, it is obvious, they said, "that we grossly underestimated the number of cases of unknown tuberculosis existing in the general population in 1940." Many cases either were not known or not reported, Dr. Stocklen and his associates pointed out.

Through the years, the many tuberculosis patients needing hospital care locally has been a serious obstacle in achieving adequate control, they continued. A new addition to the county tuberculosis hospital has added 260 beds to the 850 existing high standard beds, but with the current waiting list at 258, "the staffing of these beds now appears to be a problem of the greatest magnitude," they asserted.

New Emergency Treatment

They mentioned an emergency measure adopted in 1947 when patients with active tuberculosis were admitted to the hospital for 3 days during which pneumoperitoneum was instituted and in many cases phrenic nerve interruption employed. Patients then received pneumoperitoneum on an ambulatory basis, and now streptomycin and para-aminosalicylic acid are used with excellent results, they reported.

Follow-up of 14,000 cases on the registers is a problem for the nursing divisions. Cases include all degrees of activity. Dr. Stocklen and his associates said that they are "attempting to decide whether we should follow cases of minimal, inactive tuberculosis. There is no question but that a small number of these cases do relapse. Whether the number is large enough to justify following them remains to be answered."

Tuberculosis Problem Remains Active

"Tuberculosis is by no means a disappearing disease in this country, whether mortality or morbidity is the measure," said Robert J. Anderson, M.D., chief, Division of Chronic Disease and Tuberculosis, Public Health Service.

According to the latest estimates of the National Tuberculosis Association and the Public Health Service, there are now 1,200,000 persons in this country with tuberculosis. A half million cases are known to health departments, and 250,000 of these are active cases. In addition, there are 700,000 unknown cases, of which 150,000 are believed to be active, he reported.

Pressing Shortages

Shortage of tuberculosis facilities and manpower, and problems of budget and staff are as pressing as any in public health, Dr. Anderson said. In connection with the Hill-Burton Hospital Construction Program, it has been estimated that the Nation needs at least 50,000 new tuberculo-

sis beds. Others maintain that the ratio should be 1 bed per 1,000 population. Despite the need, only 2,000 new beds were added under the Hill-Burton program last year, he stated.

Last year too, approximately 2,700 tuberculosis beds went unused because of a nurse shortage. The shortage of physicians is equally pressing. We must turn to or develop other personnel, if we are unable to expand the output of our physicians and nurse training sources, said Dr. Anderson. Trained aides may substitute for professional nurses, but there is no substitute for a well-trained chest physician, he said.

Dr. Anderson stressed the importance of continuing to stimulate interest in tuberculosis on the part of younger medical men and of training more physicians in tuberculosis control. In one Federal Security Agency region, not a single State now has a State controller, although only a few years ago every State in that region had a full-time tuberculosis control officer.

Dr. Anderson warned against the relaxation of effort during recent years in case-finding activities. Two million less X-rays were taken last year than the year before. At the rate of one previously unknown active case per 1,000 people X-rayed, 2,000 contagious cases were not found. Thus, he said, the tuberculosis search must be intensified in population groups from which the disease is most difficult to dislodge—as among the Indians, who have a tuberculosis death rate 5 times as high as the population at large; among mental hospital patients whose death rate is 18 times higher; and among the Negro group in which tuberculosis is responsible for every fifteenth death.

Hospitalization and treatment must be complete, which means that the final stage of rehabilitation must not be overlooked, he summed up. The variation in range of rehabilitation services offered to patients is wide, he said. Rehabilitation is more a matter of philosophy of the sanatorium staff than an additional, expensive service, he said.

Vaccination with BCG may offer some protection to persons who are exposed to tuberculosis, but "thus far we possess neither a widely specific cure nor effective immunization," concluded Dr. Anderson. "We do know, however, the methods that in the past have brought us partial success," he said, "and so we know full well what we must continue to do in the years to come."

The Older Are Hit Harder By Pulmonary Tuberculosis

Could the exposure of fewer children to tuberculosis infection account for the phenomenal decline in infectious cases among children under 10, asked Arthur B. Robins, M.D., Dr.P.H., director, bureau of tuberculosis, New York City Health Department, in his discussion of the age relationship of tuberculosis cases.

Dr. Robins noted a significant trend in tuberculosis epidemiology between 1932 and 1950: The proportion of new pulmonary tuberculosis cases occurring in persons over 45 had doubled; more than 65 percent of New York City residents who died from the disease were over 45; men accounted for 85 percent of the deaths; mortality from all forms of tuberculosis in children under 10 reached an all-time low.

The general decrease in infection, evidenced in fewer communicable cases, their more effective isolation, and the increased resistance of exposed individuals resulting from improved living standards, was undoubtedly a major factor in the decline of infectious cases among children, Dr. Robins said.

Children Under 10

To test the hypothesis that fewer children under 10 were exposed to tuberculosis, a study with far-reaching implications was undertaken in New York City households of male index cases. A sample of 778 cases was selected at random from a total of 3,467 men over 25 with pulmonary tuberculosis reported for the first time in 1950. Both sample and total were divided into broad age groups: those 25 to 45, and those over 45. The data were analyzed by age and race distributions; by distribution of index cases and associates according to stage of disease; by relationship of associates to index cases; by distribution of index cases and associates according to household size; and by age distribution of household associates according to sex but exclusive of marital partners. Dr. Robins discussed the findings:

Pulmonary tuberculosis in older men is more advanced at the time of discovery—56 percent of males over 45, compared with 40 percent of men 25 to 45, had far advanced disease at time of the report. The percentages were almost reversed for minimal and moderately advanced stages of tuberculosis.

Diagnoses of Tuberculosis Are Major Concern

The dependability of bacteriological diagnoses of tuberculosis is a major concern of every laboratory director, Mildred B. Jefferies, M.S., chief bacteriologist, and Albert V. Hardy, M.D., director, bureau of laboratories of the Florida State Board of Health, stated.

Specimens for evaluation may deteriorate significantly during distribution, they said. Variations in findings when widely experienced bacteriologists examine the same specimen for tuberculosis is admitted. Controls may be used in checking techniques, as in staining, but not in measuring the sensitivity of the tests, they said.

Discussing their experience with 71,852 specimens examined by cultures and smear methods over 4 years, they concluded that more effective laboratory procedures were becoming evident.

Government, Industry, Labor In Industrial Hygiene

Government, industry, and labor all have responsibilities in developing sound programs of industrial hygiene, according to the papers presented to the industrial hygiene section of APHA. A representative of an official industrial hygiene agency outlined what he believes is government's function and indicated what is expected from industry and labor. Representatives of labor and industry named the services they need from the official agencies. They agreed that a high degree of agreement and cooperation among the three is essential.

Government's Function Is Study and Development

Government's primary function in the field of industrial hygiene is research and development, with direct services being provided by State agencies only when industry cannot assume the responsibility, maintained **Henry N. Doyle, chief of the State aid branch, Division of Occupational Health, Public Health Service.**

Outlining government's activities in meeting its responsibility "to show the way," he noted that the Public Health Service's Division of Occupational Health carries out a broad program, ranging from studies of health hazards resulting from occupational exposures to various toxic materials to projects affecting the entire well-being of the worker. It conducts field investigations and demonstrations; makes laboratory tests and studies; gives technical and administrative aid to the State and local agencies; provides informational services; and maintains cooperative relationships with other agencies and activities concerned with occupational health.

State and local industrial hygiene agencies, which are found in 43 States, 2 Territories, and 9 cities and counties, serve industry and labor and demonstrate techniques to help them solve their own health problems. Only in a few instances, he pointed out, do these units have law enforcement powers; generally, they have found educational methods to be much more effective.

Cooperation Expected

"From labor we except a better understanding of the aims of occupational health," he said. "We expect labor to realize that industrial hygiene is preventive medicine and not a medical care program. . . . We seek labor's cooperation in carrying out occupational health studies. . . . We expect labor to be a part of the community, to demand minimum community health services where they do not exist."

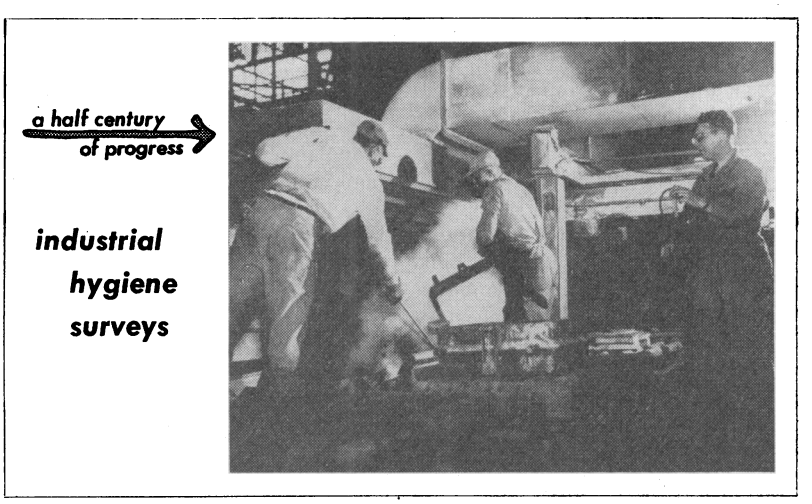
He specified also that the union health and safety committees are of invaluable assistance in solving industrial health problems and suggested that unions make better use of their opportunities for health education.

Mr. Doyle urged that management cooperate in industry-wide studies, receive the scientific reports made by the official agencies with open minds, and develop their own occupational health programs as rapidly as possible.

Above all, he said, both management and labor should bring industrial health problems to the attention of the local occupational health unit.

Commenting on accomplishments and current trends in the field, Mr. Doyle said: "Today, the average industrial plant is a safer place, accident-wise, than is the nonindustrial environment. The classical occupational diseases are no longer the 'black plague' of industry. We have seen industrial medicine progress from strictly an industrial trauma service to a real industrial health department."

He pointed out, however, that despite this progress, "only 10 to 15 percent of the working population have any occupational health facilities at their place of employment," a situation which he attributed to the remissness of industry and labor generally in accepting the responsibility for providing industrial hy-



giene services themselves, and to the lack of adequate funds and staff to enable the government agencies to even begin to do the job.

Better Public Agencies Desired by Industry

Competent, unbiased public industrial hygiene agencies sincerely trying to help industry provide better conditions for its workers will receive industry's admiration and support, Louis E. Newman, manager of the health and safety services department, General Electric Company, New York City, declared.

In stating the need for public agencies of industrial hygiene, Mr. Newman said that management is often unaware of job environments that adversely affect the health, productivity, or morale of its workers. He named as examples of mass occurrence of occupational diseases the cases of radium poisoning in the watch industry during World War I, beryllium poisoning in the fluorescent lamp industry following World War II, and silicosis in the mining and foundry industries.

Public industrial hygiene agencies can also serve as arbitrators through unbiased fact-finding and advice when management and employees differ about a hazard, he said.

Advice and Counsel

Industry, Mr. Newman said, needs advice and counsel from a competent public hygiene staff, but responsibility for correcting hazards rests with the operating management.

He stressed the need for recommendations that are sensible, practical, and economical. Industry must make a profit to survive and unnecessarily expensive control measures may work a hardship on a business.

Other important service characteristics listed for public agencies were dispatch and brevity in giving reports, agreement on uniform standards, accurate evaluation of the problem, use of language that is understandable to the layman and is persuasive, and allaying of needless fears among employees during an investigation.

The minimum unit set-up should have proper balance in the fields of medicine, engineering, and chemistry, he said. Later, other more specialized fields, such as health-physics, biostatistics, and nutrition, can be added.

To get needed jobs done and to prevent omission of large areas, Mr. Newman suggested that the areas of Federal and State responsibility be clearly defined.

Study, Revision of Laws Suggested by Labor

Study and revision of present statutes so as to provide a clearly defined and complete industrial health service without overlapping of Federal, State, and local jurisdictions was urged by A. J. Hayes, president of the International Association of Machinists.

He reported that a paper is now being prepared by the Public Health Service listing various elements of an occupational health program. This, Mr. Hayes continued, should be of substantial assistance not only to legislators, but to management and labor alike.

Man-days lost because of illness are 35 times as many as lost from strikes and 10 times as many as from industrial accidents, he said, and this is not only unprofitable, but inhumane. "We cannot be complacent about ill health," he asserted.

A National Problem

The problems of industrial health can be dealt with more constructively if they are recognized as part of the national health picture, Mr. Hayes stated. The worker's health cannot be separated from a larger consideration of the health of those around him—his wife and children, his neighbors, the community, and the Nation. A recent study by the Division of Occupational Health of the Public Health Service showed the number of absences due to nonoccupational illness or injury to be 116.8 per 1,000 for men and 256.4 for women, he reported.

Health is not only an individual but a national concern, the speaker emphasized; health is part of the national defense. Increased production will be the Nation's salvation; productivity lost because of sickness is a serious threat to America's defense and security, he maintained.

Inadequacy or lack of appropriations for health agencies, overlapping of jurisdictions, the shortage of medical personnel and facilities, and the cost of medical care and of health insurance all contribute to the "appalling" total—4,569,000 in February 1949—of persons who are absent from work on an average weekday because of illness or a disabling condition, Mr. Hayes said, and also help to explain why many industrial plants have not installed medical units.

In closing, the speaker agreed that the responsibility for overcoming these problems is not the sole responsibility of official health agencies, but belongs to every segment of society; that to accomplish the goal of better health services, industry must give full support and encouragement to every Federal and State agency which is promoting better health.

Connecticut Coordinates Worker Health Services

An occupational health program is concerned with all factors which influence the health of industrial workers, declared Stanley H. Osborn, M.D., and J. Howard Johnston, M.D., in their report on the program of the Connecticut State Department of Health. Dr. Osborn is commissioner of health and Dr. Johnston is director of the department's bureau of industrial hygiene.

In 1928, they stated, the bureau of industrial hygiene was established in the State health department to centralize industrial health work. This bureau is concerned directly with improving the environmental conditions in industry and with assisting in establishing well-organized industrial medical services. It also serves, they explained, as a coordinating unit through which services provided by other units of the State health department may be brought to the industrial worker.

Emphasizing that the bureau's staff of physicians, nurses, chemists, and engineers work as a team, Drs. Osborn and Johnston named the primary functions of each: Physicians appraise the worker's health in terms of exposure to toxic substances and to abnormal working conditions, interpret medically the interrelation of the industrial and nonindustrial environments upon the worker's health, and help industry in establishing nonoccupational health services; chemists study and analyze the environment of the worker to determine the nature and concentration of toxic atmospheric contaminants; engineers study methods of controlling these contaminants; and nurses contribute to the discovery of occupational hazards through their contact with in-plant nursing services.

Studies of Hazards

Investigations of occupational hazards mentioned in the report included determination of atmospheric concentrations of such materials as lead dust, chlorinated hydrocarbons, and toluol and the effect of exposure to the materials. In all studies of this type, Drs. Osborn and Johnston said, efforts are made to correlate results obtained from examination of body fluids with symptoms found among exposed workers. They noted also that the hazard involved in the use of recently developed insecticides, such as parathion, is being studied by the same methods.

Problems of radiation exposure, resulting from the new industrial uses of radioisotopes, X-rays, and natural radioactive materials, are receiving increased attention, they pointed out, as are the effects of noise and heat in industry.

The bureau's services are available at all times upon request from labor or management, medical director or plant nurse. In addition, they said, routine industrial hygiene surveys are conducted periodically, the interval between surveys depending upon the hazards associated with the manufacturing processes. New plants or changes in techniques and processes of old plants receive immediate investigation.

The bureau's value can be measured by the frequent calls for its services and the almost universal cooperation which it receives from industry and labor, Drs. Osborn and Johnston maintained.

Rusk Committee Studies Health Requirements

The reluctance of industry to employ more women, older workers, and the handicapped and the widespread lack of in-plant health services are two major barriers to the complete utilization of the Nation's manpower, asserted Seward E. Miller, M.D., chief of the Public Health Service's Division of Occupational Health. These barriers are based principally on prejudiced and erroneous impressions, he said, and an educational program to dispel them has been inaugurated by the Health Resources Advisory (Rusk) Committee of the Office of Defense Mobilization.

One pamphlet prepared by the committee, entitled "The Worker and His Health," affirms that sickness absenteeism in industry, causing a loss each year of 400 to 500 million man-days, can be reduced by one-third to one-half with the establishment of in-plant health services, Dr. Miller reported. Three other pamphlets urge the utilization of women, older workers, and the handicapped in industry by showing that job performance records for these groups compare favorably with those of other workers. Dr. Miller emphasized that proper placement of these persons, considering all factors of special health problems, physical ability, and performance capability, enables them to perform many jobs successfully.

In-Plant Health Services

The committee has given considerable attention to methods of extending in-plant health service, particularly among smaller industries, Dr. Miller noted. Following a meeting with prominent leaders in the field of industrial medicine from universities, private industry, and vol-

untary and official organizations, which reaffirmed the committee's convictions that a great need exists for comprehensive in-plant health services, the committee designated a task force to investigate methods by which Government contractors could be induced to furnish at least minimal protective health services. Its efforts resulted in revisions to the Safety and Health Standards set up by the Department of Labor for the guidance of Government contractors. Standards dealing with occupational health requirements were entirely rewritten under three headings: medical services, environmental conditions and personal services, and special sanitation services.

Other Activities

Since its establishment in August 1950, other accomplishments of the committee have been the creation of the Interagency Health Resources Council to coordinate the activities of medical-health agencies; the establishment of a single national blood program coordinating the efforts of the Red Cross, the Armed Forces, and the Federal Civil Defense Administration; a study of civil defense health problems; and a review of military health personnel needs, resulting, to date, in estimated savings to the Armed Forces of 40 to 50 million dollars and the conservation of the services of 5,000 physicians for the civilian public. "All these activities," Dr. Miller stated, "either directly or indirectly, affect the industrial hygienist."

Methods of Administration In Medical Care Plans

Administrative methods designed to improve the quality of medical care were described in papers presented to the medical care section. These methods included: provision of medical care inside as well as outside the hospital, embracing both specialist and rehabilitation services; control of prescribing practices and of payments made to physicians under fee-for-service plans; and competent supervision of health insurance plans.

Regional Organizations Improve Health Services

Regional organization to improve health services for residents in the area of influence of medical teaching centers has been stimulated by the need for coordinating diverse health services and resources. This was one of the major points in a progress report on a survey of regional plans now being made by Leonard S. Rosenfeld, M.D., and Ruth Wadman, A.B., of the Division of Public Health Methods, Public Health Service, and Nathan Kramer, A.B., Subcommittee on Medical Care, Committee on Administrative Practice, APHA.

Such regional organizations are designed to improve the quality and increase the availability and efficiency of all medical and related services within a community.

Their tentative findings are based on a survey of five such programs (those of the University of Colorado, Emory University, Medical College of Virginia, University of Buffalo, and the University of Kansas), and on a review of the published material on five plans still to be visited (Bingham Associates, Rochester Regional Hospital Council, New York University, University of Michigan, and Tulane University).

All plans, except Bingham Associates, which began in 1931, were launched in the 3- or 4-year period immediately following World War II, according to Dr. Rosenfeld and his co-workers. In eight plans the medical school has primary administrative responsibility.

In the other two, medical schools participate but the administrative responsibility is carried by another agency. Bingham Associates is a philanthropic agency governed by a board of trustees; the Rochester program is governed by a board of directors composed of hospital and public representatives.

Community Services

The various services include graduate and postgraduate medical education and regular visits by consultants to hospitals, they continued. Several programs include educational and advisory services for hospital administrators and ancillary personnel.

Two of the plans have developed services for individual patients in addition to clinical consultation given as part of medical education.

Auxiliary services represent regional pooling of responsibilities ordinarily carried on by hospitals individually, such as central purchasing, blood bank, accounting and record systems, ambulance services, surveys and studies, Dr. Rosenfeld said.

All plans are designed to serve the practicing physician in the area. Some approach the physician directly, others through the hospital staff, some through both. In three plans all physicians in the areas are eligible to participate; in seven, hospital affiliation is a factor.

Financial Support

During their initial periods of operation, nine plans received support from philanthropic agencies. Tu-

lane received support from the Public Health Service. Buffalo and Kansas are also receiving support from their State governments. In all cases local financial support has been limited. The plans are now requesting financial participation by affiliated hospitals, voluntary agencies, and physicians. In Rochester, Blue Cross is contributing. From information accumulated thus far, it appears that the costs of maintaining regional services are relatively small when compared with the total costs of medical and hospital care in an area.

There is need for continuing experimentation, observation and evaluation, the investigators concluded. Because of differences in area, population distribution and density, in health needs and resources, in local traditions and attitudes, no single pattern of regional organization is suitable to all parts of the country, they said.

12 Years of Experience Modify Prepay Concepts

In discussing the early experience of the Associated Medical Services of Ontario, a Canadian prepayment medical care program, J. A. Hannah, M.D., its managing director, said that the years from 1937 to 1949 represented an organization period "during which many of our idealistic concepts were severely modified through experience."

"We believe attempts to provide such a service on a wholesale basis with insufficient experience has been, and will continue to be, the cause of failures and dissatisfaction on the part of both the public and the profession," he stressed, in reviewing experience of the plan approved by the Ontario Medical Association.

Accordingly, the Associated Medical Services was organized and maintained as a research project. Dr. Hannah's discussion was confined to a brief interpretation of special cost studies and to a statement of the program's income and expenditures for the 12-year period.

Dr. Hannah reported that cost data are accumulated on a "number of months service rendered" basis for each year, which, he said, eliminates the making of adjustments for additions and subtractions from month to month.

Early Surplus Unlikely

He warned that in starting any medical prepayment plan, "too great optimism over a favorable surplus during the first 2–3 years is unwarranted," adding, "on the basis of our experience, we are beginning to feel that we may expect a crisis approximately every 5 years."

Dr. Hannah did not list the extent of medical coverage, but he remarked that in 1937 the Associated Medical Services was enthusiastic about "complete medical service," a concept which later was modified to check any trend toward insolvency. The first basic lesson learned, Dr. Hannah said, was that whenever the fund's solvency was threatened, services should be reduced but subscription rates should not be increased. Increasing rates retains subscribers who intend to make excessive use of their privileges but eliminates those who have not needed the service, he explained.

The Associated Medical Services withdrew well-baby visits and special nursing care, at an early stage, because they were uncontrollable under a prepayment plan and strained harmonious professional relationships. Also, he added, it is not possible to retain solvency on a fee-for-service basis if home and office calls are included. The cost of administration is equal to or greater than the cost of actual service, it was discovered, and by paying a physician directly, patients get the same services at less cost. It was advisable to pay the larger bills which threatened family solvency, he said.

Obstetrical Load Heavy

According to Dr. Hannah, the plan paid out more than twice its expected share of obstetrical services because it appealed to subscribers in the child-bearing period. He mentioned an A. M. S. plan in preparation which will enable budgeting against cost of childbirth and prevent unfair use of the service at the expense of other subscribers.

Dr. Hannah considered coverage for people in later life well within the application of the insurance principle provided they have subscribed for "some considerable time prior to attaining that age."

One benefit from careful scrutiny of cost data was the observed increase in average costs. Dr. Hannah said these figures indicate the cost for each and every months'

service available, whether or not the subscriber sees his physician or enters a hospital. For example, among outstanding cost rises: X-rays doubled, rising from 5 cents in 1941 to 10 cents in 1949; anesthesia rose from 4 cents per months' service rendered in 1940 to 7 cents in 1949 and then increased more sharply; consultations stayed at 3 cents per months' service until the end of 1943, rising to 8 cents in 1947, and dropping to 7 cents in 1949.

Doctors, Miners Write "Finest Chapter"

The arduous, costly task of restoring men who have suffered crushed limbs and backs in the coal mines is "one of the finest chapters in the history of medicine," said Warren F. Draper, M.D., executive medical officer of the United Mine Workers of America Welfare and Retirement Fund in Washington, D. C.

In describing the UMWA medical care program, in operation 32½ months as of July 1, 1952, he stated that thousands of crippled miners have been restored to usefulness and reemployment, and that physicians in their devoted and selfless treatment of these men are bringing new knowledge of inestimable value to medical science.

UMWA Hospital Projects

The UMWA fund has been responsible for creating a memorial hospital association in Kentucky, Virginia, and West Virginia to construct, equip, and operate new hospitals in mining areas desperately needing hospital and medical care, Dr. Draper said. These three nonprofit associations, organized under respective State laws, have built new hospitals to care for fund beneficiaries at Harlan, Pikeville, Hazard, Middlesboro, Whitesburg, and Wheelwright in Kentucky; at Wise in Virginia; and at Beckley, Logan, and Williamson in West Virginia.

Money for the memorial projects is provided by the UMWA Welfare and Retirement Fund through loans. The hospitals are open to members of the communities to the extent that their facilities are not needed by fund beneficiaries.

The fund neither owns nor operates hospitals but uses existing facilities according to convenience of location and willingness and ability to provide satisfactory service on an acceptable cost basis, Dr. Draper pointed out. Some 2,100 hospitals have cared for UMWA patients. Some 8,000 physicians have received payment for services. Of the combined cost of hospital and physician services, about two-thirds was for hospitals, and one-third for physicians.

Cost of Medical Care

"Completed data on hospital and medical costs in a program the size of our own should be of extraordinary value in charting the course of the future," he said in explanation of not publicizing itemized expenditures until costs have been stabilized to afford a reasonable basis for comparison with other plans.

Approximately 1½ million miners and their family dependents are potential beneficiaries of the program. The UMWA executive medical officer said that during the year ending June 30, 1952, 2,154,822 days of hospital and medical care were provided to 215,372 beneficiaries at a cost of $49,996,517.88. Three percent of the expenditures for all medical care benefits represented the cost of administration of the medical and hospital service, including 10 area offices which cover the coal mining regions.

Services Provided

Services included in the program are: hospital care for such time as necessary, medical care in the hospitals, specialists' services outside the hospital as necessary, and rehabilitation services under the management of physicians at special centers.

Also included are drugs administered to hospital in-patients; certain expensive drugs requiring long, continuing use outside the hospital; physical examinations in connection with applications for prescribed cash benefits; and home and office care for severely handicapped patients following discharge from special rehabilitation centers.

The program does not include: dentistry, tonsil and adenoid removal, long-term treatment for mental illness, services for which the employer or some other party is legally responsible such as medical service in compensation cases, and available services which the patient may be entitled to receive from a Government agency, such as treatment for tuberculosis or mental disease in a State or county hospital, or from a private organization in the instance of tuberculosis, infantile paralysis, or cancer.

Baltimore City Reviews Prescription Practices

Increased prescribing of official drugs instead of proprietary preparations may be one way to lower the cost of public medical care programs, according to the findings from a study of prescribing practices in the Baltimore City medical care program.

The study was made and reported by Frank F. Furstenberg, M.D., director of the medical care clinic, Sinai Hospital, Baltimore, Md., Harry Goldberg, chief pharmacist at the hospital, Matthew Taback, M.A., director of the bureau of biostatistics, Baltimore City Health Department, and J. Wilfrid Davis, M.D., director of the medical care section of the department.

Drug Costs

Examination of 1,034 prescriptions, a 1-percent random sample of those written under the program between July 1950 and July 1951, revealed that over 55 percent were for proprietary drugs, the investiga-

tors stated. They estimated that an average of $16.32 per 100 proprietary prescriptions could have been saved if official preparations having identical chemical, physical, and therapeutic properties had been used instead, representing a 6-percent reduction in drug costs for that year.

From the beginning of the Baltimore City program, drug costs have constituted a significant portion of the total budget, amounting to 30 percent during the study year, Dr. Furstenberg and his associates explained. Since the program specifies few prescribing restrictions, examination of the drug problem was considered necessary for proper administration.

Quality of Service

The study also provided data which, they said, permits certain inferences concerning the quality of medical care being provided. Among these data were the following:

Thirty-seven percent of the prescriptions were for "therapeutically nonacceptable" preparations, using as the criterion of acceptability the inclusion of the preparations in the United States Pharmacopeia, the National Formulary, or the American Medical Association's New and Nonofficial Remedies.

Forty-four percent of the prescriptions from private practice were for nonacceptable preparations, but only slightly more than 16 percent of those written in the hospital were so classified.

Refills

Fourteen of the prescriptions provided therapy for nearly a year; 31 percent of the prescriptions for sedatives, other than phenobarbital, allowed two or more refills.

Predominant types of prescriptions were for cardiac, respiratory, and gastrointestinal preparations, the preparations being classified according to probable physiological action. Analgesics ranked fourth and sedatives fifth.

Over 50 percent of the prescriptions for insulin and allergy preparations were written in the hospital medical care clinics or out-patient departments, whereas tonic and placebo prescribing was rare in these places.

Limitations Recommended

Dr. Furstenberg and his colleagues recommended, in view of these findings, that consideration be given to limiting the duration of therapy allowed on a single prescription and the number of refills allowed. Unlimited prescribing may be an important factor both in high drug costs and in questionable medical practices, they indicated.

They suggested that prescribing practices might be improved by including, in a public medical care program, education in prescription writing for the participating physicians. The use of a formulary, they said, would effect immediate economies.

Statistical Procedure Charts Fee Pattern

The administrative control of payments made to physicians on a fee-for-service basis can be accomplished by use of statistical methods, Charles A. Metzner, Ph.D., research associate, S. J. Axelrod, M.D., associate professor, and J. H. Sloss, M.A., research assistant, all of the bureau of public health economics, University of Michigan School of Public Health, Ann Arbor, found in a study of a comprehensive prepayment plan.

Payment Methods

Expansion of medical care insurance plans will likely be based on services embodying the fee-for-service method of payment, and the problem of control of payments to physicians is increasing in importance, the Michigan investigators stated. Financial stability of any medical care program demands that receipts exceed the expenditures, they said, and in a fee-for-service plan, unlike the automatically controlled capitation and salaried systems, no inherent limit is set on the physician's income.

Analysis of available data showed abuse of services by subscribers to be minor, whether measured in terms of excessive demands for service, "shopping around" for physicians, unreasonable requests for medical care outside regular hours, or over-utilization of services. The investigators therefore concentrated their study on the control of abuse by physicians in "rendering fees." Heretofore, no objective method of

reviewing physician-submitted bills for acceptability as "allowed fees" has been employed, they said. Reviewing committees or physicians show personal judgments; prior authorization of service is cumbersome; proration implies inadequate financing.

Billing Practices

Data from record cards of 110,000 members of a comprehensive fee-for-service medical care plan for the months May 1950, March 1951, and January 1952 were used in the study to determine whether there was a uniform billing pattern. General practitioners were chosen from the rest of the physicians as being a homogenous group: 108 for May 1950, 126 for March 1951, and 131 for January 1952.

Using both a graphical and an arithmetical procedure, they found that there is describable uniformity of practices among physicians included in the study and that the variation provides a basis for detecting unlikely departures from uniform patterns of practice. The unexpectedly large deviations indicated the usefulness of this analysis for control purposes. Both procedures gave substantially the same results; and there was a high degree of consistency from month to month, even though the months were separated by almost a year. Over-billing was readily spotted by both procedures. For the number of physicians in the sample used, the calculations for each procedure for each month required approximately 4 hours of clerical work.

These statistical procedures are objective, time-saving, and effective administrative tools for control of physicians' service plans on fee-for-service basis in medical care programs, the investigators believe.

Opinions of Physicians About EMIC Reported

An analysis, unique in that it is apparently the only one so far recorded of the opinions of physicians who actually cared for emergency maternity and infant care patients in a community, was reported by Leona Baumgartner, M.D., assistant commissioner of the New York City Health Department; Helen M. Wallace, M.D., director, bureau of handicapped children, New York City Department of Health; and Myron E. Wegman, M.D., chief of the division of education and training services, Pan American Sanitary Bureau, Washington, D. C.

All 5,575 physicians actually caring for emergency maternity and infant care patients during World War II in New York City were solicited for their opinions through a questionnaire calling for "yes", "no", or "no opinion" responses. About 50 percent of all physicians responded, a group considered reasonably representative.

The similarity of the data collected, and the unusually large number of returns "make it sound to conclude that the study reflects reasonably accurately the opinion of all the physicians in the community who cared for EMIC patients," the authors believe.

Tally of Answers

Major findings reported were:

About 90 percent thought the program reached its objective of raising morale.

More than 90 percent thought that the functioning of the plan had not interfered with the patient-physician relationship.

Of the small number who thought the plan had made a change in the patient-physician relationship, almost one-fifth thought the change one of improvement. Pediatricians seemed more likely to think the relationship better.

More than 75 percent were satisfied with the procedure and general administration.

More than 90 percent were satisfied with the method of payment directly to the physician.

Less than 1 percent would have preferred a cash payment to the patient.

There was more positive approval for medical consultation by specialists and for services of visiting nurses than for special nursing service.

The greatest dissatisfaction was in the amount of the fee paid, particularly the obstetric fee.

Hospital Care Doubles For 65's and Over

Nearly twice as much general hospital care per capita as the population under 65 received, was received in 1951 by persons 65 and over, I. S. Falk, Ph.D., and Agnes W. Brewster, respectively director and medical economist in the Division of Research and Statistics, Social Security Administration, told a joint session with the American Association of Hospital Consultants.

In studying the insecurity which the aging experience from illness, Dr. Falk and Mrs. Brewster gathered information on ownership of hospitalization insurance in March 1952, amount of hospital care received in 1951, and how the aged paid their hospital bills. Added to the March 1952 interview questionnaire of the Current Population Survey were questions to be asked concerning everyone 65 and over in the 25,000 representative households sampled.

The researchers also collected fragmentary data from published documents and turned to Blue Cross and retirement plans, public assistance agencies, and other age-specific records for estimates and ranges useful as first approximations.

Less Insurance

Comparing survey findings with those from diverse insurance and noninsurance experiences, Dr. Falk and Mrs. Brewster observed:

About 26 percent of the noninstitutional population 65 and over reported having some hospitalization insurance in March 1952—a contrast

with the 60 percent ownership among persons under 65. The survey confirms that older persons have lagged far behind the general population in acquiring insurance protection against hospital costs. Among the older citizens insurance ownership is heavily concentrated in the 65 to 69 age group, those still in the labor force, white persons, males, and urban residents.

As in other age groups, short-term hospitalization predominated among the aging, but their relatively few long-term cases accounted for a large proportion of all days of hospital care they received. This invites review of current hospitalization practices and of the present use of general hospital beds, personnel, and funds for the care of long-term cases.

Among persons 65 and over, the frequency of hospitalization and the amount of hospital care varies markedly according to insured status. Insured persons, presumably better than average risks, had higher hospital admission rates but used fewer hospital days per 1,000 persons than those without insurance. The noninsured had fewer admissions but received a larger amount of hospital care. Thus, financial burden was disproportionately heavy on those least equipped to bear it, for the noninsured constitute three-fourths of all the aged in the surveyed population.

Who Paid the Bills

In the group of noninstitutional aged, 38 percent paid the hospital bills themselves; 14 percent had hospital care without charges; 13 percent paid through their insurance. Relatives and others paid the bills for 12 percent. Twenty-four percent had to call on more than one financial source. The insured used multiple sources of payment in more than half the instances of hospitalization. Among the noninsured, 55 percent met the bill entirely by themselves.

Voluntary insurance may further expand enrollment among the aged and the comprehensiveness of protection. But the retired status of large proportions of those 65 and over and the meager financial resources of most suggest limits beyond which self-supporting voluntary insurance cannot go in providing the aged with financial security against hospital and other costs of illness.

Prepayment and other group plans show hospitalization rates for their aging members as both higher and lower than those found for the whole aging population, emphasizing that geographic location and selection factors radically affect experience rates, and suggest that hospitalization rates are lower where prepayment applies to a broad spectrum of medical services and not merely to hospital care. If this observation is supported by further experience, it suggests an opportunity for future reduction in the cost of hospital care without sacrifice of adequacy.

Saskatchewan Stabilizes Hospital Incomes

A hospital payment plan that Saskatchewan health officials believe will resolve earlier inequities has been devised for the hospital care insurance program of that Canadian province.

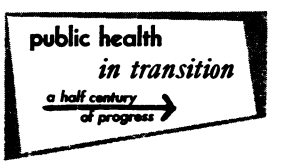
Reporting on the three different methods of payment during the 6-year experience of the Saskatchewan Hospital Services Plan were F. B. Roth, M.D., deputy minister, and F. D. Mott, M.D., formerly deputy minister, of the Saskatchewan Department of Public Health; G. W. Myers, C.A., executive director of the Saskatchewan Hospital Services Plan; and L. S. Rosenfeld, M.D., formerly vice chairman of the Health Services Planning Commission.

The 163 public general hospitals and nursing homes in the program now get semimonthly lump sums to pay for the total fixed expenses such as depreciation, power plant costs, and salaries. The payments are slightly higher than the calculated fixed expenses. Additional per diem payments covering slightly less than the costs that vary with occupancy, such as food, laundry, and drugs, are made on receipt of individual accounts from the hospitals.

Income Stabilized

This system has stabilized hospital income by leveling out income fluctuations, the officials reported. It has also removed incentive to overcrowd hospitals for the purpose of adding to revenues, a condition inherent under a patient-day system of payment, they said.

A system of payment tried dur-



This album of illustrations serves to recall some of the early forward steps and key advances in the practice of public health since 1900. Those incidents and activities presented are, of course, only symbolic of the many; definitive historical evaluation is not implied. Next month in Part II current status and emerging problems are outlined.

ing the first year of the plan was designed to reimburse hospitals according to their ability to provide a complete service and also to stimulate improvement in equipment and personnel, they said. Under this system some hospitals were making substantial profits, a few were breaking even, but many were incurring deficits.

When it became evident that there is no close relationship between the quality of service and the cost of providing it, this system was superseded by per diem payments based on estimated costs, the officials reported.

Under this system the in-patient hospital revenues fluctuated almost directly with seasonal variations in occupancy, thus creating some difficulty in financing fixed expenses during low occupancy periods, the officials stated. They also pointed out that some hospitals found inclusive per diem rates an incentive to overcrowd, because a drop in occupancy meant a corresponding decrease in revenue.

Plan Sound and Workable

Both the hospitals and plan officials are pleased with the present method, they state, terming it "a sound, workable, equitable method of remuneration of hospitals for coverage under a comprehensive hospital insurance program."

The Saskatchewan Hospital Service Plan, administered by the provincial Department of Public Health in consultation with representatives of the hospitals, makes essential hospital care available on a free choice basis. It covers about 94 percent of the population in the province, or about 780,000 persons. The program is financed through obligatory personal premiums, except for the indigent, and through supplementary provincial taxation. The benefits include minimal or public ward accommodation and virtually the entire range of available in-patient service.

Scientific, Group, and Community Approaches to Obesity

The problems relating to obesity, benefits to be secured through weight reduction by overweight individuals, and various approaches to weight control were considered in a panel discussion before the food and nutrition section. Five of the papers presented are summarized here. Another paper dealing with the approach to weight control was read to a combined session of the food and nutrition and health officers section.

Louisville's Experience Points Up Obstacles

The many followers of reducing fads and the increase in sales of over-the-counter obesity drugs and dietetic foods reveal an ignorance of the obesity problem as well as general interest in its control.

This observation was made in reporting the weight control project sponsored in 1951 by the Louisville, Ky., Nutrition Committee. Four of its members who presented the committee's findings are: John S. Llewellyn, M.D., Louisville Heart Association; Emily Bennett, B.S., executive director, Central Dairy Council; Mary M. Hurley, M.P.H., health educator, Louisville and Jefferson County Board of Health; and Mildred Neff, M.A., director, division of nutrition, Kentucky State Health Department. They reported:

The instructors of the committee's weight control classes and education program were faculty members of the University of Louisville School of Medicine, teachers and community professional workers in economics, nutrition, health and physical education, and directors of insurance companies.

A physician explained the undesirable effects of rapid weight loss, use of unapproved drugs, and the fads sometimes offered in the daily papers. Lectures were held on topics including reasons for overweight, diet, the advantages and disadvantages of exercise, and the fallacy of exercise as a substitute for decreased caloric intake, and the rewards for normal weight.

Results of Program

Encouraging was the average weight loss per person of those who attended classes during the first 3 weeks. Seventy-seven (96.2 percent) lost weight in significant amounts, two maintained initial weight, and one gained weight. For this group the weight loss ranged between ½ and 12¼ pounds for an average of 5 pounds per person during the first 3 weeks of the classes.

At the end of 26 weeks, 19 of the original class were present. Of these, 79 percent had lost weight, 3 persons had gained, and 1 showed no change.

Attendance records were discouraging, however, in spite of excellent publicity through all media of information. This indicates inertia inherently present in the public for community service. More interest probably could be obtained by appealing to the obese person individually than collectively.

Less than 1 percent of the total attendance of the classes were men. It seems advisable to offer sex-segregated classes so that men will participate. Overweight is less harmful to women than to men so far as longevity is concerned, but women are more inclined to correct overweight than men.

Great interest was shown in the graphic displays prepared by the insurance companies which statistically depicted analyses of obesity.

The obese person must be properly motivated to reduce, the committee members emphasized. In future programs therefore, the psychotherapeutic approach is to be incorporated as an integral part of the classes in hope that results will be better.

Obesity Is a Factor In Arteriosclerosis

Deaths from arteriosclerosis occur earlier in the overweight than in the nonobese population. This one fact about arteriosclerosis stands out with clarity, Norman Jolliffe, M.D., director of the bureau of nutrition, New York City Department of Health, stated.

The only advice that can now be offered with confidence on prevention of arteriosclerosis and related diseases is "never become overweight, and if overweight, reduce and stay reduced," Dr. Jolliffe said. By this means alone, he believes Americans could increase normal life expectancy by 1, 2, or perhaps even 4 years.

Dr. Jolliffe termed arteriosclerosis and the degenerative diseases as the health problem to be reckoned with in this day of an older population, when 90 percent of the people will live to and beyond the age of 45 and the life expectancy is 67.6.

People are eating as much now as they did in 1900, he said. The daily calorie consumption per person is still 3,100. As an older, less hard-working population, they should be eating less—2,870 calories per day. The need for calories decreases about 7.5 percent for each 10 years after age 25, and with easier transportation and labor-saving devices, less energy is being expended, he explained.

It has been estimated that 25 to 30 percent of the population is over the desirable weight, Dr. Jolliffe said.

Basic Principles For Reducing

He outlined three basic principles that must be applied if America's number one health problem, obesity, is to be solved:

First, obesity is invariably caused by a greater intake of calories in food than expenditure of calories as energy. This statement leaves no "out" for the overeater who sees himself as an exception to the rule.

Second, loss of excess fat is directly proportionate to the calorie deficit, which can be obtained either by increasing the calorie expenditure or by decreasing the calorie intake. To lose 2 pounds the obese person must eat 1,000 calories less a day for a week. The equivalent in calorie expenditure, or exercise, would be 5 extra hours of walking.

Third, the reducing diet should form the basis of dietary reeducation so that proper eating habits will continue after the desired loss of weight. Skipping meals or following trick or rigid diets the person does not really understand does not establish good dietary habits. People should learn food values and how to count calories.

Five Research Methods Determine Obesity

In a discussion on criteria of overweight, John H. Browne, M.D., of the New York State Department of Health's bureau of nutrition, described five research methods of determining obesity.

With anthropometric instruments, take precise measurements of the body between designated bony landmarks and determine circumference and diameter of the trunk and extremities.

X-ray the leg or other parts of the body, cut the film along the lines of shadow of bone, muscle, and subcutaneous tissue, and skin, and weigh the pieces of film; or measure the area of the various shadows.

Determine the creatinine coefficient (said to be uncertain method).

Estimate total body fat from body water.

Determine the specific gravity of the body by weighing in air and under water; the percentage of fat can then be found by referring to tables developed by Rathbun and Pace.

Practical Methods

In everyday practice, however, simply looking at the patient is usually sufficient to determine overweight, Dr. Browe stated. The scientific techniques described are expected to add to our knowledge of precise determination of overweight and to aid in studying groups of people with regard to caloric nutritional status.

In total weight measurement, the amount of muscle and bone must be considered because of variation among individuals, Dr. Browe pointed out. By the scales, a professional football player may seem to be 30 pounds overweight, whereas a muscularly underdeveloped individual may be within the average for his height and still have an excess of fat, he explained.

Reduction in Weight May Lengthen Life

Although weight reduction is not a panacea for all of the difficulties of the overweight person, it can bring him substantial physical, psychological, social, and economic benefits, make him look and feel better, and probably lengthen his life, commented Louis I. Dublin, Ph.D., second vice president and statistician, Metropolitan Life Insurance Co.

Nevertheless, there is a "surprising dearth of information on the benefits of reducing" due to difficulty in assembling the facts and the needed long-term follow-up, he stated

A study of 25,000 men and 25,000 women who, because of obesity, were charged an extra premium by his company revealed nothing start-

232500—53——9

lingly new, he said. Mortality was 50 percent higher among the obese than among "standard insurance risks." However, in a special study of those among the overweight who had reduced, the death rate was found to be one-third lower for women and one-fifth lower for men than the rate for the overweight group, he reported.

Diseases Among the Obese

Diseases of the cardiovascular-renal system, diabetes, and disorders of the liver and biliary tract cause excess mortality in the obese, Dr. Dublin stated. Various studies have also shown that gallstones, gout, vascular complications, hypertension, asthma, and bronchitis have a higher incidence among the overweight, he noted. The stillbirth rate among obese women is nearly double the rate among women of normal weight.

Dr. Dublin observed that overweight may seriously handicap individuals, regardless of age or sex, in their personal lives, in employment, and in social relations. A fat child ridiculed by other children is likely to seek satisfaction in sedentary recreation and in eating.

Weight Control Groups Studied by Conference

The group approach gives promise of achieving a program of weight control, but it is not the answer to all of the problems.

This was the conclusion reached by participants in a Conference on the Group Approach to Weight Control held in Washington in June 1952 as reported by Malcolm J. Ford, M.D. Dr. Ford is chief of the program development branch, Division of Chronic Disease and Tuberculosis of the Public Health Service.

The purpose of the conference, as stated by Dr. Ford, was to bring together people with experience in the group approach to weight control and to find out the opinions they hold in common as well as the points of difference.

The conference thought that weight control groups should be: homogenous in terms of age, background, and degree of overweight of participants; heterogenous in terms of personality; small in size (10 or 12 ideal); screened to eliminate those not likely to benefit from the experience and those with severe psychological problems; assembled in short sessions not too frequently held (1 hour once a week, tapering off to once a month); supervised by medical personnel, but leader need not have any particular type of professional training.

Some believed that group members should weigh in at each session. Others felt that this was unimportant or even detrimental. Some thought that proper nutritional information alone was all that people needed; others stressed the psychological aspect of weight reduction.

Factors Leading to Obesity

Although not the primary subject of the conference, the factors that lead to obesity were discussed. The discussants agreed:

Some people have special difficulty in hewing to a dietary line, such as those with certain ethnic or cultural food patterns.

People with little money tend to buy the cheaper carbohydrates.

Mothers after delivery fail to lose excess weight gained during pregnancy.

Emotional problems alone may be responsible for overeating.

The conference, Dr. Ford said, recommended that other controlled studies be carried on to investigate the effectiveness of the group approach as compared to the individual approach to weight control. First results from experimentation with the method were inconclusive but interesting. Before the method is advocated unreservedly, more scientific observations are needed to clear up unanswered questions.

Community Can Attack Problem of Obesity

Obesity, a threat to health and life expectancy, is an important public health problem which the community can attack, suggested W. P. Shepard, M.D., third vice president of the Metropolitan Life Insurance Co., San Francisco.

Overweight afflicts approximately 15 million people in the United States, making them especially susceptible to heart disease, kidney disease, apoplexy, diabetes, and other degenerative diseases, he said, adding that people become interested in weight control as they become aware of the health hazard of overweight. The individual's responsibility for control of his own weight must be developed by a continuing health education program.

Leadership for the community weight control program can be assumed by the major local health agency, health council, or officials, Dr. Shepard pointed out. Professional people, aware of the importance of correct weight, are valuable collaborators, he said. In addition those already interested in "reducing," can be utilized in program planning.

Arouse Public Interest

Communities will differ in resources, leadership, and interested groups, said Dr. Shepard. To arouse public interest and to stimulate individual responsibility, agencies participating in the weight control program should include: health departments, heart associations, hospitals, schools, clubs, church groups, civic organizations, and professional societies of physicians, nurses, and home economists. Sponsored programs can be public panel discussions, club meetings, movies on health subjects, symposiums and institutes for organization members, group therapy, home visits by professional health workers, and pamphlets, posters, and exhibits widely distributed and regularly issued.

Cooperative Group Action by Parents of the Handicapped

How parents can help their handicapped children, what can be done to prevent other and unborn children from being handicapped, the various difficulties faced by the parents themselves—these and similar problems were discussed before diverse sections of the conference.

Group counseling was the keynote. It was felt that the more information received by the parents, the more counseling provided for understanding their own and their children's problems, the better equipped they would be to promote a happier and more constructive life for all concerned.

Group Discussion Enhances Child Health Interviews

To the traditional individual interview procedure of the child health conference has been added the group discussion method, reported Samuel M. Wishik, M.D., M.P.H., professor of maternal and child health, University of Pittsburgh Graduate School of Public Health. He told a joint session with the Conference for Health Council Work about administrative experimentation in 1950–51 with the new technique at the Lillian Wald Child Health Station, one of the 80 stations operated by the New York City Health Department.

Dr. Wishik believes that the individual approach and the group approach can be satisfactorily combined. "It is conceivable," he said, "that the group method might economize in use of professional staff time. If certain common questions can be answered for groups of mothers effectively, it might not be necessary to go over the same material separately with each mother. Furthermore, if certain common problems are put across with mothers in general, it may make it possible for the professional staff to devote its time in the individual interviews to other phases of parent counseling."

Dr. Wishik admitted that in its early stages group discussion is an additional task for the professional staff, requiring more rather than less time.

He remarked that the group method of idea exchange should aid in effective counseling because mothers "support and bolster" each other in the group and are more receptive to changes in child-training when they receive "ideas from their peers rather than from a professional group." Mothers, he said, are more strengthened by group discussions with other mothers in changing their practices and in substantiating some of their convictions about existing practices.

Professional Attitudes

The group technique may develop a change in staff attitudes and methods if the staff member can acquire from group discussion the habit of "listening more and of getting a more accurate impression and more intimate feeling of the experiences and points of view as well as problems of the mothers," he commented. Dr. Wishik hoped that such an attitude would carry over into the individual interview relationships between the physician or nurse and the mothers. He indicated a possible application of the group method to the private office practice of pediatricians.

These factors were selected by Dr. Wishik for successful free group discussion:

1. Skill of the discussion leader and nature of the participation of the physician and nurse.
2. Smooth functioning of gathering of mothers: avoidance of undue waiting time and noninterruption of discussion by outside factors.
3. Appropriateness of the topics to the interest of the mothers.
4. Size of the group.
5. Personality of the participating mothers.

New York Experience

At Lillian Wald, he said, 25 minutes were set aside on Thursday mornings at 10 o'clock for 12–15 mothers to meet in a large room separate from the waiting room and the children's play area. The time chosen permitted parents to have their individual interviews in the preceding hour. Seats were arranged in an informal circle. While no children were included, they had free access to their mothers from the play area where they were kept under supervision.

Parents with similar backgrounds and common problems and unhampered by language difficulties were grouped in conference periods on separate Thursdays according to the age of their youngest child. A spread in the children's ages within each span was considered desirable so that the mother who had already met a situation, such as introducing the first solid foods, could relate her experiences.

Sample topics for mothers with children from 10 to 12 months included: thumb sucking, colds, going to sleep, fear of strangers, clinging to parents, shoes, walking, weaning, bowel training, and feeding. Similarly appropriate topics were chosen for the other age spans: birth to 6 weeks, 7 weeks to 3 months, 4 to 6 months, and 7 to 9 months.

When the regular station physician and nurse participate in discussions, they can interject helpful questions, Dr. Wishik commented.

"Physicians and nurses repeatedly evidenced surprise that mothers raised questions which they had not asked in individual conferences," he noted. "When the doctor recommends something different from what was taught several years ago, a mother can ask the reason for the change in recommendation," giving him an opportunity to interpret the reasons for changes in teaching.

Parents Attend Classes On Care of Premature

Although the "premature program" is still new, it has been extremely valuable in helping parents to give better care to premature babies, Gellestrina DiMaggio, M.N., and Marguerite B. Gelinas, B.S., M.S.S.W., told the maternal and child health, public education, and public health nursing sections of the American Public Health Association and the Conference for Health Council Work.

Miss DiMaggio is administrative supervisor of children's service, Grace-New Haven Community Hospital, and clinical instructor in the Yale School of Nursing; Mrs. Gelinas is a pediatric social worker at the Grace-New Haven Community Hospital.

The key part of the program, they said, is the monthly group meetings held at the hospital, when parents, grandparents, or others assisting in the care of the baby are encouraged to ask questions and to discuss their problems.

The meetings are informal, they continued. The children's ward resident presides and a nurse and social worker help in the discussion. The nurse tells about the nursing care of the baby in the premature nursery, answers questions about his care after he is discharged, and encourages the parents to come in at any time to care for and get acquainted with their baby. The speaker stressed the importance of the visiting nurse in giving the mother a sense of security in bridging the gap between hospital and home.

Parents' Queries Answered

The social worker described her functions, among which is the encouraging of parents to bring before the group questions they have asked her. These most often concern the reason the baby was premature, what can be expected in his growth and development, the danger of overprotection, preparation of other children at home for the advent of the baby, effect of the parents' feelings upon their care of the baby, insecurity in caring for a small infant, and fear that he may be fragile or that they may expect too much of him.

Parents feel that they have adjusted to their baby more easily as a result of these group discussions, they said, and the staff has learned a great deal, including the fact that more than a simple explanation about prematurity is needed by parents, and that the parents work more effectively with the hospital after attending meetings.

Mentally Retarded Aided By Group Methods

When one New Jersey mother advertised a few years ago that she had a mentally retarded child and asked other mothers to phone her about discussing their common problem, she sparked a remarkable group method, E. Louise H. Porter, Ph.D., registrar at the Southbury Training School, Southbury, Conn., told the joint session with the Conference for Health Council Work.

The New Jersey parents met, sought professional advice, and set off a chain of national, State, and local organizations to help overcome parental and social misunderstanding of mentally defective children, Dr. Porter noted.

"I doubt if a better group method exists," she said. "It is dynamic because it derives from the long-suppressed feelings of parents who always believed, though silently and alone, that something should be done. To be sure, a few parents never had the belief, and some parents had lost it when they were convinced that their child should be institutionalized and forgotten. These organizations of parents have given their members faith in themselves and their children . . . This wholesome attitude engenders an improvement in the attitude of others."

The Children Improve

Effects of the new parental attitude on the children themselves are far-reaching, she continued. "Some children are enjoying the company of others of their own mental level for the first time in their lives. Others are going out into the world from which they were previously separated by shame. Still others are attending classes though they had formerly been excluded from school as noneducable. A few others are obtaining jobs because intolerance of slowness has given way in a few places. This is only the beginning."

The group method has spread to institutions too. "Previously parents traveled from many geographic areas to visit their children and returned quickly to their separate homes," Dr. Porter added. "Now they not only visit their children but remain to meet with other parents for group discussions."

Dr. Porter commented that through appreciation of an institution's problems parents have provided "the administration with a bulwark of backing when outside influences try to alter the school's carefully developed philosophy. Parents drawn into these groups have a new purpose in life, and those whose children have been living in the institution for years wish they had been wise enough to start discussions long ago. As if to compensate for the years they lost, many of them join the community groups and help bring understanding to other parents.

Group discussion is leading to action as parents realize their power as a group. Action is what the field of mental deficiency needs to obtain funds for special classes and recreational opportunities, to convince industry that the more capable mentally deficient are good employment risks, and to stimulate the professions of medicine, psychiatry, education, psychology, and social work to train their specialists for wise guidance of the mentally retarded child and his family, Dr. Porter stressed.

Own Problems Solved By Parent Groups

Intelligent group counseling by psychologists and medical social workers with parents of cerebral palsied children helps to eliminate many of the parents' misconceptions about cerebral palsy and aids them to a fuller understanding of their part in their children's development, said Harry V. Bice, Ph.D., consulting psychologist with the Bureau of Crippled Children, New Jersey State Department of Health.

Such a group counseling program was inaugurated in New Jersey, Dr. Bice reported, because parents did not feel they received adequate information about the complex nature of cerebral palsy from the professional physicians, nurses, and therapists treating their handicapped children.

He said many parents needed release from emotional tensions, as well as pertinent information about their children. They frequently expressed resentment, complaining either that they were unjustly burdened with an afflicted child or that professional personnel were not competently treating the child. To meet this dual need throughout the State, counseling groups were organized which were small enough to enable the counselor to know each child and his particular problems and to provide parents with an opportunity for self-expression.

Subtlety in Counseling

Nondirective group counseling was emphasized, with the counselor attempting to remain in the background while parents discussed and offered their own solutions to problems that were presented. Even when it was necessary that the counselor give technical information, he tried to draw from the parents their own points of view.

Best results were achieved, continued Dr. Bice, when fathers and mothers were not both present at the same meeting, for while a mother might speak freely of tension between herself and her husband when only other mothers were present, she was unlikely to do so if he or other men were at the meeting. Therefore, five separate meetings were conducted for each group, with a sixth and summary meeting being participated in by both groups. More women than men attended the afternoon meetings, he said, and recommended that meetings for men be held at night.

Generally, Dr. Bice concluded, the parents discussed candidly their feelings of embarrassment, frustration, and guilt toward their children and contributed greatly to each other in comparisons of disciplinary and training methods.

That "Different" Feeling Mitigated by Groups

Four advantages of informal group discussions among parents of chronically ill children were outlined by Luigi Luzzatti, M.D., at a combined session of the maternal and child health, public health nursing, and public health education sections and the Conference for Health Council Work.

Dr. Luzzatti, chief, department of medicine, Children's Hospital of East Bay, Oakland, Calif., said that the discussions held in the metabolic clinic for parents of diabetic children have provided the parents with accurate information about the disease; have helped them overcome the feeling that they or their children are "different" or "alone"; have helped to release parental anxieties; and have provided the professional staff with information about the parents and children.

Pointing out that the care of a child with chronic disease requires more than regulation of the disease, he maintained that there are limitations as to how much can be accomplished by the one-to-one contact between physician and parent in the doctor's office or clinic. Admitting this contact is useful, he expressed the belief that group discussions can significantly supplement it.

Information and Reassurance

Participating in the group discussions described by Dr. Luzzatti were the professional personnel who see the parents and children individually in the clinic and one or both of the parents of 13 of the 20 children attending the clinic.

Discussions centered generally around assigned topics such as physiopathology of carbohydrate metabolism and diabetes, management of the diabetic child, psychological adjustment to the disease, and economic problems of care. Many of the questions raised by parents stemmed from ignorance of a particular aspect of the diseases; others from a simple need for reassurance.

In retrospect, Dr. Luzzatti said, it is believed that the discussion would have been more valuable had more stress been placed on the individual problems and less on imparting information on a planned basis. "We came to feel," he stated, "that only out of an answer to their own individual problems would parents derive the ability to accept the condition and to reassure each other."

Studies of Spread Patterns Of Infectious Hepatitis

Observations on infectious hepatitis in a Baltimore housing project suggest the use of gamma globulin to stop an outbreak. Further observations in Philadelphia confirm data indicating the fecal-oral type of spread of the agent. In National Microbiological Institute investigations, heat of 60° C. fails to sterilize plasma infected with the agent of homologous serum hepatitis.

One of these studies was presented to the epidemiology section and the other two to the joint session of that section with the laboratory section.

Radial Pattern Revealed In Hepatitis Outbreak

The nearer a person lives to a home affected by infectious hepatitis, the greater is his risk of contracting the illness.

This was the opinion expressed by Abraham Lilienfeld, M.D., Irwin Bross, Ph.D., and Philip E. Sartwell, M.D., of the departments of epidemiology and biostatistics, Johns Hopkins University School of Hygiene and Public Health.

Focus of Infection

Basing their conclusions on an intensive 2-month study of an outbreak of infectious hepatitis in a Baltimore housing project in 1951, the authors stated that the disease seemed to spread from a focus near the center of the project in a radial pattern often seen in outbreaks of poliomyelitis or measles.

The Baltimore City Hospitals, located near the project of row houses, alerted the city health department to the outbreak in July 1951. Approximately 30 cases were reported from April through September although reporting of jaundice was not required. The study was initiated to determine the number of cases and the distribution according to various characteristics of the industrial population.

Method of Attack

Interviews with residents and their physicians established that there had been 117 mild cases of infectious hepatitis among the 3,970 residents during the year prior to the study. Eight cases without jaundice were not included in the study. The general attack rate was 2.9 percent, the highest occurring in the 5–14 age group. Females had a higher attack rate than males.

Examination of school attendance records, income status, duration of residence in the city and in the project, and the history of parenteral injections did not implicate these factors in the outbreak. In fact, newcomers to the project had a lower attack rate than others, contrary to the observations made on military populations.

During the outbreak, gamma globulin was offered to some of the persons of the affected households. The total secondary attack rate for those not receiving gamma globulin was 8.8 percent, which is considerably lower than the secondary attack rate reported in other outbreaks. The attack rate among those who received the globulin was 1.4 percent.

The expected seasonal decrease was observed in the summer months with a decided increase occurring in the early autumn. Because of the pattern of distribution, the authors determined that the disease was transmitted by the fecal-oral route.

The observed pattern might be utilized as a basis for applying gamma globulin in civilian populations to stop an outbreak, the authors suggested. "In institutional outbreaks it is feasible to administer gamma globulin to all the inmates. Although this is impossible in civilian life, it would be feasible to administer gamma globulin to members of the households which are in close proximity to an already affected one since their risk appears to be greater than average."

Hepatitis Transmission Via Fecal-Oral Route

The failure of nurses in a Chicago orphanage to properly wash their hands after each change of infant diapers was a major source of infectious hepatitis in one of the classic institutional outbreaks.

Most of the essential epidemiological points gleaned from that outbreak were discussed by Joseph Stokes, Jr., M.D., professor of pediatrics of the School of Medicine of the University of Pennsylvania. In outlining the epidemic, which pointed to the fecal-oral route of transmistion, he reported the following:

Peculiarly, the disease seemed to appear only in new student nurses shortly after they began their training and did not seem to appear in the children or other adults at the institution. The knowledge of the presence of the disease there since 1942, and the fact that new interns also had begun to contract the disease, began by 1948 to deter new interns and nurses from applying for admission.

Gamma Globulin Injected

After November 7, 1948, gamma globulin was injected as a palliative and diagnostic measure into all new student nurses upon admission. Just prior to that date, 42 of 144 incoming students had developed jaundice soon after admission. In the 36 nurses who received the gamma globulin injections no jaundice de-

veloped for the succeeding 10 months. One exception was noted—a nurse who received her globulin 2 days prior to onset, a fact which confirmed the continuing endemic nature of the disease.

Skin tests for the presence of virus in the stools of certain children were conducted and evaluated. An evaluation of orphanage personnel, a tracing of possible sources, and hepatic function tests on key children and adults were made.

The liver function tests pointed to the fourth and fifth floors as the locale of the diseased children—over 80 percent of the student nurses who developed jaundice during the period from January 1, 1946, to November 7, 1949, had done so within 3 weeks of entering or of leaving the fourth and fifth floors. None of the mothers contracted the disease even though they were exposed to contact with the student nurses and ate and drank the same food and water.

The gamma globulin injections were halted on September 1, 1949, at which time 20 new nurses were admitted, 9 of whom developed hepatitis.

By use of volunteers, the presence of active cases of hepatitis A or of intestinal carriers was demonstrated by testing stool preparations from two children who had symptoms and positive liver function tests.

Hand Washing Effective

Following careful instructions on hand-washing techniques, no jaundice has occurred even in the absence of gamma globulin since December 1949 to the present time.

The outbreak supports other data indicating hepatitis A has a fecal-oral type of spread and does not appear to spread by nasopharyngeal secretions. A respiratory route of transmission would have brought the disease to at least one of the mothers in the Chicago orphanage, and the simple improvement in the cleanliness of nurses would not have stopped the disease if it had a respiratory route of spread from child to nurse.

The incubation period of epidemics of this disease is from 20 to 35 days but may be increased by attenuation of, or decrease in the number of, viral bodies in the infective material.

Immunity Attained

Individuals can be chronically active cases and carry the virus in their stools. Gamma globulin, administered at least 7 days prior to expected onset, is effective, at least as a temporary protective agent, in doses as small as .01 ml. per pound body weight. There is the suggestion that passive immunity can be changed to passive-active immunity if the individual continues at risk during waning passive immunity.

It appears best to have experience with the virus at an early age since jaundice is rare in hepatitis cases in the youngest age groups. Recently developed skin tests suggest that the hepatitis A virus, like measles or mumps viruses, may be of uniform antigenic properties which produce permanent immunity.

Virus of Serum Hepatitis Survives Heat

Plasma infected with the agent of homologous serum hepatitis retains its ability to produce jaundice even after being heated at 60° C. for 4 hours, reported five researchers in the laboratory of biologics control, National Microbiological Institute, National Institutes of Health, Public Health Service.

The study from which this conclusion was made was described by Roderick Murray, M.D., William C. L. Diefenbach, M.D., Frank Ratner, M.D., and Nicholas C. Leone, M.D. It is one of several being conducted to determine the effectiveness of existing and proposed methods of sterilizing blood and blood products.

Volunteers Inoculated

According to the investigators' statements, the study involved the inoculation of three groups of volunteers with samples from a pool of infected plasma: one group of 10 men was inoculated with 1.0 ml. of plasma which had been heated for 2 hours; a second group of the same number, with 1.0 ml. of plasma which had been treated for 4 hours; and a third group of 5 men, with 1.0 ml. of plasma which had remained at room temperature. The heating had been accomplished by suspending 10-ml. bottles containing 7 ml. of infected material in a water bath, with each bottle completely immersed. The water was constantly agitated and the temperature maintained at about 60° C.

Dr. Murray and his associates stated that three cases of frank jaundice and one showing clinical signs and symptoms of hepatitis but with no visible jaundice occurred in the group inoculated with plasma heated for 2 hours; three cases of frank jaundice and two cases showing abnormal laboratory findings occurred in the group which had received the plasma heated for 4 hours; and one case of frank hepatitis occurred in the group which had received the control material.

Health Hazard Guarded

Subjects participating in this and other studies, Dr. Murray and his colleagues explained, are inmates of Federal penitentiaries, over 21 years of age but below middle age, who volunteer for the experiments. Each volunteer is carefully screened by a review of his past medical history, a complete physical examination, and a battery of liver function tests. After inoculation with the test material, the subjects are examined weekly. They are questioned as to their health, observed closely for possible icterus, and examined carefully for the development of signs of hepatitis. In addition, the set of liver function tests is repeated. On development of sustained symptoms or abnormalities, the subject is hospitalized for observation and treatment.

The General Practitioner And Preventive Medicine

More and more the general practitioner is turning to preventive medicine, speakers told the joint APHA session of health officers and medical care sections with the Academy of Medicine of Cleveland and the Cuyahoga County Medical Society. The trend is evident in the physician's early training, in his office practice, and in his role in the community and its organized health programs.

General Practitioners Lead in Community

The general practitioner participates directly in a host of community health activities, declared Garry G. Bassett, M.D., health commissioner, city health department, Lakewood, Ohio. Allied with the local health and various nonofficial health agencies, he makes major contributions to such public health programs as recording vital statistics, communicable disease control, sanitation, maternal and child health activities, and health education and information, Dr. Bassett maintained.

Elaborating upon this thesis, the health commissioner noted that the health department depends upon the general practitioner to report all births and deaths which he attends. He is responsible for providing an accurate diagnosis of the cause of death, information which contributes to the defining and locating of local health problems.

Serves Community

The general practitioner is the main contributor to the registration of communicable diseases, Dr. Bassett continued. He plays a major part in tuberculosis control programs, sometimes by aiding in conducting mass case-finding surveys and often by providing clinical management of the cases found in such surveys. The discovery of cases of venereal disease is frequently made by the private physician.

In improving the sanitation of his community, the general practitioner assists by reporting abnormal conditions that he encounters in his patients' homes and in local establishments. In providing maternal and child health services, the private physician can excel since he takes care of the mother and child in the home environment. In addition, he often donates his services to maternal and child health clinics.

Finally, Dr. Bassett stated, the general practitioner performs an important service in health education. With his intimate knowledge of the patient, he can see that information obtained from lectures, newspapers, or radio is properly interpreted. He can make the education effective for the individual.

Serves Public Health

The health commissioner pointed out also that the general practitioner is in an excellent position to influence the development of the health department. He is attended with open ears by the various law-making and appropriating bodies—his suggestions are given the utmost consideration. "Practically," Dr. Bassett said, "the health department is largely in his hands to make to his liking."

Along with such nonofficial agencies as the Heart Association, the Tuberculosis Association, the Cancer Society, the Red Cross, and National Foundation for Infantile Paralysis, the private physician and the health department constitute the community health team, he concluded. Consideration of the facts usually reveals that "each is playing a good game," but each could probably play a better game with help from the others.

Prepaid Group Practice Benefits Family Doctor

By serving as an equal partner with specialists in prepaid group practice, the family physician can be restored to his proper place as the key figure in community medical care, and many of the professional and social "disabilities" under which he now labors can be eliminated, George Baehr, M.D., president and medical director of the Health Insurance Plan of Greater New York, stated.

The increasing trend of the medical profession to desert family practice for the specialties, Dr. Baehr suggested, is due chiefly to materialistic considerations. The specialist, he said, generally receives higher fees and enjoys more regular working hours. His social position within the medical fraternity is considered higher than the family physician's, and he usually has more free time for hospital work and educational, social, and recreational activities. Family physicians, he continued, have themselves adopted "a defeatist attitude by submissively accepting the title of general practitioner, which is generally used by the public to mean jack-of-all-trades in medicine and master of none."

Prepaid Group Practice

As an equal partner with the specialist in prepaid group practice, the family physician receives an annual income approaching that of the specialist, Dr. Baehr said. The absence of financial barriers enables him to utilize all the available professional services and facilities of the group for preventive medicine

and early disease detection and treatment. He enjoys regular working hours, liberal off-duty periods, regular vacations with pay, and at times sabbatical leave for special training. The Health Insurance Plan of Greater New York (HIP) is also considering a retirement program for all participating physicians, he reported.

Dr. Baehr continued that under HIP 30 such medical groups, comprising almost 400 family physicians and 550 specialists, now provide comprehensive medical care to 400,000 persons in New York City. Since 90 percent of the participating families have selected a permanent family physician whom they may use regularly without financial deterrents, he felt that a far more favorable opportunity exists for an intimate and continuing doctor-patient relationship than in "solo" fee-for-service practice among similar low or moderate income families.

"Perhaps the most significant experience with group practice under HIP," he concluded, "has been the growing awareness among the group directors and specialists that the family physicians are the keystone of this type of practice and that the quality of medical care which they provide determines the reputation and the growth potential of the medical group."

Baltimore Program Relies On Community Practitioner

By uncovering multiple instances of unsuspected disease and by restoring clients to the point of employability, the Baltimore City medical care program is sound public health and an economic advantage to the community, according to George W. Dana, M.D., director of the medical care clinic of The Johns Hopkins Hospital. The program, instituted in 1947, endorsed by the Baltimore City Medical Society, and financially supported by the State legislature, provides continuous medical service to persons maintained by Baltimore's Department of Public Welfare, he said.

Dr. Dana told the joint session that the program, which is under the authority of the commissioner of health, affords the client his own participating medical practitioner, an affiliating hospital, and free drugs.

Clientele, in family units, are assigned to an affiliating hospital having its own complete medical care clinic and are given initial medical examinations, Dr. Dana stated. The clinic routinely forwards clinical reports to the client's physician and provides consultative and laboratory services at his request. Currently, the 24,500 Baltimore clients are receiving medical care service from 300 participating physicians, 59 of whom carry an assignment of 100 persons or more, he reported.

The community practitioner is the central figure in the program's concept of medical supply, Dr. Dana continued. Participation is voluntary and available to all Maryland licensed practitioners. A physician expresses his interest to the medical care clinic directors of affiliating hospitals with which he desires association. He is paid under the capitation fee system at the rate of $7 per client per year, providing home and office care at an average of 2.4 services per client per year.

Schools Can Educate For Useful Service

With "a broader concept of preventive medicine as to its environmental and social aspects, the medical school will more completely fulfill its function and responsibility in meeting the realities and demands of medical practice for today and tomorrow," Walter L. Bierring, M.D., commissioner of health of the Iowa State Health Department, told the joint session.

Because the practicing physician today works in his office or in the hospital more than in the home, he

Preventive medicine as practiced by the general practitioner is not limited to his office; it is found wherever he goes—in his daily practice, in his postgraduate studies, and in his civic activities through his community health council. Each decade preventive medicine occupies more of the general practitioner's time.

Without the cooperation of the general practitioners of America any preventive medical program, whether national, State, or local in character, is doomed to failure. Practicing physicians look to public health officials for leadership. The general practitioner, however, should be led, not pushed. Continuous education is the key.

Public health is a specialty. Few general practitioners have the time or the training to do a good job in part-time public health work. Organized public health units with full-time personnel constitute the essence of good health protection.

—J. S. DeTar, M.D., Milan, Mich., speaker, House of Delegates, American Academy of General Practice; president, Michigan Health Council.

is no longer as familiar with the hereditary, family, home, personal, and economic environment of his patients as in the past and cannot judge the importance of these factors in relation to disease, Dr. Bierring said.

The result, he said, is that social workers and agencies rather than physicians are most concerned with the environmental and social implications of health. Therefore, he maintained, the general physician should be taught the importance of understanding the civic activities related to medicine, problems of school health, maternal and child health, family life, and environmental influences, not only that he may be more useful to his patients, but that he may serve his community throughout his professional life.

During the past half century great and beneficial changes have taken place in scientific investigation, medical practice, and specific curative medicine, the physician continued, and these changes have resulted in a corresponding evolution in methods of medical education.

Medical Education

Undergraduate medical education should not only lead to the best care of the sick, the prevention of disease, and the promotion of health, Dr. Bierring went on, but should also provide opportunity for developing and using knowledge of medicine as a whole through integration of basic and clinical sciences, wider application of clinico-pathological conferences, and greater emphasis on preventive medicine. Specialist training should be postponed to the graduate years.

In addition to the problems of preventive medicine, which include occupational diseases, malnutrition, maladjustment, psychoneurosis, social deficiencies, and health education, Dr. Bierring said, long-term or chronic diseases are now a large part of general practice.

"Advancing the Frontiers of Public Health"

Health officers, public health nursing, medical care, and industrial hygiene sections of the APHA joined to present a "Joseph W. Mountin Memorial Session" in Cleveland. The texts in full are published in the January 1953 issue of the American Journal of Public Health. Excerpts from the texts follow.

Introduction

By Leonard A. Scheele, M.D., *Surgeon General, Public Health Service*

"Six months before his death, Dr. Mountin participated in a symposium on the Arctic Health Research Center at a general staff meeting of the Public Health Service. His opening sentences may be taken as an epitome of his major contribution to public health.

" 'It might seem incongruous,' he said in that deceptively hesitant manner we knew so well, 'that at the last staff meeting I appeared before you as an apologist for the aging and made a point of identifying myself with that group; now, 2 weeks later, I come again as an Arctic explorer. That incongruity is something I would like to make a point of.'

"Everyone who knew Joe Mountin would like to make a point of the amazing diversity of his interests. He might call it 'incongruity,' but the ripe fruit of his brilliant mind was this very recognition that whatever affects the health of man is the proper study and a proper field of public health action. With recognition went his complete identification with the problem. Joe Mountin had in a very real sense the curiosity and instant response that Judge Learned Hand has called 'magnificent meddling': the force that drives man onward in his quest for mastery of the world he lives in."

Local Health Department

By Hugh R. Leavell, M.D., D.P.H., *Professor of Public Health Practice, Harvard University School of Public Health*

"Joe Mountin's great contributions . . . were based on sound knowledge of health problems derived from a long and rich first-hand experience at all levels of government, and on certain personal qualities which characterized him. . . . His contributions in public health administration stemmed from a broad, dynamic, progressive concept of 'health' . . . [which] must depend on differences in time, place and problem. . . . He kept asking: How well suited is the orthodox program of health departments to the needs of the people? What role is the department willing to occupy in areas beyond its traditional interest? How well equipped are public health groups to carry such additional functions as they may be called upon to discharge?

"The history and development of local health units was well known to him, and many years ago he stated certain principles which should govern the organization of such units. . . . The governmental health department was of paramount importance in Mountin's eyes . . . the focal point of the community's health activity. It should contain the social perspective and the wealth of competency to be able to perceive the need; and it should have the

ability and the courage to take whatever action is necessary. . . .

"He did not conceive of the health department as doing the total health job . . . [and] although the health department should definitely not engage directly in all kinds of health activities, it should find ways to participate in each type. . . .

"Mountin appreciated the importance of understanding the private practitioner's problems and finding methods of work with him. . . . With increasing extension of public health activities into the field of personal health services, particularly in chronic disease control, he realized the importance of not going too fast and of carefully working out professional relationships. . . . If health departments were to do their job properly, Mountin thought they would need to work very closely with hospitals and other agencies providing medical care. . . ."

Chronic Disease and Aging

By Vlado A. Getting, M.D., D.P.H., *Commissioner, Massachusetts Department of Public Health*

"It is almost impossible to review the development of any program in public health in the past score of years without finding Joe's guiding hand somewhere in its development. He brought out the need of health departments to evaluate their programs carefully, to consider the characteristics of the total population they serve, saying that health is positive and that public health responsibility must be geared to promoting ever higher standards of human efficiency and satisfaction. . . . He reminds us that there has been phenomenal progress in the development of programs for children, and he suggests that the same type of approach as was used in studying the child and his needs is now needed for the mature and older members of the community. . . .

"While Dr. Mountin stimulated not only health departments but also voluntary agencies to assume a vital role in the development of a community program for older people, he indicated that such a program must be a community program shared by all. . . . If the health department develops an understanding of the problems of the aged and arouses community interest, he was convinced that the health department need do only a small fraction of the total program itself, and that the community as a whole will awaken to its responsibility . . ."

Regionalization

By John B. Grant, M.D., *Associate Director, Division of Medicine and Public Health, The Rockefeller Foundation*

"Joe Mountin's chief characteristic was the embodiment in his philosophy of a comprehensive horizontal rather than a vertical specialized approach to problems of public health. And another characteristic over the years was the manner in which earlier general principles were later amplified in detailed recommendations. . . .

"Organization is the cornerstone required for the advance of any frontier of public health . . . Mountin considered that multiplicity of agencies was the chief evil to be attacked. The summation of his thinking was that this evil required regionalization under a single administration for its removal. His guiding principle was that enunciated by the British Ministry of Reconstruction in 1919: 'The first principles of good administration require that when a special function is to be undertaken, it shall be undertaken by one governing body for the whole community needing the service, and not for different sections of the community by several governing bodies.'

"The level of health services of the nation in 1975 will be proportionate to the degree that Mountin's recommendations are implemented for integration of all services through regionalization under a single administration."

Medical Care

By Franz Goldmann, M.D., *Associate Professor of Medical Care, Harvard University School of Public Health*

"With creative imagination and common sense he crusaded for the continued adaptation of medicine to social needs and uses, and he had the courage to state and defend unorthodox views at a time when many others were aloof, if not hostile, to any proposal implying a change from chance to choice. Knowing that truth does not necessarily conquer by itself, he was untiring in interpreting new ideas against the background of historical developments . . .

"Mountin frequently expounded each and all of the rules of sound administrative organization [democratic, simple, and inexpensive] and used every opportunity to make them living facts in the administration of tax-supported health services . . . Mountin did not confine his interest to technical matters and questions of methodology. He gave much thought to some of the concepts guiding contemporary health policy and, especially, the theory of separation of preventive and curative health services . . . [and] was confident the blending of preventive and curative service could be achieved through a complete health program . . .

"Mountin fought under the flag of faith embroidered with the words: 'Let the welfare of the people be the supreme law.' He never wavered under the fire of those drawing together around the flag of fear. By taking such a stand he acted in conformity with George Washington's maxim: 'Let us raise a standard to which the wise and honest can repair.'"

Field, Laboratory, and Legal Approaches to Treponemata

Reports of new data and new approaches to the syphilislike diseases, yaws and pinta, a review of a laboratory evaluation-guidance program, and a suggestion for reevaluation of premarital blood test laws were heard by APHA members attending the laboratory and epidemiology sections, and by the Conference of State and Provincial Public Health Laboratory Directors.

Pilot Study Should Precede Mass Treatment of Yaws

In treating yaws, a house-to-house canvass where everyone would be subjected to clinical, anamnestic, and serologic examinations would be ideal but is often impossible, impractical, or too difficult, said Charles R. Rein, M.D., associate professor of clinical dermatology and syphilology, New York University-Bellevue Medical Center, New York City.

Any treatment campaign based solely on clinical examination, he said, is limited because persons in the incubation stage of yaws are missed if no clinical manifestations are evident, and it is impossible to detect the seropositive asymptomatic latent yaws patients who ultimately may develop cutaneous relapses, thereby setting up new infectious reservoirs. Also there will be included some nontreponemal disease that will respond to penicillin therapy, thereby causing a fallacious increase in cures. Some nontreponemal conditions which do not respond to penicillin will result in a fallacious decrease in cure rates, Dr. Rein cautioned.

"The number of patients with nonvenereal conditions subject to penicillin therapy would depend on the diagnostic acumen of the clinicians," he said.

Dependence on anamnestic evidence is also fraught with difficulties, he said. "The word soon gets around among natives that they will receive some 'magic medicine' if they state that they have had yaws, and this they will gladly do with the hope that it will cure their bone pains, malaise as well as many imaginary ills."

Serologic Survey

A house-to-house serologic examination would be slow. The interval between serologic survey and institution of treatment would require several days. Some individuals requiring therapy would not be available when treatment teams revisited the houses. This type of survey, Dr. Rein emphasized, would require extensive laboratory facilities to examine the large number of blood specimens and well-trained serologists to evaluate results.

Dr. Rein quoted Dr. H. J. Magnuson as comparing the problems of combating yaws with those in shooting down attacking enemy planes: It is foolish to fill the sky with flak to shoot down one or two planes. Precision-aiming mechanisms, accurately controlled and well-manned, are needed.

It may be feasible to treat entire populations in high prevalence areas without regard to serologic examinations, Dr. Rein explained, but careful serologic examinations with tests known to have high levels of sensitivity and specificity are greatly needed in low prevalence areas. "To date, the filter paper method and the various modifications of the Chediak reaction have not been proven to be of sufficient sensitivity and specificity as compared to the standard tube or slide tests performed on serum. While the use of capillary tubes for collection of specimens has been found satisfactory in the United States, this would not be a practical approach to the yaws problem," Dr. Rein added.

A simple, inexpensive and yet consistently effective serodiagnostic procedure is greatly needed in low prevalence and underdeveloped areas with inadequate laboratory facilities and insufficient trained technicians, he noted.

Limitations

Without an awareness of the limitations of serodiagnostic procedures in mass treatment campaigns, errors of omission and commission will arise, the syphilologist warned. These chief limitations are false negative reactions, false positive reactions, and seroresistance.

A pilot group with a well-controlled laboratory set up as soon as possible, and preferably before mass therapy is instituted, is important whether or not serodiagnostic procedures are to be employed, Dr. Rein stressed, for it is during the demonstration, survey, and training phase of the pilot program that the laboratory can supply information of value during the later expansion and consolidation of the campaign.

This information should include, he said, darkfield disappearance time following therapy to determine the immediate efficacy of the penicillin preparation to be employed, quantitative serologic tests to note the serologic trend following therapy, and differentiation between relapse and reinfection.

Would Preassess State Laws On Premarital Examination

The marked decrease in the number of syphilis cases reported in recent years, especially infectious syphilis, calls for a reevaluation of

the premarital examination laws as a case-finding and control technique, two California health officials believe.

Philip K. Condit, M.D., and A. Frank Brewer, M.D., of the division of preventive medical services, California State Department of Public Health, offered California's experience during the 12 years, 1939–51, as an indication of what the tests accomplish.

8,100 Cases Since 1939

In California, more than 2 million persons have had premarital blood tests for syphilis since 1939. The tests required by State law discovered 8,100 cases of previously unknown and untreated syphilis, 510 of them primary and secondary syphilis, and about 3,000 in need of further treatment.

Finding infectious syphilis cases and bringing them to treatment to prevent transmission from one marital partner to another to the child is the first objective of the premarital law, Dr. Condit and Dr. Brewer pointed out. Treatment of the other cases discovered fulfills another objective by preventing further progression and disability.

The case-finding returns, however, are diminishing, they found. The number of syphilis cases reported from all sources in California declined 63 percent from 1946 to 1951 for all forms, and 88 percent for primary and secondary syphilis.

Ratio of Infections

Attending the decline in syphilis prevalence is the smaller number of cases discovered by premarital tests, the doctors found. From 1949 to 1951 the ratio of infections to persons tested decreased from 1 in 437 to 1 in 553 for all forms.

The ratio for primary and secondary syphilis decreased by more than 50 percent—from 1 in 2,168 to 1 in 4,836. Thus, the unit cost per case of this type discovered more than doubled during the 3 years, they noted.

In actual numbers the score for the 3 years stands: premarital examinations, 511,160; all syphilis cases discovered, 1,079 (primary and secondary, 162). Thus a total of the cases found by the premarital tests constituted 3.4 percent of the State total; 32,315 cases were reported from all sources in the State.

Although the 162 infectious cases found was proportionately small, the doctors called attention to the fact that an indeterminate number were prevented by the premarital tests, which served to get medical supervision and treatment for the infected individuals.

Indiana Rates Performance Of Laboratories in State

The goal of a laboratory evaluation-guidance program is to assure in the interest of public health, the best possible service to medical practitioners, Paul Fugazzotto, M.S.P.H., Ph.D., chief serologist of the bureau of laboratories, Indiana State Board of Health, told the Conference of State and Provincial Public Health Laboratory Directors.

The policy of the State health department must be one of active interest, he continued, and the participating laboratories should feel that the health department, or reference center, will guide and help whenever needed. A program that guides rather than polices, and that assists the laboratories to solve problems, is the most desirable, he felt.

Volunteer Participation

In Indiana, Dr. Fugazzotto reported, such a program has resulted in 50 laboratories participating on a volunteer basis, in addition to the 67 approved for making premarital and prenatal serologic tests for syphilis.

Technical phases of the Indiana program, he said, include checktesting of clinical specimens, distribution of control serums, study of reagents, consultation service to laboratories, including the checking of environmental temperatures at which test reagents are stored and used, review of general techniques and equipment used, and evaluation of serologic test performance.

Deficiencies in test performance of a participating laboratory should be diplomatically but specifically called to its attention, Dr. Fugazzotto continued, with explanation of possible cause and suggestions for remedy or improvement. Technicians often feel that their test performance is not entirely satisfactory and are glad to be told why and what to do about it, he stated.

Causes of Difficulties

Only visits from a trained serologist will discover the cause of most difficulties, the speaker said. Some of these difficulties are due to environmental conditions or failure to follow test specifications, he said, but others are caused by intangible factors which are not described in the literature and "the technician needs someone to tell him where he has failed to consider such factors."

Visual Tests Adequate In Pinta Mass Survey

Pinta may be diagnosed with sufficient accuracy for mass surveys by examination of exposed surfaces of the body, reported Walter F. Edmundson, M.D., associate director, and Sidney Olansky, M.D., director of the Venereal Disease Research Laboratory, Public Health Service, Chamblee, Ga., and Arnoldo Lopez Rico, M.D., chief of the Center of Epidemiological Studies, Rural Cooperative Medical Service, Apatzingan, Michoacan, Mexico. They based their conclusion on clinico-serologic surveys conducted by the Center of Epidemiological Studies in four communities in the Tepalcatepec Basin in Mexico.

The evidence from these surveys indicates that "latent" pinta must be very uncommon, the speakers

stated. Only 4.64 percent of 194 children, 16 years of age or less, clinically diagnosed "no pinta," had either positive or doubtful serologic reactions. In three of the villages, only 2.76 percent of 145 children had reactive serologies. Special efforts were made to study children, Dr. Edmundson and his colleagues explained, in order to differentiate serologic results caused by pinta from those caused by syphilis since pinta is usually acquired in childhood and syphilis, known to be common in the area, in adolescence or later.

The "No Pinta" Group

Of 348 persons of all ages clinically diagnosed "no pinta," 14.37 percent had reactive serologies, the investigators reported. The assumption can logically be made, they maintained, that these reactions were syphilitic reactions, "biological false positives," or residual seroresistance following adequate treatment of pinta. Although the persons in three of the villages were queried as to previous treatment with penicillin or arsenicals, the reliability of their answers is questionable since many of the patients with pinta seemed to feel that an admission of previous treatment would injure their chances of additional medication.

The speakers pointed out also that it is known that lesions of pinta may occur only on unexposed surfaces of the body in about 1 percent of the cases, but they believe their occurrence is probably rarer statistically than the other causes of reactivity mentioned.

Although pinta does not generally cause disabling or killing effects, this disease deserves large-scale control efforts by the nations in which it exists, concluded Dr. Edmundson and his co-workers. The disfigurement caused by the disease interferes with personal freedom and with the development of a healthy outlook on life, they stated. Freedom of choice as to place of habitat, employment, and selection of a mate is drastically curtailed by affliction with pinta.

Professional Training for Pediatricians and Nurses

The well child conference is being used as a key element in the pediatric training of medical students at the University of Washington and in the pediatric residency at the University of Pennsylvania, it was reported to the maternal and child health, public health education, and public health nursing sections.

During a session on "professional education in public health," reports were also heard from Detroit concerning the use of monthly discussion meetings which bring together public health nurses from the health department and maternity service nurses of the hospitals.

Child Health Program Trains Pediatricians

A public health department pediatric training program in connection with its child health program was suggested by Elizabeth Kirk Rose, M.D., and John A. Rose, M.D., as a possible solution to the problem of including experience with normal children in the pediatric residency curriculum. Dr. Elizabeth Rose is chief of the division of child hygiene, Philadelphia Department of Health, and assistant professor of pediatrics, University of Pennsylvania, and Dr. John Rose is assistant professor of psychiatry at the university.

Child health conferences, they noted, provide a group of normal children who can be seen regularly over a number of years. The organization of a training program for pediatric residents in connection with these conferences requires, however, that provision be made for adequate supervision of the residents' work.

The Philadelphia project they described included these features:

Assignment of residents in pairs to the same weekly conference throughout their 2-year training period.

Selection of cases which afforded opportunity for long-time study.

Limitation of appointments for each resident to four during a 2-hour session.

Informal discussion of the cases between the resident and supervisor at each session.

Assignment of a member of the university teaching staff to each session.

Conferences among the supervisors for discussion of the program.

Materials and Evaluation

Materials used in conducting the health conferences included, in addition to the usual medical record form, a sheet on which was noted the development of motor skills and a yearly summary of the child's progress from the first through the sixth year, and a newly designed health record booklet in which notes as to diet, vitamins, and next appointment date were made by the physician and notes of the child's progress and questions to bring up at the next conference were made by the parent.

Evaluation of the program, important to the success of any program, they said, has been obtained from both the supervisors and the pediatric residents. Typical of the supervisors' comments quoted was this one: "It is extremely valuable to have residents involved in this experience while they have access to counsel and expert advice from the staff. It creates interest in good preventive pediatric care. . . . It is a definite contrast to the classic teaching experience with specific

diseases. . . . It demonstrates variability of normal growth and development." Questionnaires circulated among the residents revealed "unanimous approval of this opportunity to associate with well children," they reported.

Nurse Sessions Improve Hospital Maternal Care

Periodic discussion meetings by maternity nursing supervisors and other interested hospital and public health personnel have contributed significantly to the improvement of maternity and infant care facilities and procedures in Detroit hospitals and to a better prepared maternity personnel, reported Garner M. Byington, M.D., Dr.P.H., maternal, child and school health director of the Detroit Department of Health.

Subjects discussed at the meetings included: over-all maternal and child health programs; maternity hospital rules and regulations; venereal disease problems relating to mothers and infants; proper formula sterilization; incubators and their operation; hand-washing facilities; and general cleaning of nursery space. To promote an improved nursing service, copies of the American Academy of Pediatrics' "Standards and Recommendations for Hospital Care of Newborn Infants—Full-Term and Premature," were provided to hospitals lacking them.

Expectant Parent Classes

Since prevention of premature births and the early care of premature infants are of major importance, continued Dr. Byington, classes for expectant parents were established in several hospitals. Postpartum classes have been started also by a few nursing supervisors.

In discussions with hospital and public health personnel the availability of a city ambulance to transport premature infants to properly equipped hospitals was stressed, and approved methods of preventing infection, correct feeding, providing heat while the baby is in the delivery room, and maintaining heat upon removal to the nursery were discussed.

Dr. Byington stressed the value of the exchange of information and views between hospital and public health personnel. By public health nurses being informed of improved hospital methods, he said, they then are able, in their home visiting, to promote the acceptance of newer techniques of perineal care and the elimination of cord dressings and umbilical bands among mothers who, having had other babies, might resist the "drastic" changes.

Complete Care Accented In Pediatric Training

A complete program of care is accented at the University of Washington's child health center where pediatric training is received by the medical students, reported Robert W. Deisher, M.D., associate professor of pediatrics and director of the center.

Teamwork features the services of a medical social worker, public health nurse, nutritionist, dental hygienist, dentist, psychologist, and psychiatrist as well as pediatrician, he asserted. Conferences with the mother and evening visits to the child's home are included for the student, who may also call on any of the staff when necessary. Also, he visits a preschool nursery. Staff conferences which are moderated by the psychiatrist are also held.

Many students think at first that a well child conference is a health department function. They spend 40 to 45 carefully allotted hours at the center and are able to see the interrelationships of some of the basic principles of pediatrics, public health, and psychiatry. They grasp the functions of each member of the staff as well as what phases other than the physical are significant in following a child's growth and development, he said.

RN–PHN Group Discussion Produces Better Service

In addition to improvement of nursing care of mothers, one real benefit from the monthly meetings of the maternity nurses of metropolitan Detroit is the better understanding and friendship developed among nurses, said Irene Nelson, R.N., director of education at the Women's Hospital in Detroit, Mich.

Encouraged to attend the group sessions are all nurses, students, and others interested in obstetrics, but regular notices are sent to nurses in charge of the obstetrical departments in metropolitan hospitals, the State hospital nursing consultant in the area, and nurses from the nursing division of the Detroit Department of Health and the Visiting Nurse Association.

"The public health nurses attending the meetings are now our friends, and we call upon them when questions or problems arise. I am sure that we had as many questions and problems in the past, but we hesitated, not knowing whom to contact in the public health agency. These meetings are held in different public health stations or centers and hospitals in the city. Tours are arranged so that nurses have a chance to see and learn about the public health facilities and various hospitals," the speaker reported.

Common Understandings

The meetings afford an opportunity to explain changes in hospital techniques, she said. Before these meetings were held, mothers were told by some that babies did not need abdominal binders, although previously they had been told by others that binders were necessary. "We can only decrease a mother's fears and anxieties and make our teaching effective when we teach the same things," she pointed out.

Part II of This Special Section Will Appear in Our February Issue.

PHS publications

Nursing in Venereal Disease Control—A Suggested Guide

During the past few years there has been a dramatic change in the venereal disease problem in the United States. Control activities have reduced the incidence of syphilis and with newer treatment schedules, therapy can be carried out in clinics or in the offices of private physicians. However, special venereal disease centers are still needed.

These changes require the application of new skills and techniques. This is particularly true of the public health nursing services which will more and more be called upon to assume responsibility for participation in venereal disease control activities.

In response to the expressed needs of health departments, this publication has been prepared as a guide in planning for nursing service in the community in relation to venereal disease. Developed by the nursing branch, with guidance from the medical staffs of the Division of Venereal Disease and the Division of Public Health Nursing, it covers the venereal disease program, public health nursing in the venereal disease program, the clinic, and an evaluation.

The section on nursing includes a discussion of the nurse's responsibilities in case finding, health education, and care of the sick; and the principles, functions, and content of the patient interview. Physical facilities, equipment, and clinic procedures are considered in the third section, as well as follow-up activities in the clinic and in the field.

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Nursing in Venereal Disease Control. A suggested guide. (Public Health Service Publication No. 198) 1952. 27 pages. 15 cents.

Financial Status and Needs Of Dental Schools

Dental education, in common with all other fields of higher education, has felt the impact of accelerating scientific progress and economic change. It is confronted today with the complex problems of maintaining high standards and meeting increasing demands in the face of costs and backlogs of need for space and equipment. In recognition of these urgent problems, the Council on Dental Education of the American Dental Association asked the Public Health Service to undertake an intensive study of the financial status and needs of schools of dentistry.

This report, parts of which were summarized in the October issue of *Public Health Reports*, covers the 40 American dental schools in full operation during 1949–50. The study analyzes faculty resources, operating expenses, separately budgeted research, postgraduate instruction, sources of income, and unmet needs for staff and facilities. Information on operating expenses and income of the 18 schools of dental hygiene in operation during the same period is also included in the report.

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Financial Status and Needs of Dental Schools. (Public Health Service Publication No. 200) 1952. 83 pages; tables, charts. 25 cents.

Distribution of Health Services in the Structure Of State Government

Part Two—General Services and Construction of Facilities for State Health Programs

"Distribution of Health Services in the Structure of State Government" is the subject of a decennial study made by the Public Health Service for the purpose of presenting a picture of total State organization for the provision of health services. The data for the 1950 survey are being published in four parts, the first of which, "Administrative Provisions for State Health Services," was reviewed earlier. Parts three and four will cover personal health services and environmental health and safety services.

Part two is concerned with the organization, policies, and practices for the provision of general supportive services and construction of facilities for State health programs. The first section is a discussion of the methods by which State agencies supply general technical services which contribute to several of the specialized health programs. Because of the interrelationships among programs, these services have been treated separately, although they do not develop independently, but as parts of the specialized programs which they support.

Another State activity of importance in the total health picture is the program for expansion and improvement of hospitals and health centers. This forms the second section of the discussion, which gives the status of hospital construction programs administered by the hospital authorities of each State and Territory, the District of Columbia, Puerto Rico, and the Virgin Islands as of December 31, 1950.

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Mountin, Joseph W., Flook, Evelyn, and Mullins, Rubye F.: Distribution of Health Services in the Structure of State Government 1950. Part Two, General Services and Construction of Facilities for State Health Programs. (Public Health Service Publication No. 184, Part Two) 1952. 117 pages; tables. 35 cents.

Publications for which prices are quoted are for sale by the Superintendent of Documents, U. S. Government Printing Office, Washington 25, D. C. Orders should be accompanied by cash, check, or money order and should fully identify the publication (including its Public Health Service publication number). Single copies of most Public Health Service publications can be obtained without charge from the Public Inquiries Branch, Public Health Service, Washington 25, D. C.
