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AN INDUSTRIAL MENTAL HYGIENE PROGRAM FOR FEDERAL EMPLOYEES.[1]

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INTRODUCTION

A report on a mental hygiene program initiated in Government departments and agencies for Federal employees is presented, with basic suggestions for a psychiatric program in industry. This report is based on the experience gained in the Mental Hygiene Unit of the Employees' Health Service, United States Public Health Service, in Washington, D. C., during the first year of its organization, that is, from December 1943 to December 1944.

This mental hygiene program has been accepted and recognized by management as well as by the employees as a valuable aid in the solution of various problems that interfered with satisfactory job adjustment. There are, necessarily, some factors unique in the present set-up which should be elucidated upon in order to permit an adequate evaluation of the orientation, organization, and techniques used when similar projects are planned for industry. These unique factors we discuss under the following headings: (1) The centralization of mental hygiene services; (2) the present employment situation in Government; and (3) the cultural situation.

The centralization of mental hygiene services.—It is obvious that only organizations which employ a very large number of people can afford a centralized and completely staffed mental hygiene unit. Aside from Government departments, only businesses and industries

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with large-scale production methods fall in this category. The last Social Security Yearbook (1940) lists 340 firms employing over 5,000 people. It can be expected, therefore, that only a limited number of organizations outside of the Federal Government could undertake such a project. It is to be anticipated that the contributions in the field of so-called industrial mental hygiene will come mainly from Government agencies and those private organizations which use large-scale production methods and employ large numbers of workers.

Centralized mental hygiene services might also be established by small business and industrial organizations grouping together for the purpose of maintaining cooperative health services in a specific community. But here another problem has to be taken into consideration. As such services are closely related to personnel management, the establishment of centralized mental hygiene services would postulate a uniform orientation in personnel administration based upon scientific principles. One task, therefore, of mental hygiene services established in larger organizations must be the collection of facts and data which will form a scientific basis for personnel management.

In smaller enterprises, personnel management proceeds more or less on a personal basis. Supervision of a limited group of workers permits better acquaintance with individual problems and often a more direct interest on the part of the employer. Many times this has made for satisfactory job adjustment, loyalty, morale, and efficiency. However, the adequacy of mental hygiene measures under these circumstances will depend on the readiness and ability of the employer to evaluate the various factors pertaining to employee problems and on the quality of the professional advice he is willing or able to obtain. A full- or part-time plant physician with training and experience in psychiatric diagnostic methods might be in a position to carry out a limited mental hygiene program and to acquaint supervisors, foremen, and employees with principles of mental health. No doubt his close contact with supervising personnel will often enable him to aid the individual in making a more satisfactory adjustment. However, under such circumstances, supplementary methods such as psychometric tests could rarely be employed economically. Also, observations made by plant physicians pertaining to mental health and job adjustments of the individual workers, do not reach personnel administrators and physicians with similar assignments in other plants often enough to be generally evaluated. This problem, however, could be solved by establishing subcommittees sponsored jointly by local medical societies and industrial organizations for the purpose of discussing phases of industrial medicine and especially the psychological aspects of personnel management. Such a committee should

include among its members industrial physicians, representatives of management, and representatives of employees.

The development of health benefit organizations by organized groups of workers offering medical services points to another possibility of the development of centralized mental hygiene programs, which under the labor-management committees might also contribute to the collection of data pertinent to the mental health of the employee.

The advantages of centralizing mental hygiene services in industry are twofold:

(1) Industrial mental hygiene is in its initial stages, and relevant data necessary for the establishment of sound groundwork would be more efficiently collected and analyzed in a central set-up. Data of this nature will increase the knowledge of the psychology of the adult, further more efficient personnel management, and, in addition, stimulate the development of more appropriate methods of diagnosis and therapy.

(2) The supporting services of psychometric testing and social work techniques—of immense assistance to the psychiatrist—can be placed at the disposal of small health units economically only when they form a part of a centralized program.

The present employment situation in government.—The manpower problem during the present national emergency has called for the use of all possible means to keep the worker on the job. Signs and symptoms of maladjustment, whether they were expressed in complaints about the job, chronic physical ailments, frequent visits to the health room, or whether they manifested themselves in absenteeism, were seen as contributory to the decrease in efficiency and the work output. All measures that promised relief from such conditions were necessarily encouraged by personnel management.

It was with the objective of increasing the efficiency of Federal workers that the Mental Hygiene Unit of the Employees' Health Service for Federal Government employees in Washington was organized. A few private industries also began to pay increasing attention to the problem of mental health, engaged psychiatrists, and made plans for a thorough study of this problem.

It was, therefore, during the period of full employment and a small labor market that the employer showed an intensified interest in the application of mental hygiene principles to personnel management. Although the relationship between labor supply and requests for mental hygiene services in Federal Government cannot be verified by a statistical analysis of our Mental Hygiene Unit data because of the number of uncontrolled variables, we do get the strong impression that such a definite relationship exists. Various personnel workers in Government departments have confirmed this conclusion.

During the summer of 1944 when the belief in the imminent cessation of hostilities was general (many people expected the war to end within a few months) all plans for the future, of management as well as of workers, were affected by the anticipation of changes in employment. While leaders in business discussed reconversion plans, many Government employees felt that the sooner they could leave Government jobs and enter private industry the better their chance would be to secure for themselves permanent employment. Their jobs in the Government were still frozen; however, in certain instances, release from Government employment could be obtained on the basis of disabilities certified by a physician.

These acute conflicts evidenced themselves either in some kind of physical disability for which no organic cause could be demonstrated or in emotional disturbances which were projected by the employee upon his work setting. The services of the Mental Hygiene Unit were sought to a greater degree by personnel management, because, in spite of all the publicity given to reconversion plans, the actual work load in Government departments not only had not fallen off, but in many instances was actually on the increase. It became imperative to keep people on the job by helping them to make an adjustment adequate to the situation. The Government was threatened by a diminishing labor supply.

The number of referrals to the Mental Hygiene Unit increased. Employees were referred by the staffs of the various departmental health units, physicians, nurses, or by employee counselors and others who had been able to discuss the problem with the employee in greater detail. Often the referral followed the so-called exit interview. In very few instances was there a refusal on the part of the employee to consult the psychiatrist. A few resented further investigation of their problem, no doubt because of a firm determination to leave Government employment. However, it is difficult to evaluate how many of these employees who left Government employment could have been retained in Government service through job adjustment and the utilization of mental hygiene principles in supervision, as well as by interviews in the Mental Hygiene Clinic.

The employees seen in the unit could rarely be termed malingerers. It was not often that the employee had sufficient insight to recognize the cause of his emotional conflicts, or of his physical symptoms. Occasionally he recognized as one of the real issues fear of financial insecurity in the future and the secondary gain which would lie in his escape from a situation which offered him only temporary employment. Though this feeling of insecurity was taken into consideration, it could not be ascribed exclusive etiological significance: other employees whose apprehension was actually caused by the anticipation of future financial insecurity could easily be reassured that their problem would be solved by concerted action of management, labor, and government.

The impression gathered was that the general morale implied in a wartime Government job was weakened by the assumption that individual effort and sacrifice were no longer required. Many people with emotional instability, also those with psychoneuroses and psychosomatic syndromes, had felt it their duty to do their share, especially when other members of the family were in the armed services. It was this attitude, commonly referred to as morale, which had helped the individual to maintain a temporarily high level of integration. But, with the conviction that his contribution would soon not be needed, many symptoms, such as dyspepsia, insomnia, fatigue and exhaustion, feeling of tension, depressions, conflicts with the environment, and so on, which he had previously experienced, i. e., prior to the war, emerged again, often in an enhanced degree, and were rationalized by the individual as the result of his fear of insecurity.

Pessimism concerning the future, as expressed by some of the employees who visited our unit, their lack of response to reassurance, their insistence on the uniqueness of their problems, pointed toward the interpretation of their acute anxieties as symptoms indicating that the individual had only temporarily been socially adjusted and had returned to the earlier isolation which is so characteristic of the neurotic in our culture.

From interviews with the employees referred to our clinic during this period, we were able to formulate two conclusions:

(1) Efficiency on the job and social adjustment as it manifests itself in the interpersonal relationships between the employee and the supervisor as well as between the employee and his fellow workers are proportionate to the general morale, that is, they are to a great degree the result of the recognition of the common goal.

(2) Adjustment problems of the employees are often permitted to exist, to a minor extent, over a long period of time, as long as such problems do not interfere too much with production. Only when they reach such severity that they result in physical illness, absenteeism, or failure on the job, do they come to the attention of the supervisor. Though in some instances sincere interest in the well-being of employees is shown by the supervisor, there is not as yet a general recognition of the fact that supervising implies helping the individual to develop and maintain a state of good mental health. Neither is there provision made by management for sufficient instruction and acquaintance with principles of mental hygiene.

In the ensuing winter of 1944–45, demands for the services of the Mental Hygiene Unit presented a picture which was the reverse of the foregoing description. Proclamations by Government and Army leaders to the effect that the war effort still had to be heightened were given wide publicity. Reconversion plans were postponed. Referrals to the Mental Hygiene Unit diminished in number. More

frequently employees were referred from health units, that is, physicians and nurses in agency health units, rather than from personnel administrators or counselors. We attributed this change in the number of referrals to a contingent improvement in morale among Government workers, in addition to the assurance of prolonged employment in Federal service as well as the uncertainty of opportunities in private industry.

This short survey of the present employment situation as it exists in Government departments and industry is offered with the purpose of pointing out a problem that industrial psychiatry will have to face: the relation between management and labor is essentially an economic relationship. Modern industry becomes interested in health measures, in mental hygiene programs, and in scientific personnel management when the labor market is small and when emergencies dictate the need for greater efficiency. While under such conditions the human factor tends to be emphasized and greater concern with the so-called mental health of the individual is shown by management, such interest will be proportionate to the degree that the individual's contribution is required.

Economic conditions as they influence the labor market will also influence the development of psychiatry. With full employment and an expanding economy, when the goal is high production, the prospects of mental hygiene programs in industry are more auspicious than in a period of scarcity or depression, during which the employee is grateful for an opportunity to make a living and when psychological problems are personal affairs, that is, part of his private life.

The cultural situation.—In the planning of mental hygiene programs for industry, some of the difficulties to be met in the initiation of such programs should be considered. These are difficulties which arise out of the cultural situation.

Personnel management at times may interpret the functions of a mental hygiene service as an intrusion into its realm of authority and operation; personnel directors and supervisors may feel their adequacy questioned. Such attitudes might be expressed as scepticism concerning the necessity of introducing psychiatric principles into business organization or be stated, as in "Business is 'in' for profit and not for psychotherapy." Such attitudes are not necessarily to be ascribed to individual prejudice but are rather to be seen as factors in a cultural situation where status, role, and position are valued as socially desirable goals reached through individual effort, through competition, and carrying social prestige.

The success of a mental hygiene program, therefore, the necessary rapport and the atmosphere of mutual confidence with which alone such a program can be effected, will largely depend upon the tact and skill of the physician entering the field of industrial psychiatry.

Where medical health services are already set up, establishment of a centralized mental hygiene unit as a specialized service has to be interpreted to physicians of the health service who are not specialists in psychiatry. Such interpretation should stress the present need for a centralization of mental hygiene services and emphasize the comparison of such a set-up to the functions of other specialized and centralized medical services where research rather than therapy has been the main object of organization. Rather than having deprived the private physician of his practice and prestige, such research, through collection and analysis of pertinent data, has offered him a scientific basis for more adequate therapeutic measures.

Implicit in the cul ural situation is also the general attitude of the public toward psychiatry, mental hygiene clinics, and all forms of psychiatric treatment. For the tendency to relate the manifestations of mental conflict to the social concepts of irresponsibility, social inadequacy, and constitutional inferiority is still prevalent.

As long as psychiatry was guided by an orientation based upon instinct psychology and the psychology of interpersonal relationships, it had very little to offer to management and the worker, since the analysis of these problems indicated the need for readjustment of factors outside the field of the job situation. But the new emphasis by modern psychiatry on interaction patterns ascribes much greater importance to the actual situation within which the individual interacts with his group. The job thus becomes a major factor in the dynamics of mental health of the adult individual.

Industrial psychiatry stresses the importance of the actual job situation. It also suggests that it is usually the aspiring individual, with a love of life and a desire for greater efficiency, who will look for technical help to make his goals attainable. Yet one must beware of too great optimism as to the immediate readiness of the individual in our society to accept psychiatric advice. For our cultural atmosphere is still that of the pioneer: it still emphasizes the merits of rigid individualism, implying the competency of the strong individual independently to solve his personal problems, and it views with some misgivings the person who must seek help for his difficulties in living.

These are some of the factors that formed the background for the organization of a Mental Hygiene Unit for Government employees. A survey of its functions and services follows.

ORGANIZATION OF THE MENTAL HYGIENE UNIT

The Employees' Health Service was organized in July 1943 as an integral part of the United States Public Health Service, designed to assist Federal employees in maintaining optimal health. Under direct supervision of a Medical Director, the Employees' Health Service was established to provide coordinating and consultative services re-

garding methods, scope, and standards for operating health programs within those government agencies which requested the services of the Employees' Health Service in these matters. This program was to be concerned with all factors in the work environment which affect the health and the productivity of the employee and to emphasize the preventive aspect of medicine. The Employees' Health Service consists of a Mental Hygiene Unit, a Tuberculosis Control Unit, a Public Health Nursing Unit, a Nutrition Education Unit, and a Health Education Unit.

The statement which described the anticipated function of the Mental Hygiene Unit at the time of its establishment in July 1943 was the following:

> To provide facilities for the examination of Federal employees to determine their fitness for employment or to continue on duty; to serve in a consultative capacity for the examination of employees referred by the health services; to instruct physicians and nurses assigned to these health services in the recognition and management of emotional and psychiatric cases; to instruct personnel officers, supervisors, and counselors in emotional hygiene; to conduct lectures and classes for employees; to provide follow-up service and to obtain prompt and efficient disposition of persons temporarily disabled or permanently removed because of emotional or mental illness; and to facilitate the return of former employees to their legal residence.

From the same report is a statement explaining the necessity for this service which concludes:

> Approximately 20 percent of the retirements for disability from the Civil Service are caused by nervous and mental conditions. Persons with these conditions are not only a menace to themselves, but also have a disrupting and demoralizing effect upon other employees with whom they work. Personnel officers have indicated that such a service, if available, would be used extensively. With the exception of the War Department, it is doubtful if any single department or independent establishment has a sufficiently large number of cases to justify the development of such a service, which can be more efficiently operated as a central service.

The present staff of the Mental Hygiene Unit consists of two psychiatrists, two psychiatric social workers, a psychologist, and two clerks.

It was clearly understood that the organization and functions of this unit would be similar to those of the usual mental hygiene clinic without, however, offering psychotherapy except in those cases in which an acute conflict could be ventilated and a brief interpretation of it would have a therapeutic effect. The function of this mental hygiene unit, aside from its educational program, was thus limited to consultative services and referrals to private physicians, mental hygiene clinics, and hospitals in the community whenever intensive psychotherapy was indicated. Examinations to determine fitness for duty, eligibility for compensation, and recommendations for rehabilitation or retirement also were included in its activities.

Very soon, however, it was noted that most of the employees referred to this clinic showed signs and symptoms of poor job adjustment. When the clinic first began its studies of Federal employees, there was a tendency on the part of the staff psychiatrists to consider these symptoms as manifestations of emotional conflicts and personality difficulties arising primarily from life experience outside of the job setting. However, the material revealed in the interviews increasingly indicated the significance of the factors of satisfaction or dissatisfaction with the medium of the employee's productivity, the job itself. The need for more detailed information in regard to the functions and duties involved in the actual job situation was more and more evident. The psychiatrists felt that they must know what skills and special techniques were called for in a given job assignment as well as the physical setting and the personalities involved, in order to evaluate the employee's over-all fitness to perform the duties of the job. This included the evaluation of his physical, psychological, and technical assets and liabilities.

In order to obtain the factual information required for such an evaluation, there was developed a social history outline in which data relating to the employment history, training and promotions, relationship with supervisors, co-workers, and subordinates, and adjustment to the job itself were emphasized to an increasing degree. This information, obtained prior to the visit of the employee to the Mental Hygiene Unit, furnished important leads for the psychiatric interview. It also was of assistance in the final formulation of the problem and in the subsequent recommendation to the referring agency.

In addition to the anticipated services of the Mental Hygiene Unit as a medical clinic, its advisory service to personnel management grew to be of utmost importance. It was possible to demonstrate in case after case the need for adequate information and orientation related to scientific job placement and adjustment if manpower in Federal agencies were to be intelligently utilized and if mental hygiene casualties were to be avoided.

We consider it a relevant observation that this orientation—namely, that the job, and the adjustment that an individual makes to it, is one of the main factors in the mental health of the adult individual and deserves intensified scrutiny—was forced upon the psychiatrist by the employees who consulted him concerning their emotional conflicts. Previous neuropsychiatric training and experience, and the orientation based upon it, inclined the psychiatrist to evaluate such complaints in their symptomatic rather than in their etiological significance. The staff of the Mental Hygiene Unit, however, soon realized that the job situation was of great importance in the formulation of the therapeutic program for the individual. Thus, job adjust-

ment as a fundamental influence for the attainment of a full life by the adult individual is regarded by us as a basic factor upon which industrial mental hygiene is founded.

The demand for scientific personnel management and more adequate supervision is readily seen as emanating from the employee group as well as from management. Personnel workers as well as psychiatrists, however, still believe that progress in employee relations must stem from the initiative of management which appraises methods pertaining to the health, and particularly to the mental health, of the employee only in proportion to the benefits that will accrue to the organization from them, that is, according to results as shown by the profit sheet at the end of the year.

Our experience, however, indicates that in present programs the attempts toward more adequate supervision and management which promote the mental health or the happiness of the employee have to be attributed also, to a great extent, to the demands of those employed. These demands, growing ever clearer in formulation, vary with the kind of occupation. The industrial worker, due to specialization of his function, his technical skills, his recognition of his dependency upon the activity of other members in his group, will be more outspoken in his stipulations than, for instance, the clerical or the agricultural worker. It is this general change in attitude on the part of the employee, in addition to the requirements of management, that explains the emergence of simultaneous yet uncoordinated programs by education specialists, physicians, psychiatrists, social workers, personnel workers, employee organizations and, lately, by veterans, aiming at more adequate mental hygiene measures for the adult productive population.

Because many of the problems which bring Federal employees to the unit have medical as well as job-adjustment implications, it has seemed expedient to have all clinic referrals channeled through the various departmental health units. The medical officer of any Federal agency should know which employees under his jurisdiction are referred to the unit for study in order to be alert to those areas of his organization which produce a disporportionate number of employee maladjustments and to participate in the therapy when indicated. In those agencies which do not employ a medical officer, the supervising nurse in the health unit has the responsibility for making appointments with the clinic, and medical liaison work.

The usual procedure is for an employee counselor or nurse to prepare a social history. In order to facilitate clinic procedure, referring agencies are asked to furnish such data well in advance of the appointment date. Provision is always made for the prompt handling of emergency cases.

The physicians, supervising nurses, and employee counselors of each

agency seeking this consultative service are furnished with an outline, devised by our staff, for a brief, factual, social history. This outline requests information regarding identifying factors such as age, sex, marital status, and job placement, reason for referral, health and medical history, personality, education, employment record, military service, and present home situation. Much of the information requested may be copied from the employee's personnel record which may be supplemented by an interview in the health unit or counseling office. The referring source is cautioned not to question the employee too closely for details, but to report what is already known. This is recommended to prevent the development of resistance on the part of the employee, which may follow too close questioning before he reaches the psychiatrist. What is particularly desired from the agency is an accurate account of the employee's duties and performance on the job, the supervisor's evaluation of his work, and a description of his relationship to his co-workers.

This history material is reviewed by a psychiatric social worker. Further exploration on the part of the representative of the referring agency may be requested. The local Social Service Exchange is then asked to try to identify the name in its files with the result that quite often it is found that the employee or his family has been known to medical and social agencies in the community. Frequently the community agencies are able and willing to cooperate in furnishing information and in offering further services.

In the clinic the employee is usually first interviewed by a staff psychiatric social worker who may supplement the agency social history with further data, particularly concerning the employee's attitude toward his job situation. The employee is encouraged to understand that he is in a neutral medical setting where complete frankness is desirable and where confidences are held inviolate. In this brief initial contact it is also frequently possible for the psychiatric social worker to uncover personality difficulties or social problems which were not mentioned in the social history but which are significant to the psychiatrist.

The employee's interview with the psychiatric social worker prior to the consultation with the psychiatrist has a twofold purpose: (1) Additional data, especially relevant to the job, are elicited by the social worker so that the psychiatrist's interview time is shortened; (2) apprehension experienced by some employees in visiting a psychiatric clinic is mitigated, since this interview is limited primarily to the actual job situation. An atmosphere of confidence and objectivity on the part of the employee is promoted, which contributes to a lessened resistance in the ensuing interview with the psychiatrist.

The freedom with which employees discuss with the psychiatrist their problems—though they are not only related to the job but also

may be of a highly personal nature—must be ascribed to an increased objectivity on the part of the employee, which has been fostered in the preceding interview stressing the job situation. But it also has to be ascribed to the fact that, in this specific setting, the function of the psychiatrist himself is related to the job; this enhances a relationship which hardly could be established by a psychiatrist in private practice.

Because of its specificity for the industrial setting, one wonders whether for this relationship the term "transference" is justified. Freud called transference the emotional reactions of the patient to the therapist, which he interpreted as a repetition of the same emotions and unsolved conflicts which the patient had toward his parents, now transferred to the psychiatrist. No doubt some of these mechanisms play a role also in the relationship which develops between the psychiatrist and the patient in an industrial mental hygiene clinic. However, in addition to the fact that the employee sees in his job the focus of his interests as well as conflicts, the psychiatrist, one of whose functions it is to help him solve his problems as they interfere with his job, assumes the role of a technical expert. The employee, therefore, feels free to ask advice of the psychiatrist and freely supplies any information to help in the solution of his problems. It is a transference on an adult level, supplementing the infantile transference mechanism.

In the majority of instances this relationship and the information available to the psychiatrist prior to the interview aid him in establishing a diagnosis within one or two interviews; in only a few instances were more interviews required. Frequent use is made of psychological tests such as the Wechsler-Bellevue and the Rorschach for differential diagnostic purposes.

If the final diagnosis of psychoneurosis is established, the employee is referred to a private psychiatrist either directly or through the local office of Vocational Rehabilitation. In other instances hospitalization may be necessary. Often various social agencies such as Family Service Association, Travelers Aid Society, Health Security Agency, and others are called upon for assistance in the solution of the individual's problems.

For most employees referred to the clinic the cause of the emotional disturbance is found to be faulty job adjustment. Job placement, adequate supervision, and training are recommended as therapeutic measures in conferences with agency representatives, such as the agency physicians, nurses, and employee counselors. Very encouraging results have been observed when such recommendations have been carried out.

One of the most important functions of the Mental Hygiene Unit during the first year of its organization was seen in the "training of contacts," through interpretation of the clinic findings given to

physicians, nurses, employee counselors, and through lectures on industrial mental hygiene conducted for them.

Since the details of the information and findings in regard to the employee's problem are confidential, the interpretations to those agency representatives who are to play a role in the management of the employee are given in general terms only. On the other hand, an attempt is made to render recommendations for supervisory procedures as specific as possible.

Lectures to physicians, nurses, employee counselors, and personnel officials on industrial mental hygiene are based upon the orientation that the individual's job and his productivity represent the most adequate means for this interaction with the group, and thus that job adjustment is one of the most important factors in the maintenance of mental health. Less emphasis is put on instinct psychology, though its importance is stressed, since instinctual drives are not specific for the adult individual on the job. Emotional conflicts which have induced the individual to choose inadequate means for his interaction with the group are seen to be one of the most frequent causes of poor adjustment; but physical illness, lack of training, poor supervision, faulty job allocation, as they interfere with the individual's productivity, are also ascribed as causative factors for so-called neurotic behavior patterns. The emotional instability resulting from faulty job adjustment, expressed in flighty behavior, crying spells, fainting, mild paranoid ideas, etc., is compared with the rigidity of behavior patterns in neuroses, and the importance of differentiating them is emphasized.

These information courses are no longer limited to physicians, nurses, and employee counselors but are extended also to placement officers and training specialists. In addition to regular staff meetings for the members of the Mental Hygiene Unit, cases that represent important mental hygiene problems as related to the job are discussed at a weekly staff conference of the clinic to which are invited the physicians, nurses, and employee counselors who have taken part in the ferral of the case discussed. The case material which is presented anonymously is used to illustrate basic principles of industrial psychiatry, and discussion is encouraged with the hope that each case presented will suggest sounder methods of handling adult problems. These conferences bring together the health unit personnel, the employee counselor, and representatives of management who need to know one another's problems in the interests of all employees.

The value of these training programs, in spite of the short time they have been offered, has evinced itself in an increasing interest in an orientation that is based on mental hygiene principles and, as a result, in a more adequate selection of cases for referral and a more effective carrying out of therapeutic recommendations.

In addition to the preventive aspects of this industrial mental hygiene program, cooperation between the staff of the Mental Hygiene Unit and the representatives, lay and medical, of the referring governmental agencies have made it possible to keep individuals employed who might be suffering from severe psychoneuroses and who were under psychiatric treatment. This program also accorded assistance to employees who formerly had been hospitalized for mental illness and who were in need of some special supervision and direction in their attempts to adjust themselves to their jobs and to become rehabilitated.

In our recommendations, our conferences, and our lectures, we have stressed the fact that the job adjustment problem of the employee is, in the final analysis, under the direct guidance of his immediate supervisor. It is the supervisor's acceptance of mental hygiene principles as a basic orientation that will establish a sound foundation for personnel management. Physicians, nurses, and personnel workers by transmitting to the supervisors this knowledge of industrial mental hygiene contribute in a positive way to the establishment of a healthful and sound supervisor-employee relationship. The goal is good performance, high productivity, and the mental health of the employee.

CONCLUSIONS

The introduction of mental hygiene programs into industry results from the conviction that the benefits from such programs will accrue to both production and performance as well as to the well-being, physical and mental, of the members of our Nation.

This extension of mental hygiene measures beyond the traditional limits of the medical field of action, into the realm of personnel administration, points to vistas of mental health for our adult productive population that could hardly be conceived at the beginning of this century.

The role of the psychiatrist in such a program adds to his function as physician the function of an educator. The role of the supervisor expands from his function as a production manager to include the function of a leader of those for whose productivity he is responsible.

In addition to the preventive aspects of such a program, an unexplored field of psychotherapy is opened, with possibilities reaching beyond the present-day methods of psychotherapy.

This concept of the role of psychiatry in industry is, however, not to be interpreted as taking the place of efficient personnel management and supervision. It offers a new orientation as basis for methods which personnel management will develop.

THE EFFECT OF TEMPERATURE ON THE SEX RATIO OF *XENOPSYLLA CHEOPIS* RECOVERED FROM LIVE RATS[1]

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INTRODUCTION

The tropical rat flea *Xenopsylla cheopis* Rothschild is a species of great importance to man. As early as 1905 Liston (*1*) considered this species to be the principal vector of plague, and authoritative modern opinion (*2*) has come to regard *X. cheopis* as the sole vector involved in the great majority of outbreaks of bubonic and septicemic plague throughout the world. This species is also known to be an important vector of endemic typhus fever in the United States and elsewhere (*3*).

Beginning with the work of the British Indian Plague Commission, started in 1906, it has come to be generally accepted that infectibility of a locality with plague is proportional to the *X. cheopis* population of the locality. It has therefore become standard practice in both plague and endemic typhus control to trap rats and count their ectoparasites for the purpose of estimating the *X. cheopis* population of the community. A number of factors other than the actual size of the flea population have been found to affect the flea counts from rats and considerable progress has been made in interpreting such counts. Factors considered in recent studies (*4*) are season of the year, age and species of the rat, type of premises on which the rat was trapped, whether the rat was trapped indoors or outdoors, and local region within the city in which the rat was trapped.

Another complication in interpreting flea counts arises from the fact, apparently first mentioned by Heiser (*5*), that the fleas spend much time away from the body of the host. The use of the flea count in practical studies inherently assumes that the proportion of the fleas found on the host bears a relatively constant or at least interpretable relation to the total flea population and some experimental tests of this assumption have been made. Hirst (*2*) found that rainy days temporarily lowered the flea counts, Leeson (*6*) found that the proportion of the fleas on the rats varied from 17 to 89 percent, and Buxton (*7*) found that on mice this proportion varied from 4 to 28 percent with a mean of 12.8 percent, and was apparently independent of temperature and atmospheric moisture. The purpose of the present paper is to provide evidence that under natural conditions the proportion of the *X. cheopis* population on the bodies of the hosts is affected by air temperature and that the two sexes respond unequally to temperature changes.

Relatively few attempts have been made to contrast the *X. cheopis*

[1] From the Division of Public Health Methods.

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sexes in practical studies. Hirst (*8*) found that male *X. cheopis* bite oftener but are less efficient than the females as vectors of plague, while Goyle (*9*) considered the males to be better plague vectors. Bacot (*10*), Hirst (*8*), and Goyle (*9*) all found that when the fleas are unfed the females survive longer than the males. However, Leeson (*6*) concluded that the survival of unfed fleas is not influenced by sex. Eskey (*11, 12*) was perhaps the first to attach practical significance to the sex ratio of *X. cheopis* counts obtained from rats. He considers that the females should normally be in the minority because they spend more time away from the host while depositing eggs, and that a flea count yielding over 40 percent females indicates that environmental conditions are affecting the fleas adversely. In experimental studies Leeson (*6*) found a significantly higher proportion of males than females on the hosts while Buxton (*7*) found a significant predominance of females in experiments conducted at a temperature of 89.6° F.

In analyzing the results of flea surveys any evidence which will help to distinguish between true changes in the flea population resulting from breeding or mortality and transient changes in the flea counts resulting from fleas leaving the bodies of their hosts is of potential importance. If the *X. cheopis* sexes respond differently to factors affecting the proportion of the fleas on the hosts, observations of changes in the sex ratio might furnish important evidence of changes in the balance between corporeal and extracorporeal fleas. Accordingly, while engaged in analyzing data from a rat-flea survey conducted in Mobile, Ala., in 1934, the writer decided to look for systematic changes in the *X. cheopis* sex ratio which might be correlated with meteorologic conditions. Positive results from this investigation have prompted extension of the inquiry to the data from three other cities [2] in separated regions in order to check the constancy of the phenomenon discovered.

RESULTS OF INVESTIGATIONS

The preliminary investigation consisted of selecting from the Mobile data every week, 45 in all, in which over 100 *X. cheopis* were obtained and computing the percentage of females in the catch for each week. Correlation coefficients were then calculated between these data and meteorologic data on temperature, rainfall, relative humidity, and saturation deficiency for the corresponding weeks. The correlation coefficient was statistically significant only in the case of the mean weekly temperature (actually the mean of 14 values, the daily maximum and minimum temperatures) where the correlation of the female percentages with temperature gave the value: $r=-0.843\pm0.043$.

[2] Rumreich and Wynn (*4*) describe the project which collected these data.

This is an astonishingly significant correlation when one considers that the temperature data are from Weather Bureau records and are therefore not especially typical of the holes and dwellings where the rats were actually living. The data of other flea surveys also, when casually examined, revealed a tendency toward a high percentage of female *X. cheopis* during the cooler parts of the year and toward an excess of males during the hot weather.

In order to obtain a more critical analysis daily sex ratios were computed as percentages of females in the *X. cheopis* catch for 4 cities and including all days on which 100 or more *X. cheopis* were recorded. Although the sex ratio varied widely from day to day, the total count for the 4 cities gave 36,163 females to 36,283 males, or a sex ratio of 1:1.0033, suggesting that the *X. cheopis* sexes do occur in equal numbers in nature. Correlation coefficients were then calculated between the daily percentages of females and the temperatures of (*a*) the corresponding days and (*b*) the days preceding the capture of the rats. Daily maximum, minimum, and mean temperatures were tried in each case. These results are shown in table 1.

TABLE 1.—*Correlation coefficients of the daily percentage of females in the* X. cheopis *catch from live rats, with daily temperatures* [1]

City	Number of days	Corresponding day			Previous day
		Correlation with maximum temperature	Correlation with minimum temperature	Correlation with mean temperature	Correlation with mean temperature
Mobile, Ala.	120	−0.677**	−0.354**	−0.691**	−0.652**
Jacksonville, Fla.	65	−.713**	−.735**	−.739**	−.675**
Honolulu, T. H.	54	−.339*	−.237	−.300*	−.152
San Diego, Calif.	107	−.119	−.286**	−.226*	−.209*

[1] 1 star (*) indicates that the result is statistically significant ($P<0.05$) by Fisher's z-test. 2 stars (**) indicate a highly significant ($P<0.01$) result.

P expresses the probability, when the true correlation is zero, of obtaining by chance a correlation coefficient as large as or larger than the one obtained.

From table 1, it is seen that in each city there was a statistically significant correlation between the *X. cheopis* sex ratio and the mean temperature of the day on which the rats were caught. All of the coefficients are alike in sign showing that in each case the relative proportion of males increases as the temperature increases. In each city the correlation is greater with the temperature of the day on which the rats were caught than with that of the preceding day. It is therefore suggested that this change in sex ratio is a rapid response to temperature changes, requiring at most a few hours, and that the correlations with the temperature of the previous day result merely from the fact that successive days tend to have similar temperatures.

The changes in sex ratio are obviously too rapid to be due to flea

breeding and for the same reason they can hardly be due to differential mortality of the two sexes. These results must mean that at high temperatures the males spend relatively more time on the body of the host than do the females and that at low temperatures the males spend relatively more time away from the body of the host. Since it is known that high temperatures are deleterious to unfed *X. cheopis* and that the fleas must feed oftener at high temperatures in order to survive (*8*) it appears that the increased percentage of males at high temperatures probably represents an actual increase in the number of males on the hosts rather than a decrease in the number of females. The males then appear to be the more sensitive to the effects of temperature.

The two columns in table 1 showing correlation with maximum and minimum daily temperatures were calculated to ascertain if either of these extremes of temperature could be identified as more influential on the fleas than is the mean temperature. The results are inconclusive. For Mobile and Jacksonville the mean temperature gave the highest correlations and it is the only expression of temperature to yield significant correlations in all four cities; hence it must be the preferred temperature measurement for this purpose until more conclusive data are available. It seems reasonable to expect that in hot weather the daily maximum temperature will eventually be found to exert the greatest effect on the flea counts and that the minimum daily temperature will be found most effective in cold weather.

Another question of interest is whether the *X. cheopis* sex ratio is so closely dependent upon temperature that at a particular mean daily temperature the percentage of females will be similar in each of the four cities. In table 2 the sex ratios are given by intervals of 5° F. for each of the cities. This table shows clearly that at low temperatures there is typically a statistically significant excess of females in the *X. cheopis* catch while at high temperatures the males are typically in excess. In Jacksonville, Mobile, and Honolulu the sexes occur in approximately equal numbers on days when the mean temperature is about 75° F. In San Diego, however, the 1 : 1 sex ratio is attained at a temperature of about 65° F. and in the range from 65° F. to 69.5° F. there is a significant preponderance of males. It thus appears that the male *X. cheopis* are more sensitive to increased temperature in San Diego than in the other cities. This is undoubtedly attributable to coaction with high temperature of other environmental conditions, perhaps dryness, as San Diego has only about one-third as much precipitation annually as any of the other three cities. Bacot and Martin (*13*) showed that high temperatures are most deleterious to fleas under dry conditions.

TABLE 2.—*Percentages of female X. cheopis grouped according to the mean temperature of the days on which the hosts were captured* [1]

Mean temperature, °F.	City								
	Jacksonville		Mobile		San Diego		Honolulu		Total
	Number of days analyzed	Percent females	Number of days analyzed	Percent females	Number of days analyzed	Percent females	Number of days analyzed	Percent females	
30-34.5	1	62.8**							62.77**
35-39.5			1	66.9**					66.92**
40-44.5	1	71.1**	4	60.6**					61.81**
45-49.5	2	62.6**	5	59.5**					60.16**
50-54.5	4	61.5**	6	57.6**	6	52.1			56.20**
55-59.5	4	57.3**	5	53.2	19	50.2			51.39*
60-64.5	4	62.1**	9	57.6**	25	49.8			51.59**
65-69.5	5	51.9	10	53.0**	42	47.5**	2	60.6**	48.47**
70-74.5	8	54.9**	14	51.4	12	51.2	33	50.1	51.11
75-79.5	5	50.0	21	48.7*	2	46.7	18	46.4**	47.91**
80-84.5	28	47.2**	38	46.0**	1	54.0	1	54.5	46.96**
85.89.5	3	48.3	5	45.1**					46.05**
90-94.5			2	41.3**					41.27**
Total		51.91**		50.53**		49.11**		49.23	49.92
Total number of *X. cheopis*		9,991		21,508		32,934		8,013	72,446

[1] 1 star (*) indicates that the sex ratio differs significantly ($P<0.05$) from 50 percent females. 2 stars (**) indicate a highly significant ($P<0.01$) difference.

The P values for this table were computed as described in (*14*). P expresses the probability of obtaining by chance a sample of the size employed and exhibiting a sex ratio as unequal as or more unequal than that obtained if the true population sex ratio is 1 male : 1 female.

SUMMARY AND CONCLUSIONS

Although it appears probable that the two sexes of *X cheopis* occur in equal numbers in nature, there is a highly significant tendency in each of the four cities investigated for the males to outnumber the females on days with a high mean temperature and for the females to predominate on cold days. This response apparently requires less than 24 hours and is probably the result of more frequent feeding by the males than by the females in hot weather and less frequent feeding by the males in cold weather.

Since in the San Diego survey equal numbers of the two sexes were attained at a lower temperature than in the other three cities it is apparent that mean daily temperature is not the only factor influencing the *X. cheopis* sex ratio.

The number of male *X. cheopis* on the rats is apparently more affected by temperature than is the number of females. Previous studies have shown that both sexes must feed more frequently under adverse conditions of high temperature in order to survive. Therefore, the proportion of the total flea population which is found on the hosts would presumably be somewhat increased by high temperatures. The number of females, however, is found to change less than does the number of males.

The flea count technique in studying epidemiology is an attempt to estimate the total flea population of a locality at a particular time. This study suggests that the count of female *X. cheopis* may bear a more stable relationship to the total flea population than does the total *X. cheopis* count or the count of males. It seems, therefore, that in correlating disease incidence with flea indices derived from flea counts some consideration might be given to an index computed for the female *X. cheopis* only.

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DEATHS DURING WEEK ENDED OCTOBER 13, 1945

[From the Weekly Mortality Index, issued by the Bureau of the Census, Department of Commerce]

	Week ended Oct. 13, 1945	Corresponding week, 1944
Data for 93 large cities of the United States:		
Total deaths	8,380	8,390
Average for 3 prior years	8,509	
Total deaths, first 41 weeks of year	366,622	368,199
Deaths under 1 year of age	591	655
Average for 3 prior years	648	
Deaths under 1 year of age, first 41 weeks of year	24,891	25,388
Data from industrial insurance companies:		
Policies in force	67,291,502	66,782,661
Number of death claims	9,011	10,054
Death claims per 1,000 policies in force, annual rate	7.0	7.9
Death claims per 1,000 policies, first 41 weeks of year, annual rate	10.1	10.0

PREVALENCE OF DISEASE

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

UNITED STATES

REPORTS FROM STATES FOR WEEK ENDED OCTOBER 20, 1945

Summary

Following four consecutive weekly declines, the incidence of poliomyelitis increased during the week, probably due to delayed reports of cases having earlier onset. A total of 618 cases was reported, as compared with 549 last week, 722 for the corresponding week last year, and a 5-year (1940–44) median of 438. Increases occurred in six of the nine geographic areas. The West North Central and the East South Central each reported a decline of only one case and the Mountain area a decline of 12 cases. In 13 of the 22 States reporting 10 or more cases each, 313 cases occurred, as compared with 200 last week, while the other 9 States recorded a decline from 261 to 227 cases. The total of reported cases to date is 11,463, as compared with 16,856 and 10,757, respectively, for the same period in 1944 and 1943, and a 5-year median for the period of 7,949.

A total of 73 cases of meningococcus meningitis was reported, as compared with 75 last week, 175 for the corresponding week last year, and a 5-year median of 61. States reporting the largest numbers are New York, (13), Pennsylvania (9), Ohio and Illinois (5 each), and Michigan and New Jersey (4 each). The total to date is 6,918, as compared with 14,329 and 15,178, respectively, in 1944 and 1943, and a 5-year median of 2,843.

Of the total of 696 cases of diphtheria reported for the week, 512, or about 74 per cent, occurred in the South Atlantic and South Central areas, as compared with 294 in the same areas, or 65 per cent of the total, for the corresponding week last year. The totals for the current week and also for the year to date are more than for the respective corresponding periods of any of the past five years.

Of 9 cases of smallpox reported for the week, 6 occurred in Mississippi. The total to date is 295, as compared with 329 for the same period last year and a 5-year median of 674. Typhoid fever is also below last year's record low. Current figures for influenza and scarlet fever are above those for both the corresponding week last year and the 5-year median.

Deaths during the week in 93 large cities of the United States totaled 9,426 as compared with 8,380 last week, 9,021 for the corresponding week last year, and a 3-year (1942–44) average of 8,754. The cumulative total is 376,048, as compared with 377,220 for the corresponding period last year.

Telegraphic morbidity reports from State health officers for the week ended October 20, 1945, and comparison with corresponding week of 1944, and 5-year median

In these tables a zero indicates a definite report, while leaders imply that, although none was reported, cases may have occurred.

Division and State	Diphtheria			Influenza			Measles			Meningitis, meningococcus		
	Week ended—		Median 1940–44	Week ended—		Median 1940–44	Week ended—		Median 1940–44	Week ended—		Median 1940–44
	Oct. 20, 1945	Oct. 21, 1944		Oct. 20, 1945	Oct. 21, 1944		Oct. 20, 1945	Oct. 21, 1944		Oct. 20, 1945	Oct. 21, 1944	
NEW ENGLAND												
Maine	0	0	0	------	------	------	0	1	31	0	0	0
New Hampshire	0	0	0	------	------	------	0	32	1	0	0	0
Vermont	3	0	0	------	------	------	0	1	10	0	0	0
Massachusetts	6	7	5	------	------	------	139	70	96	3	3	3
Rhode Island	2	2	2	9	12	------	0	0	1	0	1	1
Connecticut	0	0	0	------	1	1	18	12	10	1	5	2
MIDDLE ATLANTIC												
New York	16	10	14	[1] 2	[1] 2	[1] 4	36	17	93	13	23	16
New Jersey	1	4	3	3	1	3	13	5	24	4	16	2
Pennsylvania	8	7	9	------	5	1	139	19	105	9	12	7
EAST NORTH CENTRAL												
Ohio	17	8	8	6	8	6	8	6	22	5	19	2
Indiana	9	12	12	8	------	3	5	4	8	0	2	0
Illinois	2	6	18	5	27	6	49	17	17	5	11	3
Michigan [2]	15	11	11	2	------	------	104	12	35	4	10	0
Wisconsin	2	0	1	18	3	16	15	11	51	0	3	2
WEST NORTH CENTRAL												
Minnesota	10	18	10	------	1	1	8	1	10	1	3	0
Iowa	8	4	2	------	------	1	3	4	12	1	0	0
Missouri	5	2	7	------	1	------	5	1	4	3	8	2
North Dakota	2	1	1	2	------	2	1	0	1	0	1	1
South Dakota	4	1	7	------	------	------	2	3	3	0	0	0
Nebraska	3	0	0	------	------	------	1	5	5	0	2	0
Kansas	6	0	2	2	5	2	11	4	4	0	3	0
SOUTH ATLANTIC												
Delaware	2	0	1	------	------	------	1	0	0	0	1	0
Maryland [2]	14	5	5	3	------	1	1	6	5	1	2	3
District of Columbia	0	0	0	1	1	------	2	3	1	1	0	0
Virginia	34	17	22	161	103	104	1	3	20	0	2	2
West Virginia	14	3	8	------	3	10	0	1	2	0	1	1
North Carolina	87	39	67	------	------	2	6	3	3	1	1	0
South Carolina	38	30	30	418	237	237	18	9	9	2	2	0
Georgia	40	17	30	76	20	20	0	2	2	2	3	1
Florida	4	10	10	10	------	3	2	0	2	0	1	0
EAST SOUTH CENTRAL												
Kentucky	13	3	16	------	------	------	20	2	13	0	2	1
Tennessee	67	14	16	5	7	11	1	4	6	3	3	1
Alabama	35	25	29	15	20	20	1	2	3	2	3	1
Mississippi [2]	44	23	16	------	------	------	------	------	------	0	3	1
WEST SOUTH CENTRAL												
Arkansas	32	15	14	32	20	19	2	4	4	0	0	0
Louisiana	15	17	17	------	------	2	0	0	1	[3] 0	0	0
Oklahoma	12	18	13	73	41	30	7	4	2	0	1	0
Texas	61	58	56	1,102	664	529	23	24	17	3	12	1
MOUNTAIN												
Montana	4	2	1	1	3	2	22	4	4	0	1	0
Idaho	0	0	0	6	------	------	76	3	3	0	0	0
Wyoming	0	1	0	------	6	5	5	0	4	0	0	0
Colorado	5	8	8	8	7	10	25	6	11	1	0	0
New Mexico	2	14	0	1	------	1	0	2	7	0	0	0
Arizona	5	0	1	29	52	51	1	3	7	2	0	0
Utah [2]	1	0	0	------	2	2	6	10	4	0	1	1
Nevada	0	0	0	------	------	------	0	0	0	0	0	0
PACIFIC												
Washington	7	19	6	------	------	------	111	12	12	3	3	1
Oregon	8	0	1	2	7	11	7	34	15	0	1	1
California	33	21	21	8	18	18	181	147	48	3	10	5
Total	696	452	482	2,008	1,277	1,143	1,076	513	1,201	73	175	61
42 weeks	12,551	9,720	11,193	80,601	346,018	174,065	107,387	595,404	548,387	[3] 6,918	14,329	2,843

[1] New York City only. [2] Period ended earlier than Saturday.
[3] Correction: Week ended Oct. 6, Louisiana, meningococcus meningitis 3 (instead of 1).

Telegraphic morbidity reports from State health officers for the week ended October 20, 1945, and comparison with corresponding week of 1944, and 5-year median—Con.

Division and State	Poliomyelitis			Scarlet fever			Smallpox			Typhoid and paratyphoid fever [4]		
	Week ended—		Median 1940–44	Week ended—		Median 1940–44	Week ended—		Median 1940–44	Week ended—		Median 1940–44
	Oct. 20, 1945	Oct. 21, 1944		Oct. 20, 1945	Oct. 21, 1944		Oct. 20, 1945	Oct. 21, 1944		Oct. 20, 1945	Oct. 21, 1944	
NEW ENGLAND												
Maine	2	0	0	[5]19	27	16	0	0	0	0	0	0
New Hampshire	1	2	2	2	9	7	0	0	0	1	0	0
Vermont	2	4	2	4	11	6	0	0	0	0	0	0
Massachusetts	27	32	7	90	119	119	0	0	0	1	4	2
Rhode Island	0	1	1	5	8	4	0	0	0	0	1	0
Connecticut	16	12	5	13	22	23	0	0	0	2	0	0
MIDDLE ATLANTIC												
New York	66	259	39	174	131	131	0	0	0	9	6	11
New Jersey	43	26	11	32	34	54	0	0	0	2	1	2
Pennsylvania	37	48	7	131	112	114	0	0	0	4	9	10
EAST NORTH CENTRAL												
Ohio	23	49	14	197	125	130	0	1	0	0	3	10
Indiana	19	7	5	78	38	76	1	1	0	1	0	2
Illinois	42	19	20	97	131	131	0	0	0	2	2	6
Michigan [3]	14	23	11	108	101	101	0	0	0	0	3	3
Wisconsin	52	15	15	70	36	97	0	0	0	1	0	1
WEST NORTH CENTRAL												
Minnesota	14	26	11	39	39	45	0	0	0	1	0	0
Iowa	18	13	4	40	31	43	0	0	0	0	1	1
Missouri	17	13	5	56	33	39	0	0	0	6	3	3
North Dakota	0	0	1	11	9	9	0	0	0	2	0	2
South Dakota	0	0	0	2	4	11	0	0	0	0	0	0
Nebraska	5	3	3	7	33	13	1	0	0	0	1	0
Kansas	14	1	8	41	69	62	0	0	0	1	0	3
SOUTH ATLANTIC												
Delaware	0	3	0	4	3	5	0	0	0	3	1	1
Maryland [3]	8	19	1	45	51	35	0	0	0	1	2	5
District of Columbia	4	9	0	8	9	14	0	0	0	1	0	0
Virginia	9	28	6	106	63	42	0	0	0	3	4	6
West Virginia	3	15	3	77	105	64	0	0	0	3	2	3
North Carolina	11	20	5	95	70	93	0	0	0	1	2	5
South Carolina	3	1	1	8	10	11	0	0	0	0	3	3
Georgia	10	6	2	31	24	33	0	0	0	2	3	4
Florida	9	1	1	7	10	6	0	0	0	3	2	1
EAST SOUTH CENTRAL												
Kentucky	3	11	5	55	19	46	0	0	0	10	4	4
Tennessee	17	2	2	81	81	81	0	0	0	6	4	5
Alabama	3	0	2	24	30	31	0	1	0	6	0	2
Mississippi [3]	4	1	1	23	15	15	6	0	0	0	7	4
WEST SOUTH CENTRAL												
Arkansas	4	1	1	26	17	12	0	0	0	4	5	5
Louisiana	10	3	1	15	12	9	0	0	0	3	3	4
Oklahoma	11	2	2	15	21	21	0	0	0	0	1	5
Texas	18	3	7	119	47	42	1	0	0	13	14	14
MOUNTAIN												
Montana	7	1	1	14	8	12	0	1	0	1	0	0
Idaho	1	2	0	19	31	7	0	0	0	1	2	0
Wyoming	0	0	1	0	3	3	0	0	0	0	0	0
Colorado	3	0	2	21	38	22	0	1	0	2	2	3
New Mexico	0	3	2	12	13	8	0	0	0	0	3	6
Arizona	1	2	0	6	8	2	0	0	0	3	2	0
Utah [3]	5	0	1	10	10	9	0	0	0	0	0	0
Nevada	0	0	0	0	0	0	0	0	0	0	0	0
PACIFIC												
Washington	15	10	10	37	46	25	0	0	0	1	2	2
Oregon	1	11	5	19	18	16	0	0	0	0	1	1
California	46	15	15	187	157	89	0	0	0	3	5	5
Total	618	722	438	2,280	2,041	2,041	9	5	9	103	108	177
42 weeks	11,463	16,856	7,949	[5]146,251	158,104	111,119	295	329	674	4,166	4,683	5,866

[3] Period ended earlier than Saturday.
[4] Including paratyphoid fever reported separately, as follows: Connecticut 2; California 1.
[5] Correction: Week ended Oct. 6, Maine, scarlet fever, 26 (instead of 0).

Telegraphic morbidity reports from State health officers for the week ended October 20, 1945, and comparison with corresponding week of 1944, and 5-year median—Con.

Division and State	Whooping cough			Week ended Oct. 20, 1945							
	Week ended—		Median 1940–44	Dysentery			Encephalitis, infectious	Rocky Mt. spotted fever	Tularemia	Typhus fever, endemic	Undulant fever
	Oct. 20, 1945	Oct. 21, 1944		Amebic	Bacillary	Unspecified					
NEW ENGLAND											
Maine	28	4	9	0	0	0	0	0	0	0	1
New Hampshire	7	0	1	0	0	0	0	0	0	0	0
Vermont	10	19	19	0	0	0	0	0	0	0	2
Massachusetts	136	88	94	0	0	0	1	0	0	0	0
Rhode Island	15	8	8	0	1	0	0	0	0	0	0
Connecticut	46	56	56	0	7	0	0	0	0	1	12
MIDDLE ATLANTIC											
New York	263	177	287	8	20	0	2	0	0	0	4
New Jersey	151	44	123	0	0	12	1	1	0	0	2
Pennsylvania	198	76	233	0	0	0	2	0	0	0	5
EAST NORTH CENTRAL											
Ohio	77	92	165	0	0	0	0	0	0	1	4
Indiana	37	12	17	1	0	2	2	0	0	0	2
Illinois	79	83	149	3	1	0	2	1	1	0	6
Michigan [2]	111	49	231	1	8	0	0	0	0	0	6
Wisconsin	93	64	161	0	0	0	0	0	0	0	3
WEST NORTH CENTRAL											
Minnesota	6	54	42	0	0	0	0	0	0	0	1
Iowa	4	6	16	0	0	0	0	0	0	0	0
Missouri	2	12	13	0	0	0	0	1	0	0	1
North Dakota	0	3	11	0	0	0	0	0	0	0	0
South Dakota	1	2	2	0	0	0	0	0	0	0	1
Nebraska	3	4	6	0	0	0	0	0	0	0	0
Kansas	12	13	33	0	0	0	0	0	0	0	5
SOUTH ATLANTIC											
Delaware	3	2	2	0	1	0	0	0	0	0	0
Maryland [2]	48	66	62	0	0	1	0	0	0	0	0
District of Columbia	3	10	4	0	0	0	0	0	0	0	0
Virginia	33	6	24	0	0	90	0	0	0	0	2
West Virginia	6	14	16	0	0	0	0	0	0	0	0
North Carolina	40	48	99	1	1	0	0	0	0	8	1
South Carolina	73	26	26	0	7	0	0	0	0	14	0
Georgia	16	0	11	1	4	1	0	0	1	24	3
Florida	4	4	6	3	2	0	0	0	0	12	0
EAST SOUTH CENTRAL											
Kentucky	22	12	40	2	0	0	0	0	1	0	0
Tennessee	25	11	31	0	0	2	3	2	0	4	0
Alabama	9	10	16	0	0	0	0	0	0	10	1
Mississippi [2]	----	----	----	0	0	0	0	0	0	3	2
WEST SOUTH CENTRAL											
Arkansas	10	3	15	2	4	0	0	0	0	0	2
Louisiana	1	2	2	[6] 1	[6] 1	0	0	0	0	[6] 4	1
Oklahoma	5	4	7	2	0	0	0	0	0	0	3
Texas	84	150	115	14	225	20	0	0	0	26	7
MOUNTAIN											
Montana	1	17	14	0	0	0	1	0	0	0	0
Idaho	4	1	4	0	0	0	0	0	0	0	0
Wyoming	0	13	4	0	0	0	0	0	1	0	0
Colorado	15	12	19	0	0	0	1	0	0	0	0
New Mexico	1	2	12	3	5	4	0	0	0	0	0
Arizona	11	20	7	0	0	32	0	0	0	0	1
Utah [2]	5	7	18	0	0	0	0	0	0	0	0
Nevada	12	0	0	0	0	0	0	0	0	0	0
PACIFIC											
Washington	29	6	43	0	0	0	0	0	0	0	0
Oregon	14	7	13	0	0	0	0	0	0	0	10
California	140	88	181	3	4	0	6	0	0	3	1
Total	1,893	1,407	2,780	45	291	164	21	5	4	110	89
Same week, 1944	1,407	----	----	55	835	226	9	1	5	87	73
Average, 1942–44	2,172	----	----	41	472	150	12	[7] 1	4	[7] 110	----
42 weeks: 1945	102,649	----	----	1,570	21,285	9,453	542	450	621	4,065	3,869
1944	77,889	----	----	1,484	19,126	7,499	552	440	464	4,131	3,286
Average, 1942–44	126,557	----	[7] 147,130	1,409	14,488	6,640	535	[7] 440	629	[7] 2,902	----

[2] Period ended earlier than Saturday.
[6] Correction, week ended Oct. 6, Louisiana: amebic dysentery 7 (instead of 1); bacillary dysentery 21 (instead of 10); endemic typhus fever 14 (instead of 11).
[7] 5-year median, 1940–44.

Anthrax: Idaho 1 case. *Psittacosis:* Illinois 1 case (Chicago); Maryland 1 case.

WEEKLY REPORTS FROM CITIES

City reports for week ended October, 13 1945

This table lists the reports from 89 cities of more than 10,000 population distributed throughout the United States, and represents a cross section of the current urban incidence of the diseases included in the table.

	Diphtheria cases	Encephalitis, infectious, cases	Influenza		Measles cases	Meningitis, meningococcus, cases	Pneumonia deaths	Poliomyelitis cases	Scarlet fever cases	Smallpox cases	Typhoid and paratyphoid fever cases	Whooping cough cases
			Cases	Deaths								
NEW ENGLAND												
Maine:												
Portland	0	0	------	0	1	0	2	2	2	0	0	4
New Hampshire:												
Concord	0	0	------	0	0	0	2	1	0	0	0	0
Vermont:												
Barre	0	0	------	0	0	0	0	0	0	0	0	0
Massachusetts:												
Boston	0	0	------	0	2	0	9	18	15	0	0	33
Fall River	0	0	------	0	1	0	0	1	3	0	0	1
Springfield	0	0	------	0	1	0	0	0	3	0	0	1
Worcester	0	0	------	0	20	0	9	1	4	0	0	3
Rhode Island:												
Providence	0	0	------	0	0	0	2	0	2	0	0	6
Connecticut:												
Bridgeport	0	0	------	0	0	0	0	9	3	0	0	0
Hartford	0	0	------	0	1	0	1	1	1	0	0	3
New Haven	0	0	------	0	0	0	1	0	0	0	0	4
MIDDLE ATLANTIC												
New York:												
Buffalo	0	0	------	0	1	0	2	5	3	0	1	7
New York	4	2	------	0	6	2	38	11	36	0	4	56
Rochester	0	0	------	0	0	0	1	7	3	0	1	10
Syracuse	0	0	------	0	0	0	2	0	9	0	0	18
New Jersey:												
Camden	0	0	------	0	0	2	1	2	0	0	0	0
Newark	0	1	1	0	1	1	1	5	1	0	0	26
Trenton	0	0	------	0	0	0	1	0	0	0	0	0
Pennsylvania:												
Philadelphia	0	0	1	1	8	2	16	11	19	0	2	55
Pittsburgh	1	1	------	0	0	0	4	5	7	0	0	8
Reading	0	0	------	0	3	0	1	1	2	0	0	1
EAST NORTH CENTRAL												
Ohio:												
Cincinnati	5	0	------	0	1	3	9	5	9	0	0	9
Cleveland	0	0	------	0	0	2	6	6	13	0	1	22
Columbus	2	0	------	0	1	0	0	4	9	0	0	2
Indiana:												
Fort Wayne	0	0	------	0	0	0	0	0	1	0	0	0
Indianapolis	6	0	------	0	0	0	3	0	9	0	0	7
South Bend	0	0	------	0	0	0	0	1	1	0	0	2
Terre Haute	0	0	------	0	0	0	0	0	1	0	0	0
Illinois:												
Chicago	1	0	1	0	50	4	18	11	31	0	0	33
Springfield	0	0	------	0	0	0	3	0	2	0	0	1
Michigan:												
Detroit	5	0	1	0	21	0	11	3	26	0	1	57
Flint	0	0	------	0	8	0	3	0	3	0	0	2
Grand Rapids	0	0	------	0	0	0	1	1	4	0	1	0
Wisconsin:												
Kenosha	0	0	------	0	0	0	0	1	1	0	0	0
Milwaukee	1	0	------	0	1	0	0	13	9	0	0	2
Racine	0	0	------	0	0	0	0	0	2	0	0	2
Superior	0	0	------	0	1	0	0	0	0	0	0	3
WEST NORTH CENTRAL												
Minnesota:												
Duluth	0	0	------	0	0	0	2	0	2	0	0	0
Minneapolis	0	0	------	0	2	0	4	7	10	0	0	6
St. Paul	1	0	------	0	3	0	6	2	5	0	0	2
Missouri:												
Kansas City	1	0	------	0	3	1	2	1	4	0	0	2
St. Joseph	0	0	------	0	0	0	0	0	0	0	0	0
St. Louis	2	0	2	0	0	2	9	9	11	0	0	7

City reports for week ended October 13, 1945—Continued

	Diphtheria cases	Encephalitis, infectious, cases	Influenza		Measles cases	Meningitis, meningococcus, cases	Pneumonia deaths	Poliomyelitis cases	Scarlet fever cases	Smallpox cases	Typhoid and paratyphoid fever cases	Whooping cough cases
			Cases	Deaths								
WEST NORTH CENTRAL—continued												
Nebraska:												
Omaha	1	0	------	0	0	0	2	1	1	0	0	0
Kansas:												
Topeka	0	0	------	0	2	0	0	0	2	0	0	0
Wichita	0	0	------	0	0	0	7	0	1	0	0	4
SOUTH ATLANTIC												
Delaware:												
Wilmington	0	0	------	0	1	0	2	0	1	0	1	1
Maryland:												
Baltimore	16	0	------	0	1	1	3	0	10	0	0	38
Cumberland	0	0	------	0	0	0	0	0	0	0	0	0
Frederick	0	0	------	0	0	0	1	0	0	0	0	0
District of Columbia:												
Washington	0	0	------	0	0	0	7	6	9	0	0	7
Virginia:												
Lynchburg	1	0	------	0	0	0	0	1	1	0	0	2
Richmond	1	0	------	0	0	1	1	6	9	0	1	0
Roanoke	0	0	------	0	0	0	0	0	3	0	0	0
West Virginia:												
Charleston	0	0	------	0	0	0	0	0	1	0	0	0
Wheeling	0	0	------	0	0	0	2	1	1	0	0	0
North Carolina:												
Raleigh	0	0	------	0	0	0	2	0	0	0	0	3
Wilmington	1	0	------	0	0	0	3	0	1	0	0	1
Winston-Salem	0	0	------	0	0	0	0	0	7	0	0	5
South Carolina:												
Charleston	0	0	2	1	0	0	0	0	1	0	0	0
Georgia:												
Atlanta	0	0	1	1	0	1	3	0	0	0	0	0
Brunswick	0	0	------	0	0	0	0	0	0	0	0	0
Savannah	0	0	------	0	0	0	0	0	1	0	0	0
Florida:												
Tampa	0	0	------	0	0	0	2	0	0	0	0	0
EAST SOUTH CENTRAL												
Tennessee:												
Memphis	1	0	------	1	0	0	3	5	6	0	0	2
Nashville	0	0	------	0	1	0	2	0	2	0	0	3
Alabama:												
Birmingham	2	0	1	0	0	1	5	0	3	0	0	1
Mobile	3	0	------	1	0	0	1	0	0	0	0	0
WEST SOUTH CENTRAL												
Arkansas:												
Little Rock	0	0	------	0	0	0	0	0	0	0	0	0
Louisiana:												
New Orleans	2	0	5	0	1	0	7	0	2	0	0	2
Shreveport	3	0	------	0	0	0	2	3	1	0	1	0
Texas:												
Dallas	0	0	------	0	0	0	1	2	4	0	0	0
Galveston	0	0	------	0	0	0	1	0	0	0	0	0
Houston	1	0	------	0	0	0	4	1	2	0	0	0
San Antonio	0	0	------	0	0	0	3	1	0	0	0	5
MOUNTAIN												
Montana:												
Billings	0	0	------	0	0	0	1	6	0	0	0	0
Great Falls	0	0	------	0	0	0	0	0	1	0	0	0
Helena	0	0	------	0	0	0	0	0	0	0	0	0
Missoula	0	0	------	0	1	0	2	0	0	0	0	0
Idaho:												
Boise	0	0	------	0	0	0	2	0	0	0	0	0
Colorado:												
Denver	4	0	1	0	2	0	3	0	8	0	0	9
Pueblo	1	0	------	0	0	0	1	0	0	0	0	1
Utah:												
Salt Lake City	0	0	------	0	2	0	0	2	2	0	0	5

City reports for week ended October 13, 1945—Continued

	Diphtheria cases	Encephalitis, infectious, cases	Influenza		Measles cases	Meningitis, meningococcus, cases	Pneumonia deaths	Poliomyelitis cases	Scarlet fever cases	Smallpox cases	Typhoid and paratyphoid fever cases	Whooping cough cases
			Cases	Deaths								
PACIFIC												
Washington:												
Seattle	2	0	------	0	21	0	4	1	8	0	0	2
Spokane	1	0	------	0	0	0	1	0	3	0	0	1
Tacoma	1	0	------	0	30	0	1	0	3	0	0	0
California:												
Los Angeles	3	0	2	2	4	0	2	7	17	0	0	13
Sacramento	2	0	------	0	2	0	1	0	4	0	0	19
San Francisco	1	0	------	0	35	0	4	2	5	0	0	6
Total	76	4	18	7	239	23	256	189	386	0	14	525
Corresponding week, 1944	89	------	30	16	140	------	298	------	420	0	12	416
Average, 1940–44	77	------	53	[1] 17	[2] 246	------	[1] 502	------	467	0	28	873

[1] 3-year average, 1942–44. [2] 5-year median, 1940–44.

Dysentery, amebic.—Cases: Boston, 2; New York, 3; Chicago, 2; St. Joseph, 2; Baltimore, 1; Los Angeles, 1.
Dysentery, bacillary.—Cases: New Haven, 1; New York, 14; Chicago, 1; Detroit, 5; Atlanta, 2; Nashville, 1; Los Angeles, 2.
Dysentery, unspecified.—Cases: Baltimore, 1; Richmond, 1; San Antonio, 2.
Typhus fever, endemic.—Cases: Kansas City, 1; Charleston, S. C., 4; Atlanta, 6; Savannah, 4; Nashville, 2; Little Rock, 1; New Orleans, 10; Shreveport, 1; Dallas 3; Houston, 2; San Antonio, 5; Los Angeles, 3.

Rates (annual basis) per 100,000 population, by geographic groups, for the 89 cities in the preceding table (estimated population, 1943, 34,366,400)

	Diphtheria case rates	Encephalitis, infectious, case rates	Influenza		Measles case rates	Meningitis, meningococcus, case rates	Pneumonia death rates	Poliomyelitis case rates	Scarlet fever case rates	Smallpox case rates	Typhoid and paratyphoid fever case rates	Whooping cough case rates
			Case rates	Death rates								
New England	0.0	0.0	0.0	0.0	68	0.0	68.0	86.3	86	0.0	0.0	144
Middle Atlantic	2.3	1.9	0.9	0.5	9	3.2	31.0	21.8	37	0.0	3.7	84
East North Central	12.2	0.0	1.2	0.0	50	5.5	32.8	27.4	74	0.0	1.8	86
West North Central	10.1	0.0	4.0	0.0	20	6.0	64.4	40.2	72	0.0	0.0	42
South Atlantic	31.1	0.0	4.9	3.3	3	4.9	42.5	22.9	74	0.0	3.3	93
East South Central	35.4	0.0	5.9	11.8	6	5.9	64.9	29.5	65	0.0	0.0	35
West South Central	17.2	0.0	14.3	0.0	3	0.0	51.7	20.1	26	0.0	2.9	20
Mountain	39.7	0.0	7.9	0.0	40	0.0	71.5	63.5	87	0.0	0.0	119
Pacific	15.8	0.0	3.2	3.2	145	0.0	20.6	15.8	63	0.0	0.0	65
Total	11.6	0.6	2.7	1.1	36	3.5	38.9	28.8	59	0.0	2.1	80

TERRITORIES AND POSSESSIONS

Puerto Rico

Notifiable diseases—4 weeks ended October 6, 1945.—During the 4 weeks ended October 6, 1945, cases of certain notifiable diseases were reported in Puerto Rico as follows:

Disease	Cases	Disease	Cases
Bilharziasis	5	Ophthalmia neonatorum	1
Cerebrospinal meningitis	2	Poliomyelitis	1
Chickenpox	16	Ringworm	1
Diphtheria	69	Syphilis	403
Dysentery, unspecified	2	Tetanus	5
Filariasis	4	Tetanus, infantile	2
German measles	5	Tuberculosis (all forms)	603
Gonorrhea	248	Typhoid and paratyphoid fever	29
Influenza	39	Typhus fever (murine)	16
Malaria	458	Undulant fever	1
Measles	43	Whooping cough	37
Mumps	2		

Virgin Islands of the United States

Notifiable diseases—July–September 1945.—During the months of July, August, and September 1945, cases of certain notifiable diseases were reported in the Virgin Islands as follows:

Disease	July	August	September
Gonorrhea	13	5	6
Hookworm disease	1		1
Measles	1		
Mumps	1		
Schistosomiasis			1
Syphilis	23	10	7
Trachoma			1
Tuberculosis (pulmonary)		1	
Typhus fever (murine)	2	1	

FOREIGN REPORTS

CANADA

Provinces—Communicable diseases—Week ended September 29, 1945.—During the week ended September 29, 1945, cases of certain communicable diseases were reported by the Dominion Bureau of Statistics of Canada as follows:

Disease	Prince Edward Island	Nova Scotia	New Brunswick	Quebec	Ontario	Manitoba	Saskatchewan	Alberta	British Columbia	Total
Chickenpox		7		10	35	10	11	32	35	140
Diphtheria		2		22	3	6		1		34
Dysentery:										
Bacillary						1				1
Unspecified					1					1
German measles					7			1	1	9
Influenza		7			26					33
Measles				30	34		4	6	45	119
Meningitis, meningococcus		1			3					4
Mumps				19	46	6	2	21	15	109
Poliomyelitis		1	1	6	[1] 8	1			2	[1] 19
Scarlet fever	1	5	8	27	51	14	6	14	7	133
Tuberculosis (all forms)		7	1	254	46	16	29	9	82	444
Typhoid and paratyphoid fever				20	2	1			3	26
Venereal diseases:										
Gonorrhea		45	18	134	136	51	44	42	68	538
Syphilis		17	9	135	89	16	7	11	38	322
Other forms				2						2
Whooping cough		13	1	137	48	3		4	7	213

[1] Includes 2 cases, delayed reports.

JAMAICA

Notifiable diseases—4 weeks ended September 22, 1945.—During the 4 weeks ended September 22, 1945, cases of certain notifiable diseases were reported in Kingston, Jamaica, and in the island outside of Kingston, as follows:

Disease	Kingston	Other localities	Disease	Kingston	Other localities
Cerebrospinal meningitis		2	Poliomyelitis		1
Chickenpox	1	7	Scarlet fever		1
Diphtheria	5	9	Tuberculosis	32	75
Dysentery, unspecified	13	13	Typhoid fever	6	117
Erysipelas	1	2	Typhus fever (murine)	2	
Leprosy		2			

NEW ZEALAND

Notifiable diseases—4 weeks ended September 8, 1945.—During the 4 weeks ended September 8, 1945, certain notifiable diseases were reported in New Zealand as follows:

Disease	Cases	Deaths	Disease	Cases	Deaths
Cerebrospinal meningitis	16	2	Ophthalmia neonatorum	1	
Dengue	1		Puerperal fever	3	
Diphtheria	86	3	Scarlet fever	382	2
Dysentery:			Tetanus	3	2
Amebic	2		Trachoma	4	
Bacillary	13		Tuberculosis (all forms)	258	52
Erysipelas	21		Typhoid fever	7	1
Hookworm disease	1		Undulant fever	1	
Malaria	8				

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

NOTE.—Except in cases of unusual incidence, only those places are included which had not previously reported any of the above-named diseases, except yellow fever, during the current year. All reports of yellow fever are published currently.

A table showing the accumulated figures for these diseases for the year to date is published in the PUBLIC HEALTH REPORTS for the last Friday of each month.

Cholera

Ceylon—Trincomalee District.—For the week ended October 13, 1945, 13 cases of cholera with 11 deaths, were reported in the Trincomalee District, Ceylon. The source of infection was undetermined.

Plague

Ecuador.—During the month of August 1945, 5 cases of plague with 2 deaths were reported in Canar Province, and 1 case of plague was reported in Loja Province, Ecuador. These cases of plague are in addition to those previously published.

Smallpox

Brazil.—Smallpox (including alastrim) has been reported in the State of Rio Grande do Sul, Brazil, as follows: July, 139 cases; August, 142 cases; September, 41 cases.

Colombia—Antioquia Department.—For the month of July 1945, 139 cases of smallpox with 1 death were reported in Antioquia Department, Colombia.

Typhus Fever

Belgian Congo.—For the week ended September 29, 1945, 21 cases of typhus fever were reported in Belgian Congo.

Colombia—Antioquia Department.—For the month of July 1945, 107 cases of typhus fever with 6 deaths were reported in Antioquia Department, Colombia.

Ecuador.—For the month of September 1945, 57 cases of typhus fever with 9 deaths, were reported in Ecuador. These include 11 cases reported in Ambato, 11 cases with 2 deaths in Riobamba, 10 cases with 2 deaths, in Quito, and 2 cases of murine typhus fever reported in Guayaquil.

Yellow Fever

Peru—Junin Department—Satipo.—According to a report dated October 11, 1945, 3 cases (unconfirmed) of yellow fever were reported in Satipo, Junin Department, Peru.

Venezuela—Zulia State—Municipality of Rosario—Santa Marta Posesion (Haciendo).—Telegraphic information dated October 11, 1945, reported 1 fatal case of yellow fever in Santa Marta Posesion (Haciendo), Municipality of Rosario, Zulia State, Venezuela.

* * *

DEVICES FOR REDUCING HEALTH DEPARTMENT RECORDS AND REPORTS

A REVIEW

Traditionally, supporting bodies have required of the agencies they aid financially, periodic, detailed enumerations of their operational procedures. That reports of this nature are unwarrantedly burdensome to the grantee without being particularly revealing to the agency collecting the information is the thesis of an article [1] recently released by the United States Public Health Service.

Several opposing viewpoints as to what characterizes data best suited for administration of a grant-in-aid program are presented. The authors take the position that the information required must be essential to carrying out the functions with which the receiving office is charged, that it must be presented in a form requiring a minimum of time and effort in preparation, and that it must be collected no more frequently than is absolutely necessary. Some of the basic fallacies in current reporting requirements of grant-in-aid agencies are outlined, and a suggested reporting system designed to eliminate a number of these objections is presented. It is stated that for this purpose the supporting agency should have knowledge of the health problems being met, knowledge of what is being done with the money requested, and knowledge of how this service plan is adapted to community needs.

The system offered consists of three formal reporting instruments to be required annually: (1) An Annual Combined Report and Plan, (2) an Advance Estimate of Funds Needed for Operation of Health

[1] Devices for reducing health department records and reports. By Joseph W. Mountin and Evelyn Flook. Supplement No. 187 to the Public Health Reports.

Programs, and (3) an Inventory of Public Health Personnel, Facilities, and Services of Local Health Jurisdictions. The first of these would replace two separate narrative documents in current use and would follow a uniform pattern expressed in a common language, whereas the present narratives are characterized chiefly by inconsistency and lack of continuity. It would serve as a contract between the grantor and grantee with respect to current and contemplated performance. The second report form is constructed to provide the grant-in-aid agency with information needed to defend requests for appropriations for improvement and expansion of health services. From the information submitted, it will be possible to forecast which programs will require additional funds and the specific purposes for which these additional amounts are to be expended. The third report will aid the supporting agency in evaluation of health staffs, facilities, and services in identified localities. Such evaluation is necessary to the shaping of a health program and is possible only if the current distribution is known. Not only does this report provide for a summary of personnel, facilities, and services of each reporting health department, but also corresponding information concerning other official and voluntary agencies of the community would be included. In the past, detailed statistical accounts of services performed by local health departments have not adequately shown whether or not the gaps are taken care of by other community agencies. It is proposed that the inventory described should serve as a substitute for the quarterly count of admissions to service, clinic visits, nursing visits, sanitation inspections, and the like which has been required for the past decade.

Illustrations of the suggested report forms, together with a brief explanation of how they should be completed, are included in the article. The system has been tested experimentally in a number of States and has been approved by the Conference of State and Territorial Health Officers for extension to all States.

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