

ANNOTATIONS

EPIDEMIOLOGY AND THE CONTROL OF SYPHILIS

EPIDEMIOLOGY plays an increasingly important part not only in directing the control measures used against infectious disease but also in locating cases and foci of infection. The relationship to control in the former instance is not easily defined except in general terms. Studies of prevalence from reported cases or surveys tell the extent of the problem and indicate the directions along which preventive effort should be applied, while further studies check the efficacy of preventive methods. This relationship of epidemiology to control is broad, and sometimes, it must be confessed, remote. The other—that of bringing to light cases and infective foci—has been dubbed by its proponents “practical” epidemiology. Because of the limitations of space, rather than because of the sobriquet, it is proposed to limit the present discussion to this latter phase of the subject.

Syphilis spreads, as a rule, directly from person to person so that the epidemiologist does not need to worry about carriers and intermediate hosts. The basic problem is therefore to find cases. The identification of cases of syphilis has been approached, as recently pointed out by Smith,¹ from two different angles: the first being the routine performance of serological tests. While it seems unlikely that the present serological tests can ever be used for the whole population, Smith reiterates the statement that certain groups can and should be tested routinely. The most important group is perhaps the relatively large one composed of admissions to hospitals, clinics, and other institutions, where immediate clinical as well as ultimate preventive aims may be served. A less frequently mentioned but no less important group is made up of those serving sentence, particularly for vagrancy and sex delinquency,² in penal institutions. This tech-

¹Smith, Dudley C.: Practical Epidemiology of Syphilis. *Journal of the American Medical Association*, September 5, 1936, cvii, No. 10, pp. 784-786.

²Among 1,790 such persons convicted in New York City in 1934, 774, or 43.2 per cent, were found to have syphilis.

nique of case-finding among various groups is one which, properly directed, should have much value in bringing cases under treatment.

Smith lists another and more essentially epidemiological approach to the detection of cases which it is proposed to discuss at greater length: the study of the contacts of a presenting case with a view to finding both the source of infection for that case and the individuals who in turn may have been exposed and infected by the presenting case. Such a procedure has long been an accepted one in tuberculosis case-finding but only recently does one begin to find favorable comment upon its results in this country when applied to syphilis. Munson, an early exponent of the method, has suggested that the omission could be attributed to a mistaken sense of "delicacy." It seems more likely that most workers in syphilis control considered it improbable that patients could be induced to name sexual partners. However this may be, Munson³ reported several epidemics in small communities worked out in great detail as to sources and directions of spread by his technique of "sole leather epidemiology." A second report⁴ the following year added other epidemics and outlined further techniques of obtaining information about the spread of both syphilis and gonorrhea. These classic reports were vigorous as well as informative, and outlined procedures which could not but have value in case-finding in rural areas and small communities.

In cities where individual relationships may be both complex and obscure it was thought that Munson's direct approach might be impractical. However, not a little evidence has accumulated to prove the value of at least part of the technique of direct approach even here. There were undoubtedly many clinics where an attempt was made, with greater or less success, to question the patient about contacts. Very little, however, appeared in the literature on the results obtained. In 1930, shortly before the appearance of the work of Munson just cited, Leland, Nelson and Gorman⁵ published a study from the City Clinic in Lowell, Massachusetts, showing the directions in which clinic service was improved when a trained social worker was added to the staff. Important among these for present purposes was the large number of contacts brought under ex-

³Munson, W. L.: Practicability of Epidemiological Methods in the Control of Syphilis. *American Journal of Public Health*, February, 1932, xxii, No. 2, pp. 134-140.

⁴Munson, W. L.: Epidemiology of Syphilis and Gonorrhea. *American Journal of Public Health*, August, 1933, xxiii, No. 8, pp. 797-807.

⁵Leland, H. L.; Nelson, N. A.; and Gorman, A. I.: Does Follow-Up Social Service Pay in a Venereal Disease Clinic? *New England Journal of Medicine*, December 11, 1930, cciii, No. 24, pp. 1200-1204.

amination. It was emphasized that the only approach made was through the patient himself.

Beside the Lowell Clinic there are a number of other urban clinics from which data have been made available. Among these are the University Clinic at Charlottesville, Virginia, reported by Brumfield and Smith,⁶ the University Hospital Clinic in Philadelphia, reported by Ingraham,⁷ and the Mt. Sinai Hospital Clinic in New York City from which a personal communication was received through the courtesy of Dr. George Baehr.

Taking the reports of these clinics and comparing them insofar as they are comparable, certain facts stand out. The first is that where new admissions to the clinic, irrespective of the stage of their infection, are questioned as to their original and subsequent contacts, a good response is obtained. On the average, one available (local) contact is unearthed for every case. The proportion of contacts who are willing to submit to examination is in the neighborhood of 80 or 90 per cent. The majority undergo examination at the same clinic. The proportion of contacts found infected tends, however, to be relatively low—approximately 20 per cent.

Where clinics confine case-finding only to new admissions which show evidence of being in the early and infectious stages of syphilis, a fairly large proportion of refusals to name contacts are encountered (from 20 to 50 per cent, depending upon a number of factors often beyond the control of the worker in this field) but a rather high proportion of contacts per cooperative case is disclosed. Where white persons are named as contacts, from 60 to 90 per cent are willing to submit to examination. Colored persons commonly show somewhat, but not markedly, lower percentages.

These are very encouraging facts, but the figure which provides the most important argument for the provision of services for contact follow-up of early and infectious urban clinic cases is that of the proportion of examined contacts found to be infected. Smith and Brumfield⁸ have shown that this figure may be as high as 80 per cent. This high proportion indicates a very careful selection of contacts.

It has already been stated that the literature on this method of case-

⁶Brumfield, W. A., Jr. and Smith, D. C.: Transmission Sequence of Syphilis. *American Journal of Public Health*, June, 1934, xxiv, No. 6, pp. 577-580.

⁷Ingraham, Louise B.: The Persuasive Approach with the Infectious Syphilis Carrier: A Study in Public Health Method. *Journal of the American Medical Association*, December 12, 1936, cvii, No. 24, pp. 1990-1995.

⁸Smith, D. C. and Brumfield, W. A., Jr.: Tracing the Transmission of Syphilis. *Journal of the American Medical Association*, December 16, 1933, civ, No. 25, pp. 1955-1957.

finding is far less than the accumulated experience with the procedure should warrant. There is definite need of reports from various clinics where it is being tried, not only upon the results obtained but upon the methods of approach found most effective and the difficulties encountered.

The contribution of Ingraham⁷ takes up in some detail the technique of approaching infectious cases for information as to contacts. It stresses persuasion, as against compulsion, and an appeal adapted to the patient from whom the information is needed. It further emphasizes the importance of cooperation between the clinic physician and the worker in this field, the former preparing the patient for interview with the latter. An important observation is that only 41 per cent of patients give satisfactory information as to contacts when this is sought on the first day of clinic attendance but that 62 per cent may be induced to discuss contacts after a better acquaintance with the interviewer. It is, of course, important that skilled and considerate handling of the patient in other subdivisions of the clinic greatly simplify the interviewer's problem. The article further deals with the locating of contacts through the efforts of the patient himself or of the social worker and the persuading of contacts to undergo examination.

The review of what has been accomplished along the lines of contact follow-up has so far been confined to what has been done in city clinics. This is a very important aspect of the problem for a large proportion of syphilis cases are treated in clinics. A definite percentage is, however, treated privately, and this percentage is undoubtedly larger in rural areas. Some attempt has therefore been made to assist the private practitioner in this direction. A health department field worker was provided by Nelson⁹ primarily for the follow-up of patients reported by practitioners as lapsing treatment. Success was also achieved in securing the examination of contacts and the treatment of those found infected. Somewhat similar facilities are now being offered to practitioners in New York State but it is too early as yet to learn the results of the procedure. The problem is somewhat simplified by the fact that the greater part of the cases privately treated are under the care of relatively few practitioners.

Of the two techniques of case-finding—serological testing of groups and contact follow-up—the second is undoubtedly the more fundamental. The development of new and more generally applicable diagnostic tests may change the picture somewhat but the testing and periodic re-

⁹Nelson, N. A.: Follow-Up in General Practice. *New England Journal of Medicine*, June 1, 1933, ccviii, pp. 1153-1157.

testing of really extensive population groups will always be difficult in the extreme.

The emphasis given the epidemiological aspects should not be interpreted as implying that they are the sole factors in controlling syphilis. The search for cases will find more popular support if there is a better general understanding of the issues at stake and the discovery of cases is, of course, meaningless if adequate treatment for them cannot be provided. The procedure, therefore, has to be coordinated with public health education and the provision of good clinical facilities for adequate diagnosis and treatment. Where this has been done it can be seen that real progress has been made.

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TUBERCULOSIS AMONG NATIVE RACES

VARIOUS studies of tuberculosis among Indians in the United States have indicated a relatively high prevalence of infection and an exceedingly high mortality from the disease. A recent survey of the Alleghany Reservation Indians in Cattaraugus County, the native race in that area, is of considerable interest because the findings among them are compared with those for a group of white persons living in the same general area.¹

Korns states that the 972 Reservation Indians consist of half-breeds or those with less than half Indian blood. Since the Indians are enrolled according to the old custom of following the lineage of the mother, there are no records by which the proportion of Indian blood may be determined accurately. They mingle with the white population outside of the Reservation in high school, at movies, and in domestic or other work.

Two-thirds of the 972 Indians were given an examination consisting of a partial physical, an X-ray of the chest, and the Mantoux tuberculin test with 0.1 mg. of Old Tuberculin. It was believed that those examined were from a health standpoint representative of the Reservation as a whole. The prevalence of tuberculous infection among Indians was found to be considerably higher at each age than the rates noted for a random sample of the white rural families of Cattaraugus County. It

¹Korns, J. H.: Comparative Tuberculosis Findings Among Indians and White Persons in Cattaraugus County, New York. *The American Review of Tuberculosis*, October 1936, xxxiv, No. 4, pp. 550-560.