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Historical Perspectives Notifiable Disease Surveillance and Notifiable Disease Statistics -- United States, June 1946 and June 1996

National surveillance for infectious diseases is used to document the morbidity and impact associated with these conditions in the United States. This report includes morbidity data for the weeks ending June 8, 1946, and June 22, 1996, and describes changes since 1946 both in the procedures for conducting surveillance and in the incidence of selected diseases. Surveillance Notes

The history of the reporting and tracking of diseases that could pose a risk to public health in the United States dates back more than a century. In 1878, Congress authorized the U.S. Marine Hospital Service (the forerunner of today's Public Health Service {PHS}) to collect morbidity reports on cholera, smallpox, plague, and yellow fever from U.S. consuls overseas; this information was used to institute quarantine measures to prevent the introduction and spread of these diseases into the United States. In 1879, a specific Congressional appropriation was made for collecting and publishing reports of these notifiable diseases. The authority for weekly reporting and publication was expanded by Congress in 1893 to include data from states and municipal authorities. By 1928, all states, the District of Columbia, Hawaii, and Puerto Rico were reporting 29 infectious diseases to the Surgeon General.

Fifty years ago, morbidity statistics published each week were accompanied by the statement "No health department, State or local, can effectively prevent or control disease without knowledge of when, where, and under what conditions cases are occurring." These statistics appeared under the heading "Prevalence of Disease -- United States" in each issue of Public Health Reports printed by PHS, Office of the Surgeon General (Division of Public Health Methods) (see pages 533-6). In 1949, the collection, compilation, and publication of these morbidity statistics was transferred to the National Office of Vital Statistics, which produced the Weekly Morbidity Report. In 1952 the publication was renamed Morbidity and Mortality Weekly Report, and responsibility for the publication was transferred to CDC in 1961.

In 1946, reports of notifiable diseases consisted of summary statistics, transmitted by telegram each week by all state and some city health officers. The numbers were tabulated and sent immediately by letter to each site for verification. Data published in the June 28, 1946, issue of Public Health Reports were for the week ending June 8, 1946 (see pages 533-6). Today, for most diseases, each state health department enters individual case reports (rather than summary numbers) into a computer for

transmission to CDC through the National Electronic Telecommunications System for Surveillance; data published in this issue of MMWR represent cumulative totals reported through June 22, 1996. Except for New York City and Washington, D.C., morbidity data from individual cities are no longer published weekly.

Because the reporting frequency varied for different conditions (i.e., weekly, monthly, or annually), the precise number of conditions considered nationally reportable in 1946 is unclear. The first list of 41 infectious diseases that all states agreed should be nationally notifiable to PHS was developed at the first conference of state and territorial epidemiologists in 1951 (1). This group was the forerunner of the Council of State and Territorial Epidemiologists (CSTE), now CDC's primary collaborator for determining what is nationally reportable. In 1951, as now, because reporting can be mandated only at the state level, reporting to CDC by the states was voluntary. Today, 52 infectious diseases are notifiable nationally (2); in addition, at the 1995 CSTE meeting, the first noninfectious condition -- elevated blood lead levels -- was added to the list of conditions designated as reportable at a national level (3). On June 6, 1996, CSTE added silicosis and acute pesticide poisoning/injuries to the list of nationally reportable conditions. Also on June 6, CSTE unanimously agreed to include prevalence of cigarette smoking in the list of conditions designated as reportable by states to CDC; this is the first time tobacco has been included and the first time a risk behavior, rather than a disease or illness, has been included (see box, page 537). Disease Notes

Comparing reports of notifiable conditions during June 1946 and June 1996 highlights some of the differences in the prevalent or common diseases. For example, 50 years ago, in the fundamentally prevaccine era, for the week ending June 8, 1946, health departments reported 161 cases of poliomyelitis, 229 cases of diphtheria, 1886 cases of pertussis, and 25,041 cases of measles (see page 534-6). Through the week ending June 22, 1996, a cumulative total of no confirmed cases of polio, one case of diphtheria, 1419 cases of pertussis, and 263 cases of measles have been reported for 1996. Since 1946, vaccines have been licensed for all four of these conditions: diphtheria and tetanus toxoids and pertussis vaccine in 1949, inactivated polio vaccine in 1955 and live attenuated vaccine in 1961, and measles vaccine in 1963. Because of the advent of these and other disease-control strategies, during the past decade public health authorities have established as targets for the year 2000 eradication of polio globally and measles elimination in the Americas. Four cases of another vaccine-preventable disease, smallpox, were reported for the week ending June 8, 1946, and a total of 337 cases for the entire year of 1946; the last documented cases of smallpox in the United States occurred 3 years later, in 1949. In 1958, the World Health Organization targeted smallpox for global eradication, a campaign that was declared successful in 1980 (4).

Among the 10 nationally notifiable infectious diseases that are most commonly reportable today, several were unknown in June 1946. The 10 most frequent nationally reportable infectious conditions in 1994 (the most recent year for which final data are available) were, in descending order, gonorrhea, acquired immunodeficiency syndrome (AIDS), salmonellosis, shigellosis, hepatitis A, tuberculosis, primary and secondary syphilis, Lyme disease, hepatitis B, and pertussis (5). Fifty years ago, AIDS and Lyme disease were unknown. "Infectious hepatitis" (subsequently identified as hepatitis A) had just been identified, and morbidity reports for this condition first appeared in 1947. In 1953, serum hepatitis (subsequently named hepatitis B) was recognized as a separate entity, although it was included in the general category of hepatitis until 1966, when infectious and serum hepatitis began to be reported separately. Other diseases reported on a weekly basis during 1946 included amebiasis, murine typhus fever, and tularemia; during the past 10 years, these three conditions were deleted from the nationally notifiable disease list and are no longer routinely reported to CDC.

Because of the acknowledged underreporting of most diseases (particularly those typically characterized by clinically mild illness) to this passive surveillance system, the National Notifiable

Disease Surveillance System (NNDSS) does not capture all cases of disease nationwide. However, these data are essential for monitoring disease trends and for determining relative disease burdens. In addition, this same NNDSS -- with origins dating more than a century ago -- continues to be used for monitoring the decline in incidence of vaccine-preventable and other diseases and to detect and document the appearance of new public health problems.

Reported by: Systems Operations and Information Br, Div of Surveillance and Epidemiology, Epidemiology Program Office, CDC.

References

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2. CDC. Changes in national notifiable diseases data presentation. MMWR 1996;45:41-2.

3. CDC. Blood lead levels among children -- Rhode Island, 1993-1995. MMWR 1995:44:788-91.

4. World Health Organization. The global eradication of smallpox. Final report of the Global Commission for the Certification of Smallpox Eradication. Geneva: World Health Organization, 1980.

5. CDC. Summary of notifiable diseases, United States, 1994. MMWR 1994:43(53).

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