**CSTE Position Statement 2001-ID-9#** **Committee: Infectious Diseases**

**TITLE:** Validation of Data Representing Deaths Due to Vaccine-Preventable Diseases

**ISSUE:** As deaths from many vaccine preventable diseases become rare, accurate ascertainment of such deaths becomes increasingly important. In the past, there have been discrepancies between deaths from vaccine preventable diseases reported from the National Center for Health Statistics (NCHS) and deaths reported to the National Notifiable Disease Surveillance System (NNDSS). NCHS publishes official health statistics in the United States.

Validating data on rare deaths is an ongoing process between NCHS and state vital statistics offices. In some states, this process works well but in other states, validations do not occur on a timely basis. In order to facilitate and improve efficiency and accuracy of this process as it relates to rare causes of vaccine preventable deaths, it is proposed that existing relationships between CDC/NIP and state epidemiologists and state immunization programs be used to augment the validation process of these deaths. By involving those responsible for surveillance of vaccine-preventable diseases, this should minimize or eliminate the discrepancy in counts of deaths attributable to vaccine-preventable diseases.

**POSITION:**

1. CSTE endorses an expanded method to validate the subset of rare deaths that are due to specific vaccine-preventable diseases. Specifically, it endorses the proposal from the National Immunization Program (NIP) that

a. the National Center for Health Statistics (NCHS) provide lists of rare deaths from vaccine-preventable diseases (including underlying and contributing causes of death, state certificate number, date of death, age, sex and race) to an individual at NIP 3 times per year in addition to providing lists to state vital statistics offices.

b. NIP will review the line listing and will, in turn, communicate with State epidemiologists regarding the confirmation of these cases.

c. The State epidemiologist will coordinate with the State vital statistics office and the state immunization program staff to confirm the deaths in a manner that does not jeopardize the relationship between the State vital statistics office and the certifying physicians.

d. The state epidemiologist or designated staff from the immunization program will communicate data to NIP and the state vital statistics office will communicate the same data, and send an updated state vital statistics file, to NCHS.

e. In addition, NIP, after collaboration with state epidemiologists, will inform NCHS of vaccine preventable deaths reported through NNDSS that are not included in the NCHS data files. NCHS will update the death files prior to release of death statistics.

f. Diseases to be included in this process include:

Whooping cough (A37)
Measles (B05)

Acute poliomyelitis (A80)
Mumps (B26)
Rubella (B06)
Diphtheria (A36)
Other tetanus (Tetanus) (A35)
Congenital rubella syndrome (P35.0)
Haemophilus influenzae
Varicella (B01)

2. CSTE encourages each state health department infectious disease/vaccine-preventable disease surveillance unit to collaborate with their State vital records office and NIP to validate the subset of rare deaths that are due to vaccine preventable diseases.

**BACKGROUND AND JUSTIFICATION:** Two systems in the United States collect data on deaths related to vaccine-preventable diseases, the National Center for Health Statistics (NCHS), which published official death statistics in the United States, and the National Notifiable Disease Surveillance System (NNDSS) . The NCHS system collects mortality information through death certificates filed from state offices of vital records. Death certificates are filled out by physicians. The medical information on the death certificates is coded using the current revision of the International Classification of Diseases (ICD-10) according to what is listed as the underlying cause of death and any contributing causes. What is finally assigned as the cause of death depends on what condition(s) is (are) listed on the death certificate and the ICD coding rules. Coding mistakes can be made. The NNDSS system is designed primarily to collect data on vaccine preventable disease morbidity and relies on passive disease reporting from physicians and laboratories through state epidemiology or immunization public health offices; morbidity (survived or died) is included on NNDSS reports only as one of many outcome and epidemiologic data which are usually gathered only after extensive followup and case investigation. Though this system is passive, for rare causes of vaccine preventable disease mortality, detailed case and/or death investigation is current practice and mistakes are unlikely. As varicella deaths have been nationally notifiable since 1999, most states should already be investigating all their varicella deaths.

In the past, comparing data on deaths collected from the NCHS and the NNDSS systems in 1998, there have been discrepancies between the 2 data sources. For example, 1 death was reported due to diphtheria in 1998, however investigation of this case by NIP revealed that the death was not due to diphtheria. For other diseases, deaths were missed by one source or the other and deaths were more complete and accurate when both sources were used. Using both sources of data will allow more accurate classification of deaths due to vaccine preventable diseases.

**FISCAL IMPACT**: There should be minimal fiscal impact to state health departments. The total number of deaths in the United States due to these vaccine preventable diseases combined is likely to be in the order of 150-200 per year, of which 130-180 are likely to be due to varicella and the remainder due to all other rare vaccine preventable diseases combined. This number is likely to decrease sharply over the next few years as varicella

deaths decline with increasing varicella vaccine coverage. Therefore, the burden of this validation on any one state will be small. In addition, many states are already conducting surveillance for deaths from varicella.

**IMPACT**: The impact will be to make the national death surveillance system more accurate and usable for monitoring rare deaths due to vaccine-preventable diseases.

**LEAD AUTHOR**:
James Hadler, MD, MPH
State Epidemiologist
Infectious Diseases Division
Connecticut Department of Public Health
410 Capitol Avenue, MS #11 FDS
Hartford, CT 06134-0308
Phone: (860) 509-7995
Fax: (860) 509-7910
e-mail: james.hadler@po.state.ct.us

**AGENCIES FOR RESPONSE**:
CDC, NCHS
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