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To: U.S. State and Territorial Epidemiologists

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Subject: 2020 changes to the National Notifiable Diseases Surveillance System and other relevant updates

This memorandum summarizes changes to the National Notifiable Diseases Surveillance System (NNDSS) based upon position statements approved by the Council of State and Territorial Epidemiologists (CSTE) at their annual meeting in June 2019, as well as other relevant updates. Please share this letter with surveillance and informatics staff in your jurisdiction who are responsible for collection or submission of NNDSS data to CDC. The NNDSS website is expected to be updated in mid-December 2019 with information relevant for surveillance year 2020, and will include the 2020 list of nationally notifiable conditions, the 2020 event code list, and new and revised 2020 surveillance case definitions. The 2020 NNDSS event code list will be available in the HL7 Case Notification Resource Center on the MMG Related Documentation page. The Downloads and Resources page on the NNDSS website will include the 2020 Notification Requirements for National Notifiable Conditions, the 2020 *MMWR* Weeks Calendar, the List of Notifiable Conditions Historically by Year, and copies of Letters to State and Territorial Epidemiologists about NNDSS updates. Links to NNDSS notifiable infectious and noninfectious disease and condition data are available on the NNDSS Data and Statistics website. A direct link to the NNDSS weekly tables for infectious diseases and conditions is available here.

Section I, Part A: Revised national surveillance case definitions for 6 nationally notifiable infectious conditions:

a) Hepatitis C, acute (event code 10101) and hepatitis C, chronic (event code 10106):

Position Statement 19-ID-06 titled *Revision of the Case Definition for Hepatitis C* updates the confirmed and probable acute hepatitis C case definition as well as the probable chronic case definition from the previous hepatitis C case definition (15-ID-03). This case definition revision should begin with cases assigned to surveillance year 2020.

The revision of the hepatitis C acute classification is being proposed to address various issues. Even with improvements from the prior revision of the hepatitis C case classification, most acute cases are not captured; therefore, the scope of the epidemic among people who inject drugs is not well understood. This revision removes the requirement for the presence of a discrete onset of symptoms for acute cases. Use of bilirubin test results, already approved in the acute hepatitis A case definition, are proposed to allow for objective measures of jaundice. As the reporting of negative nucleic acid test (NAT) for hepatitis C virus (HCV) RNA test results have become more widely adopted, jurisdictions that require reporting of negative NAT results are now able to detect new infections, re-infections, and cleared infections from seroconversions. Inclusion of NAT negative results increases the sensitivity of case classification, based on current understanding of the disease. A clarification is made regarding the classification of probable chronic hepatitis C cases. HCV antibody positive cases that have evidence of having cleared their infection (i.e., HCV RNA negative) at the time of initial report should not be notified to CDC NNDSS as a probable chronic case. The prior 2016 revision of the hepatitis C classification (in CSTE position statement 15-ID-03) did not take into account the

presence of negative NAT for hepatitis C virus RNA test results, which led to variable practice in interpreting and reporting those cases.

The publication criteria for acute and chronic hepatitis C include confirmed and probable cases, but only acute hepatitis C data will be published in the NNDSS weekly and annual tables. Chronic hepatitis C data are published online by the CDC's Division of Viral Hepatitis, available here.

b) Legionellosis (event code 10490):

Position statement 19-ID-04 titled *Revision to the Case Definition for Legionellosis Surveillance* updates the case definition for legionellosis (from previous position statement 09-ID-45) through the addition of new clinical criteria (e.g. extrapulmonary legionellosis), updated laboratory criteria, and the addition of probable case classification for cases with an epidemiologic linkage. Legionellosis continues to be nationally notifiable, confirmed cases will be published in the weekly and annual NNDSS tables. This case definition revision should begin with cases assigned to surveillance year 2020.

c) Pertussis (event code 10190):

Position Statement 19-ID-08 titled *Revision to the Case Definition for National Pertussis Surveillance* requests changes to the case definition to better capture pertussis cases across all age groups. Classifying all polymerase chain reaction-(PCR)-positive cases as confirmed (similar to culture-confirmed cases), regardless of cough duration or presence of a pertussis symptom, will more accurately reflect current diagnostic practices, with PCR as the test of choice, as well as decrease the investigative burden borne by state and local health departments. Restricting the confirmed classification to cases with confirmatory laboratory testing and eliminating age- specific classifications will further streamline the case definition.

This case definition revision should begin with cases assigned to the 2020 surveillance year. Publication in the NNDSS weekly and annual tables includes confirmed, probable, and unknown case classification categories.

d) Plague (event code 10440):

Position Statement 19-ID-01 titled *Public Health Reporting and National Notification of Plague* requests a revision to the plague case definition. This position statement incorporates newer laboratory diagnostics (polymerase chain reaction and immunohistochemical assays) which currently are not reflected in the 1996 plague case definition (https://wwwn.cdc.gov/nndss/conditions/plague/case-definition/1996/). This 2020 case definition revision will minimize the potential for under-reporting of cases diagnosed using only those techniques; therefore, prompt public health investigation and intervention. This position statement also allows for clinically compatible illness that may not align with a discrete clinical syndrome, such as a non-specific febrile illness that may be present early in the disease course as well as allowing for epidemiologic linkage to provide supportive evidence to case classification. This case definition revision should begin with cases assigned to surveillance year 2020.

Confirmed and probable cases will be published in the weekly and annual NNDSS tables.

e) Spotted fever rickettsiosis (event code 10250):

Position Statement 19-ID-07 titled *Changes to Public Health Reporting and National Notification for Spotted Fever Rickettsiosis (including Rocky Mountain Spotted Fever)* requests a revision to the spotted fever rickettsiosis (SFR) (including Rocky Mountain spotted fever) case definition, which continue to be nationally notifiable. This case definition revision should begin with cases assigned to surveillance year 2020. This position statement proposes updating the current

laboratory criteria used to classify SFR (https://wwwn.cdc.gov/nndss/conditions/spotted-fever-rickettsiosis/case-definition/2010/) to help focus investigations towards suspect patients more likely to be cases. This position statement also proposes to omit SFR cases from the weekly NNDSS tables because SFR cases are complex to classify and reporting of reliable case counts is often delayed, making the weekly case counts of limited utility. However, final case counts of confirmed and probable SFR will continue to be published in the annual NNDSS tables.

Section I, Part B: Conditions placed under standardized surveillance, but not designated nationally notifiable:

a) Acute flaccid myelitis (AFM) (event code 11120):

Position Statement 19-ID-05 titled *Revision to the Standardized Case Definition, Case Classification, and Public Health Reporting for Acute Flaccid Myelitis* revises the surveillance case definition for AFM, to improve reporting consistency across jurisdictions and to further characterize the illness. This case definition revision should begin with cases assigned to surveillance year 2020.

The following summarizes changes to the case definition:

- The laboratory/imaging criteria were updated as follows:
    - Confirmatory laboratory/imaging evidence now includes
        - MRI showing spinal cord lesion with predominant gray matter involvement† and spanning one or more vertebral segments
        - Excluding persons with gray matter lesions in the spinal cord resulting from physician diagnosed malignancy, vascular disease, or anatomic abnormalities.
    - Presumptive laboratory/imaging evidence now includes

        - MRI showing spinal cord lesion where the gray matter involvement is present but predominance cannot be determined
        - Excluding persons with gray matter lesions in the spinal cord resulting from physician diagnosed malignancy, vascular disease, or anatomic abnormalities.

- The confirmed case classification is revised to include persons meeting the clinical criteria with confirmatory laboratory/imaging evidence and absence of a clear alternative diagnosis attributable to a nationally notifiable condition.
- The probable case classification is revised to remove the requirement for pleocytosis and include persons meeting the clinical criteria with presumptive laboratory/imaging evidence and absence of a clear alternative diagnosis attributable to a nationally notifiable condition.
- The suspect case classification is created to include persons meeting the clinical criteria but for whom available information is insufficient to classify the case as confirmed or probable.

The CDC program and CSTE are working together to address the need for further clarification for the suspect category. The intent of the change was to include clinical AND laboratory/imaging criteria for suspect cases as well. Supportive laboratory/imaging criteria for suspect cases would then be as follows:

- A magnetic resonance image showing a spinal cord lesion in at least some gray matter† and spanning one or more vertebral segments, AND
- Excluding persons with gray matter lesions in the spinal cord resulting from physician diagnosed malignancy, vascular disease, or anatomic abnormalities.

† Terms in the spinal cord MRI report such as “affecting gray matter,” “affecting the anterior horn or anterior horn cells,” “affecting the central cord,” “anterior myelitis,” or “poliomyelitis” would all be consistent with this terminology.

Therefore, the suspect case classification would include persons meeting the clinical criteria with supportive laboratory/imaging evidence and the available information is insufficient to classify the case as probable or confirmed.

b) Blastomycosis (event code 11910):

Position Statement 19-ID-02 titled *Standardized Surveillance Case Definition for Blastomycosis* creates a case definition for blastomycosis because previously no national standardized case definition or reporting protocol existed for blastomycosis in the United States, limiting understanding of its epidemiology and how and why sporadic cases and outbreaks occur. Blastomycosis is caused by the dimorphic fungus *Blastomyces* (most commonly the species *B. dermatitidis* and *B. gilchristii*).

CDC is currently seeking Office of Management and Budget Paperwork Reduction Act (OMB PRA) approval to receive reports for this condition so that reporting jurisdictions that collect this data condition can send it to CDC. The NNDSS website will include the 2020 case definition for this condition.

Section I, Part C: Condition placed under standardized surveillance, for which only FoodNet sites are requested to send data to CDC:

a) Yersiniosis, non-*pestis* (event code 11565):

Position Statement 19-ID-03 titled Case Definition for non-pestis Yersiniosis requests a revision of the surveillance case definition for yersiniosis (non-*pestis*). This revision provides clarification of the laboratory criteria.

Data for this condition should only be sent by FoodNet sites to CDC. There are no plans to request data for national surveillance for this condition. The surveillance case definition for this condition will not be

displayed on the NNDSS website. CDC currently has OMB PRA approval to receive data for this condition.

Section II: Updates about the Message Mapping Guide (MMG) development and implementation process:

a) While there are only three MMGs open for general onboarding, thirteen additional guides are expected to be open for onboarding in early 2020:

- Arboviral (currently open)
- Generic v.2 (currently open)
- Hepatitis (currently open)
- Mumps
- Pertussis
- Varicella
- Tuberculosis and Latent TB Infection
- Babesiosis
- Trichinellosis
- Sexually Transmitted Diseases
- Congenital Syphilis
- Malaria
- Lyme and Tickborne Rickettsial Diseases (Lyme/TBRD)
- Healthcare-Associated Infections Multi-Drug Resistant Organisms (HAI MDRO)
- Foodborne and Diarrheal Diseases (FDD)
- Respiratory and Invasive Bacterial Diseases (RIBD)

b) Several new MMGs were published as final guides during 2019. The Tuberculosis and Latent TB Infection (TB/LTBI) v3.0 MMG was published in June. A minor update to this guide, which contains an updated data type in the Industry and Occupation template and an updated value set, was published as v3.0.1 in August of this year. The Babesiosis v1.0 MMG was published as a final guide in July. The Trichinellosis v1.0 MMG was published in June. A minor update of this guide was published as v1.0.1 in August, containing an updated value set and additional

implementation notes. A minor update to the STD MMG was published as v1.0.1 in June. Both the Malaria v1.0 and Lyme and Tickborne Rickettsial Diseases (Lyme/TBRD) v1.0 MMGs were published in early August of this year. The Healthcare-Associated Infections Multi-Drug Resistant Organisms (HAI MDRO) MMG is expected to be finalized in late 2019.

c) The Foodborne and Diarrheal Diseases (FDD) MMG was finalized in December of 2018 but is still in the onboarding process for the 5 states piloting the guide. This guide has been constructed such that both national surveillance and Emerging Infections Program (EIP) surveillance (FoodNet) can be accommodated in one guide for shiga toxin-producing *Escherichia coli* (STEC), salmonellosis, shigellosis, campylobacteriosis, cyryptosporidiosis, cyclosporiasis, cholera, vibriosis and *S. typhi* and *S. paratyphi* infections. The EIP portion of the MMG also includes yersiniosis (non-*pestis*), hemolytic uremic syndrome (HUS), listeriosis and enterotoxigenic *Escherichia coli* (ETEC), which are requested from FoodNet sites only.

d) The Respiratory and Invasive Bacterial Diseases (RIBD) was recently finalized and will be published by the end of 2019. This MMG incorporates data elements for both national and EIP Active Bacterial Core Surveillance (ABCs) for *H. influenzae*, *N. meningitidis*, invasive pneumococcal disease, legionellosis, and psittacosis. The EIP portion of the guide also includes group A *Streptococcus*, group B *Streptococcus* and neonatal sepsis.

e) The final MMG, test scenarios, test messages, annotated case report forms and surveillance worksheets are available on the MMGs and Artifacts page (Final MMGs tab) of the HL7 Resource Center website. Additionally, links to the Implementation Spreadsheet and Test Case Scenario Worksheets for finalized guides are posted on the Technical Assistance and Training Resource Center.

f) Three condition-specific MMGs are in pilot testing. These guides will be finalized in early 2020. The conditions covered by these guides include measles, rubella, and congenital rubella syndrome.

g) There are 9 MMGs currently under development. The Carbon Monoxide Poisoning v1.0 MMG has completed the external review process for the draft version of the guide. The draft versions of the Bacterial Special Pathogens MMGs, which includes anthrax, brucellosis, Hansen's disease and leptospirosis, will be posted in early 2020 for external review**.** The Emergency Response MMG, designed to be implemented in advance and to be somewhat flexible for use in an emergency, is under development and expected to be open for comment in 2020. The Lead Poisoning MMG, which will be used for reporting both childhood and adult (occupational) exposures, the Listeriosis MMG and the Multi-site Gram Negative Surveillance Initiative (MuGSI) MMG are also under development but work on these guides has been temporarily suspended.

Section III: Retirement of summary records

As we modernize NNDSS and consolidate data processing into the Message Validation, Processing, and Provisioning System (MVPS), CDC is retiring the use of summary records because they only provide the number of cases that occurred, not the rich surveillance data needed by CDC programs.

NNDSS requests that jurisdictions stop sending summary records beginning with 2020 data, except for animal rabies data. CDC will continue to work with territories as they transition to integrated case-based surveillance systems and with jurisdictions sending animal rabies data.

NNDSS is coordinating with CDC programs to reach out to the few jurisdictions currently sending summary records to discuss retiring them.

The NNDSS team is considering a mechanism that would allow jurisdictions to submit summary counts in an emergency situation (such as summary numbers of cases during a pandemic flu situation).

Section IV: Submission of 2019 case notifications for *Candida auris* clinical, *Candida auris* colonization/screening, and carbapenemase-producing carbapenem-resistant *Enterobacteriaceae*

In August 2019, CDC notified jurisdictions they could begin to send notifications for the following because we had received Office of Management and Budget Paperwork Reduction Act approval:

- *Candida auris*, clinical, which is nationally notifiable (event code 50263);
- *Candida auris* colonization/screening, which is under standardized surveillance but is not nationally notifiable (event code 50264); and
- Carbapenemase-producing carbapenem-resistant *Enterobacteriaceae* (CP-CRE) (event code 50244).

It is not too late to send case notifications for theses conditions for the entire 2019 surveillance year. If we receive your cases during the reconciliation period or before, we can include those 2019 cases in the NNDSS annual tables.

Section V. Reconciliation process for the 2019 NNDSS data

The processing of NNDSS data is undergoing a redesign to automate manual data processing activities via MVPS. A benefit of the redesign will be the ability to conduct reconciliation activities utilizing the MVPS dashboard. Our goal is to enhance the MVPS dashboard in early 2020 with certain functionality that may be helpful during the 2019 data reconciliation process. However, in 2021 MVPS will be used for **reconciliation of the surveillance year 2020** NNDSS data, with a plan to include State Epi sign-off in MVPS as part of the reconciliation process. More information about this will be provided next year.

Section VI: Retirement of the Figure 1 graphic starting week one in surveillance year 2020

In 2019, CDC undertook a critical review of the content and method used to create NNDSS Weekly Infectious Disease Data, Figure 1 titled *Selected notifiable disease reports, United States, comparison of provisional 4-week totals with historical data*. Input from jurisdictions through CSTE and from CDC programs was sought to determine usefulness and desire to maintain the figure. A determination was made that due to the limited usefulness of Figure 1, it will no longer be published **as of the first week in surveillance year 2020.**

This memorandum will be available on the "Downloads and Resources" page of the NNDSS website, in the section titled "Letters to State and Territorial Epidemiologists about NNDSS Updates."

Thank you very much for your reporting efforts throughout the year. Your input is essential as we continue to work together to prevent and control diseases.

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