U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES
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Centers for Disease Control
and Prevention (CDC)
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To: U.S. State and Territorial Epidemiologists

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Subject: 2019 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 2018, as well as other relevant updates. Please share this letter with surveillance and informatics staff in your jurisdictions who are responsible for collection or submission of NNDSS data to CDC. The NNDSS web site (https://wwwn.cdc.gov/nndss/) is expected to be updated with information relevant to surveillance year 2019 in mid-December 2018, and will include the 2019 list of nationally notifiable conditions, the 2019 event code list, and new and revised 2019 national surveillance case definitions. The 2019 NNDSS event code list will include information about new and revised disease-specific event codes for submission of data to CDC's NNDSS (https://wwwn.cdc.gov/nndss/case-notification/related-documentation.html). NNDSS infectious disease and condition data tables are available on the NNDSS Data and Statistics web site. Links to the notifiable noninfectious diseases and conditions are also available on the NNDSS Data and Statistics web site.

Section I, Part A: Addition of one disease to the list of nationally notifiable diseases beginning in 2019:

a) *Candida auris*, clinical:

Position Statement 18-ID-05 titled Standardized Case Definition for *Candida auris* clinical and colonization/screening cases and National Notification of *C. auris* case, clinical requests that *Candida auris*, clinical (event code 50263) be added to the list of nationally notifiable diseases and it revises the surveillance case definition for this condition, effective in 2019.

Control of *C. auris* requires timely detection and adherence to recommended infection control practices. Yeast identification methods used at many clinical laboratories often misidentify *C. auris* as other yeasts (e.g., *Candida haemulonii*), making detection and thereby control of *C. auris* challenging. Making *C. auris* nationally notifiable will help with timely detection of *C. auris*, which is a key step in containing its spread within healthcare facilities and networks. A consensus case definition (position statement 17-ID-03) approved in 2017 (and implemented in 2018), allows for standardized public health tracking of *C. auris* cases. This position statement (18-ID-05) updates the consensus case definition to reflect changes in performance characteristics of laboratory tests used to identify *C. auris*.

A request has been submitted for Office of Management and Budget (OMB) Paperwork Reduction Act (PRA) approval to receive data for this condition. We expect to receive OMB PRA approval in early 2019.

The "Introduction" tab of the 2019 event code list includes the event code that jurisdictions should use to begin collecting data for *C. auris*, clinical. We will inform you when CDC is ready to receive case notifications for this condition. The Generic v2 Message Mapping Guide will be used to report case notifications to CDC, until a disease-specific MMG is available. The 2019 weekly NNDSS tables will be updated to include data for this condition.

Section I, Part B: Revised national surveillance case definitions for nationally notifiable diseases:

a) Diphtheria:

Position Statement 18-ID-03 titled Revision to the Case Definition for National Diphtheria Surveillance requests modifications to the diphtheria case definition for national surveillance to better reflect the epidemiology of diphtheria in the U.S., in order to focus efforts on identifying disease caused by toxin-producing bacteria and appropriately guide public health interventions.

The case definition includes some notable information. The national surveillance case definition describes confirmed and suspect cases and there is no longer a probable case classification for this condition. Toxin-producing *C. diphtheriae* cases from any anatomic site should be reported by state or local health departments to CDC as confirmed diphtheria cases. Cases of laboratory-confirmed, non-toxin-producing *C. diphtheriae* (respiratory or non-respiratory) should not be reported as diphtheria cases. Negative laboratory results may be sufficient to rule-out a diagnosis of diphtheria; however, clinicians should carefully consider any potential impact of antimicrobial treatment on lab results and the patient's vaccination status and recent travel to a country with endemic diphtheria in assessing the likelihood of toxin-producing *C. diphtheriae*. Polymerase chain reaction (PCR) and matrix assisted laser desorption/ionization-time of flight mass spectrometry) (MALDI-TOF) diagnostics for *C. diphtheriae*, when used alone, do not confirm toxin production. These tests, when used, should always be combined with a test that confirms toxin production, such as the Elek test.

Data for this condition will no longer be displayed in the weekly NNDSS tables beginning in 2019, but will continue to be displayed in the annual NNDSS tables.

b) Hepatitis A, acute:
Position Statement 18-ID-07 titled Public Health Reporting and National Notification for Hepatitis A modifies the national surveillance case definition for acute hepatitis A by incorporating nucleic amplification tests into the laboratory criteria. The previous 2012 hepatitis A acute case definition (based upon position statement 11-ID-02) included only IgM antibody to hepatitis A virus as the laboratory criteria. The 2019 revision of the case definition (from position statement 18-ID-07) adds nucleic acid amplification tests.

c) Carbon monoxide poisoning:
Position Statement 18-EH-01 titled Standardized Surveillance for Carbon Monoxide Poisoning revises the four tiers of surveillance activities for carbon monoxide poisoning to two tiers and provides surveillance case definitions for these tiers. Tier 1 surveillance refers to the process of healthcare providers or institutions (e.g., clinicians, clinical laboratories, hospitals, poison control centers) submitting basic information to governmental public health agencies about cases of carbon monoxide poisoning that meet certain reporting requirements or criteria. Cases of carbon monoxide poisoning may also be ascertained by the secondary analysis of administrative data or through syndromic surveillance algorithms where individual information is available for follow-up case investigation. Tier 2 surveillance for carbon monoxide poisoning is based upon secondary analysis of administrative data without access to personal identifiers.

A request has been submitted for Office of Management and Budget Paperwork Reduction Act (OMB PRA) approval to receive data for this condition. We expect to receive OMB PRA approval in early 2019 and we will let you know when we can start accepting data.

The “Introduction tab” of the 2019 event code list includes the event code that jurisdictions should use to begin collecting data for carbon monoxide poisoning (event code 32016). The Generic v2 Message Mapping Guide

will be used for case notifications to CDC for this condition, until a disease-specific MMG is available.

d) *Salmonella* Typhi infection and *Salmonella* Paratyphi infection: Position statement 18-ID-08 titled Public Health Reporting and National Notification for *Salmonella enterica* serotype Typhi (*S.* Typhi) and *Salmonella enterica* serotypes Paratyphi A, B (tartrate negative), and C (*S.* Paratyphi) Infections requests these conditions be made nationally notifiable in order to provide information on the temporal, geographic, and demographic occurrence of these infections in order to facilitate their prevention and control.

Beginning in 2019, the implementation of this position statement classifies infection with *S. enterica* serotypes Paratyphi A, B (tartrate negative) and C as a *S.* Paratyphi infection instead of salmonellosis. The national surveillance case definition for a confirmed case of *S.* Typhi or *S.* Paratyphi requires confirmatory laboratory evidence, which is defined by isolation of the organism (*S.* Typhi or *S.* Paratyphi, respectively) from a clinical specimen. Probable cases of *S.* Typhi or *S.* Paratyphi require a clinically compatible illness in a person with either presumptive laboratory evidence or with an epidemiologic linkage. Presumptive laboratory evidence for *S.* Typhi or *S.* Paratyphi infection is based upon detection of the organism using culture-independent diagnostic tests.

As a result of this position statement, the following conditions and event codes will be **added** to the nationally notifiable disease list in 2019:

- *Salmonella enterica* serotypes Paratyphi A, B (tartrate negative), and C (*S.* Paratyphi) infection (event code 50266)
- *Salmonella enterica* Typhi infection (*S.* Typhi infection) (event code 50267)
- Salmonellosis (excluding *S.* Typhi infection and *S.* Paratyphi infection) (event code 50265)

The following nationally notifiable diseases will be **retired** at the end of 2018 and should not be used for 2019 cases:

- Paratyphoid fever (caused by *Salmonella* serotypes Paratyphi A, Paratyphi B [tartrate negative], and Paratyphi C (event code 50236)
- Typhoid fever (caused by *Salmonella* Typhi) (event code 10240)
- Salmonellosis (excluding paratyphoid fever and typhoid fever) (event code 50242)

e) Listeriosis:

Due to delays in the finalization of position Statement 18-ID-06 titled *Revisions to the Surveillance Case Definition, Case Classification, Public Health Reporting, and National Notification for Listeriosis* there will be delays in the implementation of changes to the NNDSS. We hope to provide implementation guidance about this position statement soon.

f) Yellow fever:

Position statement 18-ID-04 titled Update to the Yellow Fever Case Definition proposes a revision to the standardized case definition for yellow fever to address changes in diagnostic testing and the possible occurrence of yellow fever vaccine-associated viscerotropic disease. The request for immediate notification of yellow fever cases has been removed and yellow fever has now been designated routinely notifiable.

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

a) ***Candida auris*, colonization/screening:**

Position Statement 18-ID-05 titled Standardized Case Definition for *Candida auris* clinical and colonization/screening cases and National Notification of *C. auris* case, clinical requests that *Candida auris*,

colonization/screening cases (event code 50264) be placed under standardized surveillance, but not be made nationally notifiable. The CDC program would like to receive data for this condition and we have submitted a request for OMB PRA approval. We expect to receive OMB PRA approval in early 2019. This condition will not be added to the 2019 NNDSS table display, since it is not nationally notifiable. The event code for this condition can be found in the "Introduction" tab of the 2019 NNDSS event code list.

b) **Respiratory Syncytial Virus-Associated Mortality (RSV-Associated Mortality)**

Position Statement 18-ID-01 titled Standardized Case Definition for Surveillance of RSV-Associated Mortality requests that RSV-Associated Mortality be placed under standardized surveillance, but not be made nationally notifiable. The goal of this position statement is to be able to enumerate RSV-associated deaths consistently across reporting jurisdictions and to describe the characteristics of these cases to inform public health policy regarding the use and impact of future RSV vaccines, immunoprophylaxis, and antiviral products.

CDC submitted a request for OMB PRA approval to receive data for this condition. We expect to receive OMB PRA approval in early 2019. The Generic v2 Message Mapping Guide will be used for case notifications to CDC, until a disease-specific MMG is available.

The Introduction tab of the 2019 event code list includes the event code that jurisdictions should use to begin collecting data for RSV-associated deaths (event code 11646). We will inform you when CDC is ready to receive case notifications for this condition.

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

a) Yersiniosis, non-pestis

Position Statement 18-ID-02 titled Case Definition for Non-pestis Yersiniosis requests that yersiniosis (non-pestis) (event code 11565) be placed under standardized surveillance and that jurisdictions utilize a national surveillance case definition for confirmed and probable cases. The goals of surveillance are to provide standardized and timely data in order to identify and control transmission as well as facilitate comparability in case counts across jurisdictions.

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 web site. 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) Several MMGs were published as final guides during the course of the year. The Congenital Syphilis and Sexually Transmitted Disease (STD) MMGs completed the pilot testing process at the end of 2017 and became final in January of 2018. The Mumps, Pertussis, and Varicella MMGs also completed pilot testing in early 2018 and were published as final guides in May of 2018. The final MMG, test scenarios, test messages, annotated case report forms or surveillance worksheets are available on the MMGs and Artifacts page (Final MMGs tab) of the HL7 Resource Center website at https://wwwn.cdc.gov/nndss/case-notification/message-

mapping-guides.html. Additionally, links to the Implementation Spreadsheet and Test Case Scenario Worksheets for these guides are posted on the Technical Assistance and Training Resource Center at https://www.cdc.gov/nmi/ta-trc/worksheets.html.

b) Nine condition-specific MMGs have been upgraded to pilot test-ready status and are in various stages of pilot testing or post-piloting development. These guides will be finalized during 2019. The conditions covered by these guides include Babesiosis, Congenital Rubella, Foodborne and Diarrheal Diseases (FDD), Malaria, Measles, Respiratory and Invasive Bacterial Diseases (RIBD), Rubella, Trichinellosis and Tuberculosis (TB) and Latent Tuberculosis Infections (LTBI). The FDD MMG 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, Cryptosporidiosis, 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) as part of the FoodNet conditions. The RIBD MMG also incorporates data elements for both national and EIP (Active Bacterial Core Surveillance [ABCs]) surveillance 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.

c) Two new MMGs are in the early stages of development for Healthcare Associated Infections Multi-Drug Resistant Organisms (HAI MDRO), and Lyme and Tickborne Rickettsial Diseases (TBRD). The HAI MDRO guide (previously known as the CP-CRE MMG) includes carbapenamase producing carbapenem-resistant *Enterobacteriacea*, *C. auris*, and the conditions captured by the Emerging Infections Program Multi-site Gram-negative Surveillance Initiative (MuGSI) program. The Lyme and TBRD guide includes Lyme disease, Spotted Fever Rickettsiosis (SFR)

including Rocky Mountain Spotted Fever (RMSF), *Ehrlichia chaffeensis*, *Ehrlichia ewingii*, *Anaplasma phagocytophilum* and Ehrlichiosis/Anaplasmosis of undetermined cause. These guides will be piloted during the spring and summer of 2019, and finalized next fall.

d) The first MMGs to capture environmental and occupational exposures are in the early stages of development for carbon monoxide and lead. The MMG for lead will be designed for reporting both childhood and adult (occupational) blood lead levels. The carbon monoxide MMG will capture both occupational and community-based exposures. These are the first MMGs that will address non-infectious diseases and are not expected to go into production until early 2020.

Section III: Changes to the 2019 weekly NNDSS table display and Figure 1 graphic:

The following changes will be made to the weekly 2019 NNDSS tables of infectious diseases and conditions and Figure I published on the NNDSS Data and Statistics web page:

- The current Table 1 weekly NNDSS format (for infrequently reported notifiable diseases) will be retired and data for all conditions in that table (except for diphtheria) will be displayed using the weekly Table 2 format, which is by reporting jurisdiction. The current Table 2 will be renamed to Table 1. Of note, diphtheria data will only be presented in the annual NNDSS tables.
- The 2019 NNDSS data in the new Table 1 will be stratified by US Residents, excluding US Territories; US Territories; and non-U.S. Residents; based upon the reported 'country of usual residence' for the case. This stratification is not applied to the 2018 NNDSS data in the 2019 table.
- The previous 52 week median statistic will not be shown, but the previous 52 week maximum and cumulative year-to-date counts will be retained.
- Changes to the new Table 1 as a result of approved 2018 Council of State and Territorial Epidemiologists position statements include the following:

- ‘*Candida auris*, clinical cases’ (event code 50263), will be added as a new nationally notifiable disease.
- Paratyphoid fever (event code 50236) and Typhoid fever (event code 10240) will be replaced with *S.* Paratyphi infection (event code 50266) and *S.* Typhi infection (event code 50267), respectively.
- Salmonellosis (excluding paratyphoid fever and typhoid fever) (event code 50242) will be replaced with Salmonellosis (excluding *S.* Typhi infection and *S.* Paratyphi infection) (event code 50265).
- Carbapenemase-producing carbapenem-resistant *Enterobacteriaceae* (CP-CRE) event code will now be consolidated as CP-CRE (event code 50244) instead of separate event codes based upon CRE species *Klebsiella* spp (event code 50245), *E. coli* (event code 50246), and *Enterobacter* spp (event code 50247).

- The current Table 3 for Tuberculosis will be renamed Table 2 and the ‘country of usual residence’ stratification will not be applied to this table.
- The Figure 1 graphic will include cases among U.S. residents, but not cases reported from territories or among foreign residents (as defined by the country of usual residence data element).

Section IV: NNDSS event codes being retired beginning January 2019 for 2019 cases:

- Paratyphoid fever (caused by *Salmonella* serotypes Paratyphi A, Paratyphi B [tartrate negative], and Paratyphi C) (event code 50236)
- Typhoid fever (caused by *Salmonella* Typhi) (event code 10240)
- Salmonellosis, (excluding paratyphoid fever and typhoid fever) (event code 50242)
- *Candida auris* (event code 50243)

Section V: Critical review of Figure 1 within CDC.

CDC is undertaking a critical review of the content and method used to create Figure 1, to decide whether it is still useful and whether to continue to publish this

Figure or not. Input from jurisdictions through CSTE as well as CDC programs will be sought for this review.

A copy of this memorandum will be available on the "Downloads and Resources" section of the NNDSS web site at: https://wwwn.cdc.gov/nndss/downloads.html.

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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