Slide 1

Tuberculosis in the United States—National Tuberculosis Surveillance System, Highlights from 2022. This slide set was prepared by the Division of Tuberculosis Elimination, National Center for HIV, Viral Hepatitis, STD, and TB Prevention (NCHHSTP), Centers for Disease Control and Prevention (CDC), U.S. Department of Health and Human Services (HHS). It provides recent trends and highlights of data collected through the National Tuberculosis Surveillance System (NTSS) for 2022.

Since 1953, through the cooperation of state and local health departments, CDC has collected information on newly reported cases of tuberculosis (TB) disease in the United States. Each individual TB case report (Report of Verified Case of Tuberculosis, or RVCT) is submitted electronically to CDC. The data for this slide set are based on TB case reports for 1993–2022 received by CDC as of July 8, 2023. All case counts and rates for years 1993–2021 have been updated, and data from 2022 have been added.

Slide 2

This graph shows the annual number of TB cases in the United States for each year during 1982–2022, and the TB elimination threshold goal of <1 case per 1,000,000 (1 million) population, which is approximately 330 cases per year for the current U.S. population. In 1992, 26,673 cases were reported in the United States, with an incidence rate of 10.4 cases per 100,000 population. TB cases and incidence rates have declined substantially since 1992, but the annual rate of decline has been inadequate to achieve TB elimination goals.

In 2022, 8,331 cases were reported, with an incidence rate of 2.5 cases per 100,000, representing a 5.9% increase in case count and 5.5% increase in incidence rate compared with 2021.

After declining substantially in 2020, TB case counts rose in 2021 and 2022 but remain 6.3% lower compared with 2019. TB incidence appears to be gradually returning to prepandemic levels but concerns about pandemic-related disruptions to public health persist.

Slide 3

During 2022, the United States reported 8,331 TB cases, an incidence rate of 2.5 cases per 100,000 persons. Except for 2015, the U.S. TB case count and incidence rate declined every year during 1993 to 2020. Since the sharp decline in 2020 associated with the COVID-19 pandemic, the annual incidence rate has increased every year, with a 5.5% increase from 2021 to 2022.

Slide 4

The top graph shows incidence rates (cases per 100,000 persons) since 2010. The bottom graph shows annual percentage change in incidence rate, with any value >0 representing an increase from the previous year and any value <0 representing a decrease from the previous year.

The incidence rate increased by 5.5% from 2021 (2.4 cases per 100,000) to 2022 (2.5 cases per 100,000) but remains 7.7% lower compared with 2019. TB incidence appears to be gradually returning to prepandemic levels but concerns about pandemic-related disruptions to public health persist.

Slide 5

The National Vital Statistics System (NVSS) reported 602 TB-related deaths (0.2 deaths per 100,000 persons) where TB was the underlying cause of death for 2021, the most recent year for which data are available. This represents a 0.3% increase in deaths and a 0.2% increase in the mortality rate compared with 2020.

It is important to note that under current NVSS guidance, deaths caused by TB among persons with comorbid HIV infections are classified with HIV as the underlying cause of death, not TB, and are not included here.

National Vital Statistics System accessed from CDC WONDER as of July 12, 2023: https://wonder.cdc.gov/

Slide 6

Among U.S. states, half (50.4%) of TB cases continue to be reported from 4 states: California (22.2%, n=1,848), Texas (13.2%, n=1,098), New York state (including New York City, 8.6%, n=714) and Florida (6.4%, n=535). These states are also the most populous states in the United States, but only represent about a third of the total U.S. population.

Note: ranges were determined based on the Jenks Natural Breaks method, then rounded to the nearest 100.

Slide 7

Eight states had incidence rates higher than the national rate of 2.5 cases per 100,000 persons in 2022. Alaska had the highest rate (13.0), followed by Hawaii (7.0), California (4.7), Texas (3.7), New York (including New York City, 3.6), Washington (3.2), New Jersey (3.1), and Maryland (2.5). These reporting areas also had incidence rates greater than the national rate in 2021.

Note: New York City, which is a distinct reporting area, had an incidence rate of 6.4 cases per 100,000 persons. When New York City is analyzed separately, the remainder of New York state has an incidence rate of 1.6 cases per 100,000 persons.

Slide 8

This map shows each state shaded based on two scales, one representing TB case counts and one representing incidence rates, overlaid. Case counts reflect the overall burden of testing, treating, and preventing TB in each jurisdiction, but the incidence provides a clearer picture of epidemiologic risk by jurisdiction. The lighter shades represent low values and darker shades represent higher values on each measure.

- States with low case count and low incidence rate are shown in light grey, such as Maine and Idaho. (n=20)
- States with low case count but medium incidence rate, such as Nevada, are shown in light pink. (n=10)
- States with low case count but high incidence rate, such as Alaska, are shown in magenta. (n=1)
- States with a medium case count but low incidence rate are shown in light teal, such as Ohio. (n=5)

- States with medium case count and medium incidence rate are shown in light indigo (the middle of the color key), such as Georgia and Washington. (n=10)
- Hawaii was the only state with medium case count and high incidence rate, shown in purple. (n=1)
- None of the states had a high case count but low incidence rate, so turquoise is not found on the map.
- Florida was the only state with high case count and medium incidence rate, shown in teal. (n=1)
- States with high case count and high incidence rate are shown in dark indigo, such as California, Texas, and New York. (n=3)

Slide 9

Among the U.S.-Affiliated Pacific Islands, incidence rates (cases per 100,000 persons) ranged from 34.9 (Guam, n=59) to 252.1 (Republic of the Marshall Islands, n=106).

Slide 10

The distribution of the origin of birth for persons with TB remained similar in 2022 to previous years. Most reported TB cases occurred among non-U.S.–born persons (n=6,148, 73.8%), 2,142 (25.7%) cases occurred among U.S.-born persons, and 41 (0.5%) cases were reported with an unknown origin of birth. The percentage of cases among non-U.S.–born persons has gradually increased over time in the past decade, from 62.6% in 2011 to 73.8% in 2022. Compared with 2021, the incidence rate in 2022 among non-U.S.–born persons increased to 13.0 cases per 100,000 persons, while the rate for U.S.-born persons remained 0.8 cases per 100,000.

Slide 11

Incidence rates for U.S.-born persons are shown in the left figure in purple, and incidence rates for non-U.S.–born persons are shown on the right figure in blue. Note that the scale of the y-axes for these figures are different.

Among both U.S.-born and non-U.S.–born persons, TB incidence rates declined during 2011 to 2020 and increased in 2021. In 2022, the incidence rate among non-U.S.–born persons increased by 4.0% from 12.5 cases per 100,000 persons to 13.0 cases per 100,000 persons, but the incidence rate among U.S.-born persons was 0.8 cases for 100,000 population both years, decreasing by 1.8% from 2021 to 2022 when using unrounded numbers.

Slide 12

In 2022, 6,148 (73.8%) cases occurred among non-U.S.–born persons and 2,142 (25.7%) cases among U.S.-born persons. The TB incidence rate among non-U.S.–born persons of 13.0 per 100,000 persons was 17 times the rate of 0.8 per 100,000 among U.S.-born persons (using unrounded rates).

Slide 13

In 2022, five countries of birth accounted for 53% of U.S. TB cases among non-U.S.–born persons.

The most common countries of birth among non-U.S.–born persons with TB disease remained similar to previous years, with Mexico (18.9%) as the most frequently reported country of birth, followed by the

Philippines (10.9%), India (8.8%), Vietnam (8.2%), and China (6.0%). These countries also have large populations that live in the United States.

Slide 14

This slide shows the percentage of TB cases among the non-U.S.–born by number of years since initial arrival in the United States at diagnosis. In 2022, 30.6% of non-U.S.–born persons with TB were diagnosed within 5 years of arrival in the United States, with more than half of those occurring within the first year after arrival. Over one-third (34.6%) were diagnosed after being in the United States for at least 20 years.

Slide 15

This graph shows overall TB case counts in the past decade by race/ethnicity. With the exception of a slight increase from 2014 (n=9,381) to 2015 (n=9,538), the overall number of TB cases decreased during 2011 through 2020. The number of cases subsequently increased in 2021 (n=7,870) and 2022 (n=8,331) compared with 2020 (n=7,171).

Compared with 2021, the number of cases in 2022 decreased among Black or African American persons (2021: 1,416; 2022: 1,317) and White persons (2021: 885; 2022: 850). The case count in all other race/ethnicity groups increased from 2021 to 2022. The largest increase was seen in Hispanic or Latino persons (2021: 2,405; 2022: 2,824), followed by Native Hawaiian or Other Pacific Islanders (2021: 115; 2022: 155), Asian persons (2021: 2,829; 2022: 2,855), and American Indian or Alaska Native persons (2021: 87; 2022: 112).

Slide 16

This 100% stacked bar chart shows percentage distributions over time by race/ethnicity. Despite the decline in overall number of TB cases in 2020 and the subsequent increases in 2021 and 2022, the distribution of race/ethnicity among persons with TB disease has been relatively consistent since 2011.

Slide 17

This bar chart shows the percentage of TB cases by race/ethnicity for 2022. Non-Hispanic Asian persons were the most common race/ethnicity group among all cases (34.3%), followed by Hispanic or Latino persons (33.9%), non-Hispanic Black or African American persons (15.8%), and non-Hispanic White persons (10.2%). All other race groups (American Indian or Alaska Native persons, Native Hawaiian or Other Pacific Islander persons, non-Hispanic persons who identify with more than one race, and those with unknown or missing race/ethnicity information) each represented 1–2% of cases.

Slide 18

TB incidence rates (cases per 100,000 persons) vary by race/ethnicity groups. In 2022, Native Hawaiian or Other Pacific Islander persons had the highest rate (24.4), followed by Asian persons (14.1). Rates among American Indian or Alaska Native persons and Hispanic or Latino persons were 4.6 and 4.4, respectively. Persons who identify with more than one race (1.2) and White persons (0.4) had the lowest rates in 2022. The rate for Black or African American persons decreased from 3.4 in 2021 to 3.1 in 2022. Based on unrounded numbers, rates increased in 2022 compared with 2021 for American Indian or

Alaska Native persons, Native Hawaiian or Other Pacific Islander persons, and for Hispanic or Latino persons.

Slide 19

The number of TB cases reported among U.S.-born persons decreased during 2011 (n=3,914) to 2020 (n=2,009), increased during 2021 (n=2,177), and then decreased in 2022 (n=2,142).

Compared with 2011, the percentage of cases among White persons (2011: 33.4%; 2022: 26.3%) and Black or African American persons (2011: 39.1%; 2022: 31.4%) in 2022 have decreased. All other race/ethnicity groups have increased in percentages during 2011 to 2022. The largest increases in percentages were seen among Hispanic or Latino persons (2011: 19.5%; 2022: 25.0%) and Asian persons (2011: 3.3%; 2022: 6.8%).

In 2022, Black or African American persons (n=673) and White persons (n=564) had the greatest number of TB cases among U.S.-born persons.

Slide 20

For approximately a decade, the highest TB incidence rates (cases per 100,000 persons) among U.S.-born persons have occurred among Native Hawaiian or Other Pacific Islander persons and American Indian or Alaska Native persons. That pattern continued in 2022 with incidence rates of 6.3 among Native Hawaiian or Other Pacific Islander persons and 4.5 among American Indian or Alaska Native persons. The rates among Native Hawaiian or Other Pacific Islander persons and American Indian or Alaska Native persons have greater year-to-year variability than all other groups because of low case counts and smaller population sizes.

Incidence rates among U.S.-born persons have declined or remained relatively steady over time among Black or African American persons, Hispanic or Latino persons, Asian persons, White persons, and persons of multiple races. However, the incidence rate among U.S.-born Asian persons increased from 1.2 in 2020 to 1.4 in 2021 and 1.8 in 2022. White persons and persons who identify with more than one race continue to have the lowest rates among all race groups.

Slide 21

The number of TB cases reported among non-U.S.–born persons increased from 2021 (n=5,629) to 2022 (n=6,148). Over 80% of non-U.S.–born cases occurred among Asian persons (n=2,704) and Hispanic or Latino persons (n=2,268). Since 2011, the distribution of the number of TB cases by race/ethnicity among non-U.S.–born persons has been relatively consistent.

Slide 22

In 2022, among non-U.S.–born persons, persons who identify with more than one race had the highest incidence rate (31.2 cases per 100,000 persons), followed by Native Hawaiian or Other Pacific Islander persons (27.8) and Asian persons (22.7). The rates among Native Hawaiian or Other Pacific Islander persons and persons who identify with more than one race have greater year-to-year variability than all other groups because of low case counts and smaller populations. White persons have the lowest incidence rates among all race/ethnicity groups of non-U.S.–born persons.

Slide 23

These figures show TB incidence rates by race/ethnicity among non-U.S.–born persons and U.S.-born persons, separately on the log scale. Non-U.S.–born American Indian or Alaska Native persons did not have any reported TB cases in years 2014, 2016, 2020, and 2022; therefore, their data are not presented in the non-U.S.–born graph since zeros cannot be displayed on the log scale.

For all race/ethnicity groups, incidence rates are higher among non-U.S.–born persons compared with U.S.-born persons.

Compared with 2021, TB incidence rates in 2022 remained steady or increased for all race/ethnicity groups for both U.S.-born and non-U.S.–born persons, except among non-U.S.–born Asian persons (2021: 23.7; 2022: 22.7), non-U.S.–born Black or African American persons (2021: 15.3; 2022: 14.0), and U.S.-born Black or African American persons (2021: 2.0; 2022: 1.9).

Slide 24

The distribution of race/ethnicity among persons with TB disease continued to differ markedly by origin of birth in 2022. Approximately half of the TB cases reported among non-U.S.–born persons occurred among Asian persons (44.0%), followed by Hispanic or Latino persons (36.9%), Black or African American persons (10.4%), and White persons (4.6%). Among U.S.-born persons with TB disease, Black or African American persons represented the largest percentage of cases (31.4%), followed by White persons (26.3%), Hispanic or Latino persons (25.0%), and Asian persons (6.8%).

Slide 25

This slide shows TB incidence rates (cases per 100,000 persons) by race/ethnicity among non-U.S.–born persons compared with U.S.-born persons in 2022. Among non-U.S.–born persons with TB disease, persons who identify with more than one race had the highest incidence rate (31.2) followed by Native Hawaiian or Other Pacific Islander persons (27.8), Asian persons (22.7), Black or African American persons (14.0), Hispanic or Latino persons (10.4), and White persons (3.5).

Among U.S.-born persons with TB disease, Native Hawaiian or Other Pacific Islander persons had the highest incidence rate (6.3), followed by American Indian or Alaska Native persons (4.5), Black or African American persons (1.9), Asian persons (1.8), and Hispanic or Latino persons (1.3). White persons and persons who identify with more than one race had the lowest rates (0.3).

Slide 26

The distribution of TB cases by age group in 2022 remained similar to past years with most cases occurring among persons aged 25 to 44 years (29.4%), followed closely by persons 45 to 64 years old (29.1%) and persons 65 years or older (27.0%). In contrast, only 14.5% of reported TB cases occurred among children and young adults less than 25 years old.

Slide 27

This bar chart shows the percentage of TB cases by age group for 2022. The largest percentage of TB cases occurred among persons 25 to 44 years old (29.4%), followed by persons 45 to 64 years old (29.1%), persons 65 years old or greater (27.0%), and persons 15 to 24 years old (10.1%). Less than 5% of all TB cases occurred among persons 0 to 14 years old.

Slide 28

This graph displays the TB incidence rates (cases per 100,000 persons) by age group on a log scale. Incidence rates are higher among adults than children less than 15 years old. Among persons 15 years and older, the incidence rates increase with age. In 2022, persons 65 years or older had the highest TB incidence rate (3.9), and children aged 5 to 14 years had the lowest rate (0.4). Incidence rates either remained steady or increased in 2022 compared with 2021 for all age groups.

Slide 29

This graph shows the number of cases among U.S.-born persons by age group per year from 1994 to 2022. Among U.S.-born persons, all age groups less than 25 years old experienced an increase in cases in 2022 compared with 2021, and all age groups greater than or equal to 25 years old experienced a decrease in cases in 2022 compared with 2021.

Slide 30

This graph displays the TB incidence rates (cases per 100,000 persons) among U.S.-born persons, by age group, on a log scale. Since 1994, each age group among U.S.-born persons has experienced a decrease of at least 68% in incidence rate, with the 65 years or older age group experiencing the biggest decline at more than 92% (1994: 14.2; 2022: 1.0). Incidence rates were steady or increased in 2022 compared with 2021 for all age groups less than 25 years old with the 0 to 4 years age group experiencing the largest increase at 20.0%. All age groups greater than or equal to 25 years old experienced a decrease in incidence in 2022 compared with 2021.

Slide 31

The distribution of TB cases by age group among non-U.S.–born persons remained relatively steady from 2021 to 2022; the number of cases increased from 2021 to 2022 for all age groups.

Slide 32

This graph displays the TB incidence rates (cases per 100,000 persons) among non-U.S.–born persons, by age group, on a log scale. From 1994 through 2022, each age group among non-U.S.–born persons has experienced a 50% or greater decline in incidence rate, with the 5 to 14 years age group experiencing the biggest decline at more than 83% (1994: 18.4; 2022: 3.2). Compared with 2021, the incidence rate for 2022 increased by 269% for non-U.S.–born persons aged 0 to 4 years from 3.2 to 11.8, by 15% for persons aged 15 to 24 years from 14.2 to 16.3, and by 8% for persons aged 25 to 44 years from 10.6 to 11.4. For all other age groups among non-U.S.–born persons, incidence rates either decreased or remained steady from 2021 to 2022.

Slide 33

Males continued to represent the majority (61.9%) of persons with TB disease overall. The percentage was greater for males compared with females for all age groups except for children 5 to 14 years old (males: 46%; females: 54%).

Slide 34

In contrast to overall U.S. TB cases, for which over two-thirds of cases were among non-U.S.–born persons, only 82 (22.5%) of 364 cases in children less than 15 years old occurred among non-U.S.–born

persons in 2022. The percentage of non-U.S.–born persons among pediatric cases has fluctuated between 20% and 30% since 1993.

Slide 35

In 2022, the majority (77.5%) of children less than 15 years old with TB disease were U.S.-born, however, the incidence rate (cases per 100,000 persons) was higher among non-U.S.–born children compared with U.S.-born children. For children aged 0 to 4 years old, the incidence rate among non-U.S.–born children (11.8) was 12 times the rate among U.S.-born children (1.0). For children aged 5 to 14 years, the incidence rate among non-U.S.–born children (3.2) was more than 11 times the rate among U.S.-born children (0.3).

Slide 36

The vast majority of TB cases had pulmonary TB only (70.4%), 18.8% had extrapulmonary TB only, and 10.6% had both pulmonary and extrapulmonary TB.

There were a total of 2,765 extrapulmonary sites of disease. Among these, lymphatic (26.1%,) and pleural (22.1%) sites of disease were the most common, followed by bone and joint (9.4%), peritoneal (6.3%), meningeal (5.8%), genitourinary (4.2%), and laryngeal (1.1%).

“Other” includes all other extrapulmonary sites of disease (e.g., ocular, hepatic).

Slide 37

Since 2002, the percentage of patients started on a standard initial four-drug regimen of isoniazid, rifampin, pyrazinamide, and ethambutol has remained above 80%. In some situations, including known or suspected drug resistance, a clinical contraindication to standard initial therapy, or use of newer treatment regimens, a different four-drug regimen could be clinically appropriate. In 2022, CDC released interim guidance for a four-drug 4-month regimen including isoniazid, rifapentine, pyrazinamide, and moxifloxacin. The percentage of patients on an initial drug regimen of four or more drugs other than the standard four-drug regimen has increased from 4.3% in 2002 to 13.0% in 2022. Use of initial regimens with fewer than four drugs has represented <7% of reported cases in the past decade.

Slide 38

Of the 8,045 TB patients diagnosed in 2022 who prescribed TB therapy, 81.1% started on isoniazid, rifampin, pyrazinamide, and ethambutol (HRZE), 13.0% started on a 4-drug regimen other than HRZE, and 6.0% started on a regimen of less than four drugs, including persons who were not prescribed any drugs.

Slide 39

The percentage of persons with TB disease receiving at least a portion of their medication by directly observed therapy (DOT) has risen from 35.4% in 1993 to 92.4% in 2020, the most recent year with data available.

Slide 40

During 2020, the most recent year for which treatment completion data are available, 61.5% of patients were administered treatment exclusively by directly observed therapy (DOT), 5.8% solely by self-administered therapy (SAT), and 31.0% by a combination of DOT and SAT.

Slide 41

The national goal for treatment completion is for 95% of patients for whom ≤12 months of treatment is indicated to complete treatment within 12 months. Although the percentage of eligible patients completing therapy within 1 year has risen from 63.4% in 1993 to 89.0% in 2020, the nation is still short of the 95% goal, and the percentage has been relatively level since 2009.

Slide 42

The number of TB cases resistant to isoniazid has decreased by 65.5% from 1,534 in 1993 to 528 in 2022. In 2022, 525 isoniazid-resistant TB cases were reported among persons with a known origin of birth. The number of isoniazid-resistant TB cases decreased from 2021 to 2022 among both non-U.S.–born (2021: 448; 2022: 439) and U.S.-born persons (2021: 88; 2022: 86).

Slide 43

Since 1996, the percentage of all multidrug-resistant (MDR) cases occurring among persons with no previous history of TB disease (i.e., primary MDR TB) has remained below 1.5%. The overall MDR case count was 87 in 2022 compared with 78 in 2021.

Slide 44

Coinfection with HIV is a major risk factor for progression of latent TB infection to TB disease. Among 8,076 persons who were alive at TB diagnosis in 2022, HIV status was known for 89.5% (n=7,232). Among the persons with TB and a known HIV status, the percentage of HIV coinfection has decreased from 7.5% in 2011 to 4.3% in 2022 for all ages, from 10.9% in 2011 to 7.2% in 2022 for persons aged 25 to 44 years, and from 9.7% in 2011 to 5.3% in 2022 for persons aged 45 to 64 years.

Slide 45

Among all reported risk factors for TB disease, diabetes mellitus (24.3%) was the most commonly reported factor by all persons with TB, followed by non-HIV immunosuppression (9.5%), TNF-α inhibitors (1.0%), and post-organ transplantation (0.7%). Diabetes mellitus was more common among non-U.S.–born persons (26.9%), compared with U.S.-born persons (17.1%).

Slide 46

Among persons who had risk factor information available and were at least 15 years of age, the most common social risk factor reported was excess alcohol use (9.1%) in the past 12 months, followed by noninjecting drug use (7.2%), experiencing homelessness (5.0%), and injecting drug use (1.0%). At the time of TB diagnosis, 1.8% reported residing in a long-term care facility. Persons residing in congregate settings are at higher risk of being infected with TB than the general population.

Slide 47

In 2020, the most recent year for which complete data are available, 845 (11.8%) deaths were reported. Of the 845 deaths reported, 208 (24.6%) were dead at the time of TB diagnosis and 637 (75.4%) died

after diagnosis (i.e., during treatment). TB was reported as the cause of death for 28.8% (n=60) of persons who were dead at diagnosis and 40.7% (n=259) of persons who died after diagnosis. Six deaths were related to TB therapy. The percentage who died among persons with TB disease has remained consistent with previous years.

Slide 48

This slide depicts the assignment of wgMLSType. Isolates with whole genome sequencing based allele patterns that are ≥99.7% identical are assigned a numbered whole-genome multilocus sequence type or wgMLSType. Isolates with allele patterns <99.7% identical are assigned a wgMLSType of "MTBCunique." An isolate designated as MTBCunique might be assigned to a numbered wgMLSType if it matches one or more isolates' allele pattern by ≥99.7% in the future.

More information on WGS is available at https://www.cdc.gov/tb/programs/genotyping/genome-sequencing.htm.

Slide 49

This slide shows the number of county-based TB genotype clusters by the size of the clusters. A genotype cluster has two or more cases with matching wgMLSType within a county during the specified 3-year time period. During 2020 to 2022, there were 675 two-case clusters, 139 three-case clusters, 64 four-case clusters, 36 five-case clusters, 17 six-case clusters, 9 seven-case clusters, 13 eight-case clusters, 7 nine-case clusters, and 27 clusters with 10 or more TB cases. The total number of clusters during 2019 to 2021 (n=1,241) declined during 2020 to 2022 (n=987). The number of clusters with 6 or more cases was comparable for 2019 to 2021 (n=74) and 2020 to 2022 (n=73).

Slide 50

Clusters are classified into alert levels based on a log-likelihood ratio (LLR) calculation. Clusters with an LLR of 4–<10 are classified as a medium alert level, and clusters with an LLR ≥10 are classified as a high alert level. At the individual case level, clustered cases were often part of medium- (41.3%, n=1,238) or high-level alerts (24.4%, n=732). At the cluster level, 56.1% (n=554) of 987 clusters identified nationally during 2020 to 2022 were either medium- (48.2%, n=476) or high-level alerts (7.9%, n=78). 2020–2022 data were based on wgMLSType to determine clustering; the distribution of alerts has changed compared with 2019–2021 which based clustering on GENType and fewer clustered cases were in medium- (23.5%, n=836) or high-level alerts (14.8%, n=529) and 27% (n=335) of 1,241 clusters were medium- or high-level alerts.

Slide 51

A greater percentage of clustered cases in alerted clusters were among U.S.-born persons (62.0%, n=1,218), whereas the majority of clustered cases in no alert clusters were among non-U.S.–born persons (55.4%, n=566).

Slide 52

Alerted clusters have a higher concentration of a genotype in the county or county equivalent than non-alerted clusters, and alerted clusters are reviewed by CDC staff for possible programmatic follow-up. The percent of clustered cases in alerted clusters is higher among younger age groups than older

age groups. Of the 106 cases that occurred among persons 0 to 4 years old and were in a cluster, 79.3% (n=84) were in a cluster that alerted, compared with 60.5% (n=225) of the 372 cases in persons 65 years or older who were in a cluster.

Slide 53

Greater percentages of clustered cases in an alerted cluster were identified among American Indian or Alaska Native persons (96.1%, n=123), Black or African American persons (76.2%, n=628), and Native Hawaiian or Other Pacific Islander persons (71.8%, n=102), compared with national average estimates (50 states and Washington, DC; 65.7%, n=1,970).

Slide 54

Greater percentages of clustered cases in an alert were identified among persons diagnosed while incarcerated (75%, n=123) compared with national average estimates (50 states and Washington, DC; 65.7%, n=1,970). The lowest percentages of clustered cases in an alert were among persons experiencing homelessness (64.2%, n=204) and persons living with HIV (62.7%, n=106).

Slide 55

For more information, please contact DTBE at tbinfo@cdc.gov.