From Cleaning to Mapping in Tableau Public
Preliminary, Day of, and Post-Event Instructions

This handout provides step-by-step instructions on how to visualize data using CDC WONDER, Excel, and Tableau Public. There are three parts to this handout: preliminary instructions, day of presentation instructions, and post event instructions.

Preliminary Instructions

If you wish to follow along with the presenter on your computer, complete steps 1-6 below. If you would rather just observe the demonstration, **skip these steps.**

1. Before the training on April 13, 2023, download Tableau Public from:
   https://public.tableau.com/app/discover

2. Select SIGN UP FOR TABLEAU PUBLIC

3. Complete the form to join Tableau Public. Select CREATE MY ACCOUNT.

4. Select DOWNLOAD TABLEAU PUBLIC DESKTOP EDITION. You may be asked to activate your account by following the emailed instructions.

5. Allow it to provide a shortcut on your desktop.

6. Ensure you have a working, current version of Excel on your desktop.

Day of Presentation Instructions

❑ Open CDC WONDER (https://wonder.cdc.gov/), a new Excel file, and Tableau Public before joining the presentation if you are going to follow along with the demonstration.

Post Event Instructions

Try your new knowledge and skills to make a map using these instructions.

⤓ EXPORT

1. Go to https://wonder.cdc.gov/
2. Under DEATHS, ALL AGES, select UNDERLYING CAUSE OF DEATH link.
3. Select 2018 – 2021: UNDERLYING CAUSE OF DEATH BY SINGLE-RACE CATEGORIES
4. Select I AGREE at the bottom of the page.

In Organize Table Layout (1)

❑ In GROUP RESULTS BY, select first drop down menu (will be default to CENSUS REGION; replace with STATE) select STATE, and By COUNTY.

❑ MEASURES, DEATHS, POPULATION AND CRUDE RATE should be default selected.

❑ Select + FOR ADDITIONAL RATE OPTIONS, select 100,000.

In Select location: Under the BROWSE tab, Select "All" (The United States).
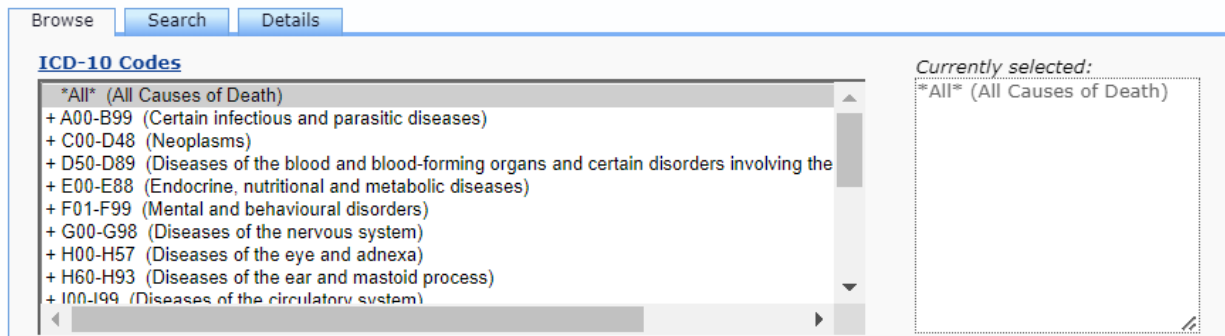
Select demographics: Skip this section.

Select year and month:

❑ Hold down your left mouse button and continuously click 2018, 2019, 2020, and 2021.

❑ All years should appear in the currently selected window. *All* (All Dates) should not be currently selected.

Select weekday, autopsy, and place of death: Skip this section.

South Southwest (HHS Region 6)

PTTC Prevention Technology Transfer Center Network
Funded by Substance Abuse and Mental Health Services Administration

3

<u>Select cause of death</u>: Scroll through all the ICD Codes in the Browse window.

❑ Scroll down through the list and click on U00-U99 (CODES FOR SPECIAL PURPOSES). Select OPEN FULLY. Use the OPEN FULLY function when you want to see sub ICD Codes within the major codes.

❑ Scroll through this sublist and while holding down the left mouse button, click on *U07.1 (COVID-19). Ensure *ALL* (ALL CAUSES OF DEATH) is not selected by holding down your left mouse button and clicking on it. It should not be in the currently selected window.

❑ Note: This is one example of selecting an ICD 10 Death Code. You can also focus on other single or grouped ICD 10 Codes, such as F01-F99 MENTAL and BEHAVIORAL DISORDERS or V01-Y89 EXTERNAL CAUSES OF MORBIDITY AND MORTALITY, which contains the sub ICD-10 Codes X60-X84 (Intentional self-harm).

<u>Other options</u>

❑ Select EXPORT RESULTS, SHOW TOTALS.
❑ <u>Deselect </u>SHOW ZERO VALUES.
❑ <u>Deselect </u>SHOW SUPPRESSED VALUES.
❑ Leave Precision and Data Access Timeout as is.
❑ Select SEND.
❑ Wait while file processes. Your file will appear for download. If you cannot find where the download is, go to your file explorer on your computer and click in Downloads folder. The filename will be titled, Underlying Cause of Death, 2018-2021, Single Race.txt.

❑ Open the downloaded file. Select FILE, SAVE AS and name it – "data covid 19" in a folder.

❑ Open Excel. Select FILE, OPEN, BROWSE and go to the file you just saved ("data covid 19"). If you do not see it, select the drop down menu to the right of file name and select ALL FILES (*.*).

❑ In the Text Import Wizard window, select MY DATA HAS HEADERS, and NEXT.

❑ Select TAB. Select NEXT (Note the DATA PREVIEW CHANGING TO COLUMNS) and FINISH. An excel file named "covid 19 deaths.txt" will appear.

❑ Select FILE, SAVE AS, BROWSE to the same folder you saved the .txt file in. In the SAVE AS TYPE field (below File name), change from TEXT (TAB DELIMITED) (*.TXT) to EXCEL WORKBOOK (xlsx). Your filename now should be "covid 19 deaths.xlsx".

CLEAN

❑ Open your new Excel file "covid 19 deaths.xlsx".

❑ Now you have a file that needs to be cleaned. On the only tab at the bottom, right click and select MOVE OR COPY.

❑ Select MOVE TO END, CREATE A COPY. You will now have two tabs.

❑ On the first tab, right click it and select RENAME. Rename the first tab ORIGINAL. Rename the second tab DATA.

❑ DATA tab will be the sheet you will use for this exercise. The ORIGINAL tab is only used in the event you need to start over.

❑ Block individually Column A (Notes), Column C (State Code), Column E (County Code), Column F (Deaths), and Column G (Population) and delete them. You do not need this data.

❑ You now should have three columns remaining with data - Columns A (State), Column B (County), and Column C (Crude Rate).

❑ Note COUNTY (Column B). It has county name, the word county, a comma, and state abbreviation (e.g., Autauga County, AL). When you upload your COVID 19 deaths file into Tableau Public, it will not function properly formatted this way.

❑ Block Column B (left click on mouse). Right click and select CUT. Go to another column away from your three columns, such as column G (blank). Left click Column G, right click, and PASTE. Your County variable should now appear in Column G.

❑ Now, you will reduce the unneeded information in this column.

❑ Block Column G. Select DATA in the top row of commands above the ribbon. Select TEXT TO COLUMNS under Data Tools.

Text to Columns

❑ In the Text to Columns Wizard, select DELIMITED. Select NEXT.

❑ Select COMMA. Note the change in the data preview at bottom. Select NEXT.

❑ Select FINISH. Your Column G data expands into Columns G and H. Delete Column H (State Abbreviations). You do not need this column.

❑ Block Column G, right click on mouse, CUT, and block Column B, right click on mouse and select INSERT CUT CELLS. You should have columns A (State), Column B (County), and Column C (Crude Rate). Block Column C and select the icon to omit decimals so that only whole numbers show.

.00
→.0

Your file is ready to format.

FORMAT

❑ Save your file periodically.

❑ Now, you are going to sort your data file.

❑ Block the entire sheet by selecting the sideways grey triangle between Column A and Row 1 in the upper left-hand corner of the spreadsheet.

	A
1	State

❑ With the entire sheet blocked, from the HOME tab, select DATA, SORT. Check the box MY DATA HAS HEADERS.

❑ In SORT BY, select (from the drop-down menu), CRUDE RATE and ORDER from SMALLEST TO LARGEST. Select OK.

❑ This causes your STATE and COUNTY columns to not be alphabetized anymore. Also, your CRUDE RATE values are now sorted from low to high. Note the smallest value in the dataset and highest value in the dataset below.

❑ C2 (7.6 per 100,000 for Kauai, Hawaii)

- ❑ C2690 (253.9 per 100,000 for Buffalo County, South Dakota)

- ❑ Create a new variable to have four variable columns. Click in cell D1 and type "Low and High COVID-19 Death Rates per 100,000". Your next step is to determine the 50% percentile for the data in Column C. In Cell G1, type the following formula:

  =PERCENTILE(C2:C2690, .5)

  This formula will yield a value of 75. This means Low Death Rates range from 8 (Cell C2) to 75 (Cell C1372). High Death Rates range from 76 (Cell C1373) to 254 (Cell C2690).

- ❑ In Cell D2, type "Low Death Rate". Click in Cell D2. Place your cursor at the lower right angle of cell D2 and when the plus sign appears, hold the left mouse button down and drag the "Low Death Rate" until you reach cell D1372 to copy and paste.

- ❑ Repeat this step for "High Death Rate". Type High Death Rate in Cell D1373. Click in Cell D1373. Place your cursor at the lower right angle of cell D1373 and when the plus sign appears, hold the left mouse button down and drag the "High Death Rate" until you reach cell D2690 to copy and paste.

- ❑ Scroll to Line 2691. Click Cell D2691 and type "Unreliable" to match C2691. Click in Cell D2691. Place your cursor at the lower right angle of cell D691 and when the plus sign appears, hold the left mouse button down and drag the "Unreliable" until you reach Cell D2949 (the end of the dataset).

- ❑ Save the file (as an .xlsx file) and exit Excel.

You are ready to make a map!

MAP

- ❑ Open Tableau Public from the desktop. Click connect to "Excel" top left-hand corner. Open the file "covid 19 deaths.xlsx". From the "Sheets" section, select COVID DEATHS sheet and drag over to DRAG TABLES HERE. Select SHEET 1 at bottom to right of DATA SOURCE.

  - ❑ In the MARKS section, change AUTOMATIC to MAP in drop down menu. In the left column under TABLES, select each of the following:

❑ STATE and drag to DETAIL box in Marks card. Note beginning of a map.
❑ COUNTY and drag to DETAIL box in Marks card.

❑ CR LOW HIGH and drag to COLOR box in Marks card. Note map fills in with color.

❑ In the upper right-hand corner of Tableau, drag the map legend over to the left and place it under the MARKS section. The map legend may be under the SHOW ME maps icon.

❑ To change map features, click the drop-down arrow next to the map title and select EDIT COLORS. Click HIGH DEATH RATE, AUTOMATIC under SELECT COLOR PALETTE, scroll down to RED, select a darker red, select APPLY.

❑ Click LOW DEATH RATE, AUTOMATIC, scroll down to GREEN, select a darker green, select APPLY.

❑ Click UNRELIABLE, AUTOMATIC, scroll down to GRAY WARM, select a lighter gray, select APPLY, and OK.

If the outline of other countries is showing, select MAP on the top menu and then select MAP LAYERS. In the left-hand column, slide the "washout" button to 100%. Only the continental U.S., and Hawaii and Alaska should remain.

❑ Clip your images including the legend using the free Snipping Tool from Microsoft into a Power Point or report.
(https://apps.microsoft.com/store/detail/snipping-tool/9MZ95KL8MR0L)

❑ Save your map to your online dashboard. You cannot save maps to your desktop in the free version.