[Narrator] In this 35-minute activity and 10-minute class discussion, students start by identifying components of a good disease surveillance system.

They review and analyze data, then create bar graphs and area maps to visualize the age and geographic distribution of the disease.

This activity uses data and concepts based on a novel emerging respiratory disease, or NERD. NERD is a fictional disease used for teaching purposes.

Start by dividing students into groups of 3 or 4 students. Keep in mind that the second part of the activity is designed for 8 groups but can be modified for class size. See the lesson plan instructions for ways to scale activity for smaller or larger classes.

Hand out the NERD Factsheet and NERD Surveillance System Design Form for the Part 1 activity and give students around 4 or 5 minutes to brainstorm a potential case definition, identify type of surveillance required, and list key surveillance information they believe is important to collect on NERD.

Next, encourage someone from each group to share their answers with the class, summarizing key ideas from each group on the board. After all groups have shared, initiate a class discussion about the key characteristics of a good surveillance system.

For the Part 2 activity, provide each group of students with the NERD Surveillance Data sheet that corresponds to one month. Handing out 2 copies per group will allow students to share the data more easily.

Also, hand out to each group one NERD Bar Graph for graphing age distribution information and the NERD Area Map to visualize incidence rate of disease by state.

Make sure to agree on and post a teacher color or pattern key and emphasize the importance that each group uses the same colors because all graphs and maps will be compared at the end of the activity.

To save time in coloring the area maps, consider this tip:

Then, give students enough time to complete the graph and the map for their month. Next, have each group post their graph and map on the board in chronological order. Finally, encourage a class discussion about trends in age and geographic distribution over time using data from the graphs and maps.

Spend the last 10 minutes wrapping up and reviewing “Where do public health data come from?” Suggested discussion prompts are provided in the lesson plan.