Greater Cincinnati COVID-19 Situational Awareness Dashboard: Slide Descriptions

This information is provided "as-is." The Health Collaborative and its partners make no representation or warranty, express or implied, including without limitation any warranties of merchantability, fitness for a particular purposes, non-infringement, or warranties as to the quality, accuracy, or completeness of the information. Any use or reliance on this information is at the user's sole risk.

Hospital Demand

Slide 2: Number of positive COVID-19 patients in Region 6 hospitals
These data are from the Ohio Hospital Association (OHA) Resource tracker. The top frame illustrates the total number, measured over time. The height of the orange represents all COVID-19 positive patients in hospitals. The height of the purple represents the subset who are in intensive care units (ICU). The height of the green represents the subset who are on ventilators. There are then 3 panels below. The chart on the left represents the % of all patients who are hospitalized who have COVID-19. The middle chart illustrates the % of COVID-19 patients who are in the ICU. Finally, the chart on the right depicts the % of all COVID-19 positive ICU patients who are on ventilators. These data include all hospitals in Region 6, which includes 8 counties in Southwest Ohio: Hamilton, Butler, Warren, Clermont, Clinton, Brown, Highland, and Adams.

Slide 3: Number of positive COVID-19 patients in Region 6 ICUs, Statistical Process Control (SPC) Chart
Slide 4: Number of positive COVID-19 patients in Region 6 hospitals, SPC Chart
Slides 3 and 4 present the daily number of positive COVID-19 patients in ICU (slide 3) and hospital beds (slide 4) in Region 6, which includes 8 counties in Southwest Ohio: Hamilton, Butler, Warren, Clermont, Clinton, Brown, Highland, and Adams. This type of chart tracks data over time. The y-axis is the number of patients in beds and the x-axis is time measured in days. The center line in between the points is fit to the direction of the points. The gray shading represents what would be considered standard, or common variation across the fit line. These data are obtained from the Ohio Hospital Association. Each slide now includes a call-out box highlighting the trends over the preceding 30 days.

Slide 5: Number of Greater Cincinnati medical-surgical and ICU beds in use
Slide 5 illustrates the daily number of ICU beds and medical-surgical beds in use across Greater Cincinnati. These data emerge from Ohio Hospital Association. This specifically highlights use across Southwestern Ohio (Region 6, which includes 8 counties in Southwest Ohio: Hamilton, Butler, Warren, Clermont, Clinton, Brown, Highland, and Adams). The green-orange-red-black coloration indicates staffing strain. In the green zone, hospitals/ICUs are operating at normal staffing levels. Strain increases going up through orange and red. In the black zone, there is extreme strain on staffing, more patients per healthcare worker, increased and longer shifts for staff, and more patients sharing rooms, bathrooms, and TVs.

Context of regional pandemic

Slide 6: Incidence - Weekly positive SARS-CoV-2 (virus that causes COVID-19) cases measured per 100,000 per week (7-day average per county)
Slide 6 shows this value for each regional county. Data are obtained from the New York Times public feed. Cut points are defined according to the Centers for Disease Control & Prevention (https://covid.cdc.gov/covid-data-tracker/#datatracker-home). Cuts are defined as low (0-9.99), moderate (10-49.99), substantial (50-99.99), or high (≥100). These align with CDC recommendations, including for certain non-pharmaceutical interventions. See a visual depiction of these levels below.
The top panel reflects $R_{\text{eff}}$ over time is depicted below, mirroring that presented on the Ohio Department of Health dashboard. The denominator is number of people within each age group within the counties composing Region 6 in Southwest Ohio, as captured in the US Census 2019 population estimates. The rate is normalized by 100,000 individuals. It uses a 7-day moving average to estimate each day's count. Given lags in the reporting, the last several data points (depicted as dots) are preliminary counts.

The counties composing Region 6 in Southwest Ohio, inclusive of Hamilton County and 14 county region (right) inclusive of Hamilton, Butler, Warren, Clermont, Clinton, Brown, Highland, and Adams (OH), Boone, Campbell, and Kenton (KY), and Dearborn, Ripley, and Franklin (IN). Incidence over time is depicted below, mirroring that presented on Slide 6. These data are obtained from the New York Times public feed.

$R_{\text{eff}}$ is a measure of transmission (simply, the number of cases 1 infected person will go on to infect while they are contagious. When this value is <1, the pandemic will decay away. When it is >1, the pandemic will expand. $R_{\text{eff}}$ is calculated using open-source software, data on laboratory-confirmed cases, and an estimate of the time between someone becoming infected and infecting a second person. The top panel reflects $R_{\text{eff}}$ for Hamilton County over time (left) and the 14 county region (right) inclusive of Hamilton, Butler, Warren, Clermont, Clinton, Brown, Highland, and Adams (OH), Boone, Campbell, and Kenton (KY), and Dearborn, Ripley, and Franklin (IN). Incidence over time is depicted below, mirroring that presented on Slide 6. These data are obtained from the New York Times public feed.

The top panel reflects $R_{\text{eff}}$; bottom the incidence, both measures over time. These data are obtained from the New York Times public feed.

Slide 12: Number of COVID-19 deaths in Southwestern Ohio
Slide 12 shows the daily number of COVID-19 deaths in the 8-county region Southwestern Ohio region. Each bar is the number of deaths reported each day. The line represents a 7-day moving average. These data are tracked by and drawn from Ohio Department of Health. A recent announcement by ODH suggests that
verification of death data can lag up to 1-2 months. Thus, the dotted line and lightly shaded data points should be considered preliminary.

**Slide 13: Percentage of test results returned positive and number of tests completed**
Slide 13 shows the daily number of SARS-CoV-2 (or COVID-19) tests completed by labs from Greater Cincinnati health systems (bottom), and the percentage of tests that were positive for the virus (top). Each are measured as 7-day moving averages. Studies suggest that we should be testing enough to see a positive rate at or below 3-5%. These data are shared from The Health Collaborative’s health information exchange.

**Slide 14-15: Percentage of test results returned positive and number of tests completed by age of patient**
Slides 14 and 15 are set up exactly like slide 13 just now split by age group. They show the percentage of daily SARS-CoV-2 (or COVID-19) tests from Region 6 that were positive for SARS-CoV-2 for different age groups as 7-day moving averages. The bottom panels illustrate the average daily testing number by age of patient. These data are shared from The Health Collaborative’s health information exchange.

**Vaccination**

**Slide 16: Vaccinations started and completed over time**
Slide 16 depicts the daily absolute number of vaccines started (defined as receiving 1st dose) over time in blue and the number of vaccines completed (2nd dose for Pfizer or Moderna, single dose for Johnson & Johnson) in orange. The line is the 7-day moving average of this absolute numbers. The top figure is the amalgamation of all 8 Southwestern Ohio counties and the 3 counties in Southeastern Indiana (we don’t yet have access to a similar data source for Northern Kentucky); each included county is depicted individually below. Note that the axes differ given different population sizes within each county. We can use these data to project movement toward population vaccination, a projection that will clearly change as supply increases. The sources for these data are Ohio Department of Health and the Indiana Department of Health.

**Slide 17: Get Out the Vax campaign vaccination rate**
Slide 17 depicts the current status of our regional Get Out the Vax campaign. The 15 county region depicted on the map on the left side of the figure have set a goal of at least starting vaccinations for 80% of all individuals eligible for vaccination (currently those 12 years and older). The thermometer plot illustrates our current status using Department of Health data for Ohio (updated daily), Indiana (updated daily), and Kentucky (updated weekly). The numerator is the number of people who have received at least their first dose. The denominator is individuals who are 12 years or older. Importantly, this differs from the value displayed on slide 17 where the denominator is the entire population. For more information on the #GetOutTheVax campaign, please go to [http://testandprotectcincy.com](http://testandprotectcincy.com).

**Slide 18: Cumulative vaccination by county**
Slide 18 is a companion to slide 16. The top figures are the amalgamation of all counties; each is depicted individually below. Here, we look at the cumulative % of each Southwest Ohio county that has started their vaccination series (1st dose). As the state adds information on % of the population that has completed their series (i.e., 2 doses for Pfizer or Moderna vaccine; 1 dose for Johnson & Johnson), this cumulative % will show up. To achieve herd immunity, we estimate that we will need to fully vaccinate ~80% of the population, more if vaccination moves slowly. The sources for these data are the Ohio and Indiana Departments of Health. For this chart, importantly, the denominator, obtained for the US Census is total population. This differs from the regional Get out the Vax goal where the denominator is for those eligible (and not the entirety of the population).

**Slide 19: Cases and vaccination**
This slide includes two panels. The panel on the left is a scatter plot with data for all Hamilton County zip codes. The x-axis is the current % of the population who are vaccinated. The y-axis is the incidence of new cases in the preceding 14 days. There appears to be a downward trending line of fit (not displayed) indicative of a negative correlation (that is – the more cases occur in the zip codes with lower vaccination rates). The zip codes in the top left quadrant of the scatter plot are those with particularly high case rates and low vaccination
rates. The top several are labeled on the scatter plot and the accompanying map on the right. This is a zip code chloropleth map of Hamilton County. It displays cases per 100,000 population in the preceding 14 days.

Statewide patterns

Slide 20: Ohio counties and incidence, $R_{eff}$, and vaccination
Slide 20 uses data made available by ODH. Each map is split into regions and counties. The map on the left displays the daily 14-day running sum of cases per 100,000 individuals within each county. Lighter shading is indicative of lower incidence and darker shading higher incidence. The map in the middle displays $R_{eff}$ for each county. Those counties in blue have an $R_{eff}$ value that is significantly below 1, red significantly above 1, and yellow crossing 1. The map on the right displays the % of the population with at least a first dose of vaccination (denominator total population). Darker shades indicate lower percentage, lighter shades indicate higher percentage.

Slide 21: Ohio counties and incidence, $R_{eff}$, and vaccination over time
Slide 21 is a companion slide to 20, using the same data made available by ODH. Each component is again split into regions and counties. Counties are ordered, within regions, by population sizes (biggest on top, smallest on bottom). The panel on the left displays the daily 14-day running sum of cases per 100,000 individuals within each county. Lighter shading is indicative of lower incidence and darker shading higher incidence. The panel in the middle displays $R_{eff}$ for each county. Those counties in blue have an $R_{eff}$ value that is significantly below 1, red significantly above 1, and yellow crossing 1. The panel on the right displays the % of the population with at least a first dose of vaccination (denominator total population). Darker shades indicate lower percentage, lighter shades indicate higher percentage. Each panel is displayed over time is indicated by the timeline at the bottom of the page.