According to the CDC, while there have been an increases of Coronavirus cases nationally, it attributes the increase in part to the nature of the virus (easy and quick to spread). However, the CDC states the increase is due largely to increased testing and access to testing nationwide.

To build understanding, we’ll look at national, state and local rates and ratios in the short and long term rather than raw numbers to understand trends.

**NATIONAL BREAKDOWN**

In the CDC’s most recent weekly update published on July 18, the levels of influenza-like symptoms reported for this time of year are low in comparison to previous years and show a decrease of overall COVID-19 cases in the past week. Overall, the percentage of positive tests have decreased by 1-2 percent (lowest since before reopening). Still, testing nationally across the country has been inconsistent. Proportionately, the weeks that have reported the highest rate of positive tests also had the highest rate of positive results. This makes it difficult to compare raw results or rates as testing fluctuates.

There are disparities, however, as some regions (like the Midwest) have had increases regionally compared to other parts of the country. The week prior also reported the largest number of positive cases from testing in one week.

In the same timeframe, 52,942,145 million people out of the U.S. estimated population of 329,998,165 have been tested (16 percent of the population). Of the roughly 53 million tested, 5,046,506 or 10 percent were positive resulting in 90 percent (or the majority) of those tested being negative. To put that in larger understanding, 1 percent of people have or had Coronavirus and .04 percent (143,868) of people in the United States have died from Coronavirus. In other words, 99 percent did not have Coronavirus when tested and 99.96 percent survived Coronavirus.

Nationally, personal data from 3,075,235 people were collected, but only enough was collected from 657,354 people to determine if they were health care personnel; 109,603 were.

In the most recent weekly update, the CDC reported an increased in mortality rates for July overall compared to the 11 weeks prior. However, last week the rate decreased from 11 to 9 percent. These percentages and stats are expected to change.

**STATE BREAKDOWN**

Of National diagnoses, Ohio is comparably doing better than the national average and many other states with 2 percent (81,746) of total nationally reported cases reported from Ohio. Ohio is responsible for 3.5 percent of America’s total population at 11.69 million.

Of the 1 million people (11 percent of Ohio’s total population) tested since February, 6 percent were positive, the majority (or 94 percent) were negative. This percentage rate has been observed consistently as tests have increased consistently in Ohio to roughly 16 -30 thousand test daily; 6 percent of subjects are positive and the majority (94 percent) are negative.

The current death rate percentage, is roughly four percent with 3,297 deaths of total cases.

To further understand risk for the average public however, long-term facilities and health care facilities must be considered. This is because of the total deaths reported, 2,992 – 90% -- were attributed to individuals that were 60 or older with a median age of 80. More than 27 percent of reported cases in Ohio were also from health care facilities, long-term care home residents and staff.

Though the number of reported cases for this age group is the least amount compare to others, they have the highest risk of hospitalization and mortality. Children 0 – 19 had the smallest number of diagnoses with 6,916 cases, 187 hospitalizations and 2 deaths making the mostly likely culprits of carriers being the age group with most cases 20 – 29, followed by 30-39, 50- 59 and 40 – 49 (in order of number of cases and risk). In summary, as age increases (starting at 20), the number of reported cases decrease but instances of hospitalizations and deaths increase. The only age group this does not apply to is the 0- 19 age group, placed largely in the median in terms of reported cases by age, but the lowest in terms of hospitalizations and deaths. This largely indicates young children are least at risk of contraction and complications and elder populations (60+) at a low risk of contraction (likely because of shelter in place and precautions) but most at risk for complications. While pre-existing conditions may further complicate COVID-19 recovery for younger populations, it is rare or unlikely to result in death unless immunocompromised compared to older populations with pre-existing conditions, as well as immunocompromised.

**LOCAL BREAKDOWN**

Pickerington Public Library is charged with a unique service area on the boarder of two counties; Franklin and Fairfield.

Fairfield (population 157,574) has had a total of 1,018 cases (.6 percent of pop), 18 deaths (.01 percent of pop) and 585 confirmed recoveries. Statistically, the rate of mortality is 2 percent with 98 percent surviving COVID-19 and a confirmed recovery rate of 57 percent. Franklin (population 1.3 million) has had a total of 15,301 cases (1 percent of pop), 487 deaths (3 percent mortality rate with 97 percent survival rate) and 10,230 (65 percent of cases) confirmed recoveries. Of the deaths reported, 360 have come from long-term care facilities. This means less than 1 percent of deaths have occurred outside these facilities in the general community.

Breaking it down further to just the library service areas by zip code; Pickerington (43147), Canal Winchester (43110), Reynoldsburg (43068) and Baltimore (43105), there have been an estimated 1,259 – 1,544 cases reported combined (.01 percent of total state population). Based on estimated combined population of 152,997, the case ratio is roughly 1 percent of total combined population despite the state ratio of 6 percent resulting in the possibility of a lower estimated death rate, as well, considering 4 percent of Fairfield’s cases would be higher (40) than its number of actual reported deaths (18).

**CDC & STATE RECCOMEDNATIONS | EFFECTIVENESS**

* There are a number of recent studies proving the effectiveness of face masks, shields, social distancing and staying home (if you’re sick, have been in contact or caring). Some cited by the CDC alone). <https://www.cdc.gov/coronavirus/2019-ncov/prevent-getting-sick/cloth-face-cover-guidance.html>
* Understanding how COVID spreads also helps in prevention: <https://www.cdc.gov/coronavirus/2019-ncov/prevent-getting-sick/how-covid-spreads.html>
* CDC current recommendations to prevent sickness: <https://www.cdc.gov/coronavirus/2019-ncov/prevent-getting-sick/prevention.html>
* WHEN to wear gloves: <https://www.cdc.gov/coronavirus/2019-ncov/prevent-getting-sick/gloves.html>
* Home cleaning: <https://www.cdc.gov/coronavirus/2019-ncov/prevent-getting-sick/disinfecting-your-home.html>
* Social distancing: <https://www.cdc.gov/coronavirus/2019-ncov/prevent-getting-sick/social-distancing.html>
* The CDC and state, local health officials are also closely monitoring the situation and adapting recommendations based on scientific method and studies, which aided in the generation of the current state code system.
* Current recommendation for Franklin and Fairfield County: At the third level (or red), continued spread is expected over the next week in both counties. Level three indicated decreased interactions, travel only when necessary and limit gatherings. Forced or recommended stay-at-home order would only be in place at the next level if the numbers increase (in addition to recommendations the library currently has in place).

CDC/SCIENTIFIC STUDY SOURCING:
Rothe C, Schunk M, Sothmann P, et al. Transmission of 2019-nCoV Infection from an Asymptomatic Contact in Germany. The New England journal of medicine. 2020;382(10):970-971. [PMID: 32003551external icon](https://pubmed.ncbi.nlm.nih.gov/32003551/)

* Zou L, Ruan F, Huang M, et al. SARS-CoV-2 Viral Load in Upper Respiratory Specimens of Infected Patients. The New England journal of medicine. 2020;382(12):1177-1179. [PMID: 32074444external icon](https://pubmed.ncbi.nlm.nih.gov/32074444/)
* Pan X, Chen D, Xia Y, et al. Asymptomatic cases in a family cluster with SARS-CoV-2 infection. The Lancet Infectious diseases. 2020. [PMID: 32087116external icon](https://pubmed.ncbi.nlm.nih.gov/32087116/)
* Bai Y, Yao L, Wei T, et al. Presumed Asymptomatic Carrier Transmission of COVID-19. Jama. 2020. [PMID: 32083643external icon](https://pubmed.ncbi.nlm.nih.gov/32083643/)
* Kimball A HK, Arons M, et al. Asymptomatic and Presymptomatic SARS-CoV-2 Infections in Residents of a Long-Term Care Skilled Nursing Facility — King County, Washington, March 2020. MMWR Morbidity and mortality weekly report. 2020; ePub: 27 March 2020. [PMID: 32240128external icon](https://pubmed.ncbi.nlm.nih.gov/32240128/)
* Wei WE LZ, Chiew CJ, Yong SE, Toh MP, Lee VJ. Presymptomatic Transmission of SARS-CoV-2 — Singapore, January 23–March 16, 2020. MMWR Morbidity and Mortality Weekly Report. 2020;ePub: 1 April 2020. [PMID: 32271722external icon](https://pubmed.ncbi.nlm.nih.gov/32271722/)
* Li R, Pei S, Chen B, et al. Substantial undocumented infection facilitates the rapid dissemination of novel coronavirus (SARS-CoV2). Science (New York, NY). 2020. [PMID: 32179701external icon](https://pubmed.ncbi.nlm.nih.gov/32179701/)
* Furukawa NW, Brooks JT, Sobel J. Evidence Supporting Transmission of Severe Acute Respiratory Syndrome Coronavirus 2 While Presymptomatic or Asymptomatic [published online ahead of print, 2020 May 4]. Emerg Infect Dis. 2020;26(7):10.3201/eid2607.201595. [Link](https://wwwnc.cdc.gov/eid/article/26/7/20-1595_article)
* Oran DP, Topol Prevalence of Asymptomatic SARS-CoV-2 Infection: A Narrative Review [published online ahead of print, 2020 Jun 3]. Ann Intern Med. 2020;M20-3012. [PMID: 32491919external icon](https://pubmed.ncbi.nlm.nih.gov/32491919/)
* National Academies of Sciences, Engineering, and Medicine. 2020. Rapid Expert Consultation on the Possibility of Bioaerosol Spread of SARS-CoV-2 for the COVID-19 Pandemic (April 1, 2020). Washington, DC: The National Academies Press. [https://doi.org/10.17226/25769external icon](https://doi.org/10.17226/25769).
* Schwartz KL, Murti M, Finkelstein M, et al. Lack of COVID-19 transmission on an international flight. CMAJ. 2020;192(15):E410. [PMID: 32392504external icon](https://pubmed.ncbi.nlm.nih.gov/32392504/)
* Anfinrud P, Stadnytskyi V, Bax CE, Bax A. Visualizing Speech-Generated Oral Fluid Droplets with Laser Light Scattering. N Engl J Med. 2020 Apr 15. doi:10.1056/NEJMc2007800. [PMID: 32294341external icon](https://pubmed.ncbi.nlm.nih.gov/32294341/)
* Davies A, Thompson KA, Giri K, Kafatos G, Walker J, Bennett A**.**Testing the efficacy of homemade masks: would they protect in an influenza pandemic? Disaster Med Public Health Prep. 2013;7(4):413-8. [PMID: 24229526external icon](https://pubmed.ncbi.nlm.nih.gov/24229526/)
* Konda A, Prakash A, Moss GA, Schmoldt M, Grant GD, Guha S. Aerosol Filtration Efficiency of Common Fabrics Used in Respiratory Cloth Masks. ACS Nano. 2020 Apr 24. [PMID: 32329337external icon](https://pubmed.ncbi.nlm.nih.gov/32329337/)
* Aydin O, Emon B, Saif MTA. Performance of fabrics for home-made masks against spread of respiratory infection through droplets: a quantitative mechanistic study. medRxiv preprint doi: https://doi.org/10.1101/2020.04.19.20071779, posted April 24, 2020.
* Ma QX, Shan H, Zhang HL, Li GM, Yang RM, Chen JM. Potential utilities of mask-wearing and instant hand hygiene for fighting SARS-CoV-2. J Med Virol. 2020. [PMID: 32232986external icon](https://pubmed.ncbi.nlm.nih.gov/32232986/)
* Leung, N.H.L., Chu, D.K.W., Shiu, E.Y.C. *et al.*Respiratory virus shedding in exhaled breath and efficacy of face masks. *Nat Med*. 2020. [PMID: 32371934external icon](https://pubmed.ncbi.nlm.nih.gov/32371934/)
* Johnson DF, Druce JD, Birch C, Grayson ML. A quantitative assessment of the efficacy of surgical and N95 masks to filter influenza virus in patients with acute influenza infection. Clin Infect Dis. 2009 Jul 15;49(2):275-7. [PMID: 19522650external icon](https://pubmed.ncbi.nlm.nih.gov/19522650/)
* Green CF, Davidson CS, Panlilio AL, et al. Effectiveness of selected surgical masks in arresting vegetative cells and endospores when worn by simulated contagious patients. Infect Control Hosp Epidemiol. 2012;33(5):487‐494. [PMID: 22476275external icon](https://pubmed.ncbi.nlm.nih.gov/22476275/)
* Library research and corona: <https://www.battelle.org/newsroom/news-details/fake-spit-tests-show-library-materials-free-of-coronavirus-after-3-days>

#### HOW DOES IT COMPARE TO THE FLU? - 39,000,000 – 56,000,000flu illnesses (last flu season)

**- 18,000,000 – 26,000,000**
flu **medical visits**

**- 410,000 – 740,000**
flu **hospitalizations**

**- 24,000 – 62,000**
flu **deaths**

MORALITY RATES TO COMPARE:
SARS (9%)
COVID (2 %)
H1N1 (.02)
Source: (CDC). <https://www.statista.com/statistics/1095129/worldwide-fatality-rate-of-major-virus-outbreaks-in-the-last-50-years/>

WHO <https://www.who.int/>

**Curbside:**May – now (2020):
BRANCH: 713 May – July 5
MAIN: 2501 May – July 5
ALL: + 879 (combined Jul 6 – 7/25)
TOTAL: 4,093

**Door count:**
July (2020): 4,815 both locations
July (2019): 19,181 both locations

**Computer usage:**July (2020): 308 (main)
July (2019): 1413 (main)