# The Geography and Demographics of the Coronavirus in Cincinnati

### October 15, 2020

## Introduction

The Cincinnati Health Department has been tracking the Coronavirus by neighborhood, age, gender, and race since March 23. An interactive map and charts are updated each day (<https://www.cincinnati-oh.gov/health/covid-19/>. I felt it was important to plot the data at discrete times and look for trends and anomalies. I have also been monitoring the availability of testing sites in different sections of the city. (If there is no testing, it affects the data.)

## Demography of Covid Deaths and Confirmed Cases

#### Race and Ethnicity

Table 1 shows the distribution of deaths and confirmed cases at approximately monthly intervals from June 1 to October 14. During that period, black deaths increased from 24 to 55 (129.2%). White deaths increased from 20 to 38 (110%). Hispanic deaths increased from 0 to 1. Note that race and ethnicity are not always recorded. As of October 14, the number of unknown deaths had increased to 8 (60.0%).

The picture in **Table 1** is similar for confirmed cases of Covid 19. Since June 1, the number of black cases had increased from 368 to 2,554 (594.0%) and the number of white cases increased from 324 to 2,338 (621.6%). The number of Hispanic cases had increased from 195 to 355 (82.1%). Table 1 also shows the percent increase for each group since June 1.

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| **Table 1: Deaths and Confirmed Cases by Race and Ethnicity** |
|  | Deaths | Cases |
| **Race** | 1-Jun | 7-Jul | 13-Aug | 16-Sep | 14-Oct | %Inc | 1-Jun | 7-Jul | 13-Aug | 14-Sep | 14-Oct | %Inc |
| **Black** | 24 | 32 | 41 | 51 | 55 | 129.2% | 368 | 1,210 | 2,073 | 2,354 | 2,554 | 594.0% |
| **Hispanic** | 0 | 0 | 0 | 1 | 1 | N/A | 195 | 243 | 266 | 356 | 355 | 82.1% |
| **White** | 20 | 24 | 33 | 38 | 42 | 110.0% | 324 | 509 | 1008 | 1665 | 2,338 | 621.6% |
| **Other** | 3 | 4 | 5 | 4 | 5 | 66.7% | 77 | 114 | 212 | 216 | 284 | 268.8% |
| **Unknown** | 5 | 6 | 5 | 8 | 8 | 60.0% | 165 | 611 | 743 | 704 | 795 | 381.8% |
| **Total** | **52** | **66** | **84** | **102** | **111** | **113.5%** | **1,129** | **2,687** | **4,302** | **5,295** | **6,326** | **460.3%** |

***Source:*** *Cincinnati Health Department, June 1, July 7, August 13, September 14,16, October 14*

The disparity narrowed slightly. The racial disparity in the number of confirmed cases continued in both raw numbers (**Table 1**) and in percentages (**Table 2**) but shrank considerably in September and October reports. Only 37.0% of confirmed cases were white compared to 40.4% which are black. The percentage of race unknown cases dropped from 14.6% to 12.6% from June to October. There is still a problem with recording the race and ethnicity of Covid cases.

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|   | Table 2: Deaths and Confirmed Cases by Population |   |
|   | Expected % | Deaths (Actual %)  | Cases (Actual %)  |
| Race |   | 1-Jun | 7-Jul | 13-Aug | 16-Sep | 14-Oct | 1-Jun | 7-Jul | 13-Aug | 14-Sep | 14-Oct |
| Black | 42.7 | 46.2 | 48.5 | 48.8 | 50 | 49.5% | 32.6 | 45 | 48.2 | 44.5 | 40.4% |
| Hispanic | 3.7 | 0 | 0 | 0 | 1 | 0.9% | 17.3 | 9 | 6.2 | 6.7 | 5.6% |
| White | 48.2 | 38.5 | 36.4 | 39.3 | 37.3 | 37.8% | 28.7 | 18.9 | 23.4 | 31.4 | 37.0% |
| Other | 5.4 | 5.8 | 6.1 | 6 | 3.9 | 4.5% | 6.8 | 4.2 | 4.9 | 4.1 | 4.5% |
| Unknown | NA | 9.6 | 9.1 | 6 | 7.8 | 7.2% | 14.6 | 22.7 | 17.3 | 13.3 | 12.6% |

***Source:*** *Cincinnati Health Department June 1, July 7, August 13, September 14,16, October 14*

Blacks in Cincinnati are more likely to die from the virus than whites and the disparity is increasing slightly over time. The percentage of confirmed cases resulting in deaths is comparable to the national experience. The rate for Cincinnati is 1.75 percent.

## Age

**Table 3** shows that the number of deaths as of October 14 is still highest in the older age ranges. There are no recorded deaths for the under 30 population and only 2 in the under 40 population. The numbers of cases and percentages of increase really jumped in the younger population groups, however. The largest percent increase as of October 14 was in the 10-19 age group at 1,731% -- still only 769 cases though, out of 6,319. The 20-29 group jumped by 1004%. The number of confirmed cases continued to climb in the older age groups but the percent increases were not as dramatic. The virus is not killing our young people but is surging among the 20-60 population. The experts are concerned about possible long term effects of the virus on young people.

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| Table 3: Age Distribution of Deaths and Confirmed Cases |
| Age Group | Deaths | Cases  |
|   | 1-Jun | 7-Jul | 13-Aug | 14-Oct | % Inc | 1-Jun | 7-Jul | 13-Aug | 14-Sep | 14-Oct | % Inc |
| 0-9 | 0 | 0 | 0 | 0 | NA | 22 | 99 | 133 | 149 | 164 | 645% |
| 10-19 | 0 | 0 | 0 | 0 | NA | 42 | 169 | 310 | 565 | 769 | 1731% |
| 20-29 | 0 | 0 | 0 | 0 | NA | 172 | 614 | 1,117 | 1,504 | 1899 | 1004% |
| 30-39 | 1 | 2 | 2 | 2 | 100% | 251 | 576 | 908 | 1024 | 1150 | 358% |
| 40-49 | 1 | 1 | 3 | 6 | 500% | 160 | 369 | 530 | 587 | 659 | 312% |
| 50-59 | 3 | 5 | 7 | 8 | 167% | 158 | 326 | 508 | 594 | 684 | 333% |
| 60-69 | 12 | 15 | 19 | 26 | 117% | 134 | 253 | 403 | 452 | 517 | 286% |
| 70-79 | 5 | 8 | 13 | 20 | 300% | 79 | 133 | 199 | 216 | 246 | 211% |
| 80-89 | 16 | 17 | 21 | 25 | 56% | 73 | 98 | 129 | 135 | 152 | 108% |
| 90-99 | 11 | 15 | 16 | 20 | 82% | 35 | 47 | 55 | 59 | 74 | 111% |
| 100 – | 3 | 3 | 3 | 4 | 33% | 3 | 3 | 4 | 10 | 5 | 67% |
| Total | 52 | 66 | 84 | 111 | 113.46% | 1,129 | 2,687 | 4,296 | 5,295 |  6,319  | 459.70% |

***Source:*** *Cincinnati Health Department June 1, July 7, August 13, September 14-16, October 14*

## Sex

As of October 14, there have been 2,894 confirmed cases among males and 3,432 among females. The deaths were 55 male and 56 female.

## Neighborhood Distribution

**Table 4** shows the neighborhoods with the highest numbers of cases. These eight neighborhoods have large populations but they also have minority populations, significant poverty rates and high numbers of cases per capita. Except for Avondale, CUF and Oakley, they are all on the west side of the city. As of October 14, these eight neighborhoods had 47.7% of Cincinnati’s confirmed Covid-19 cases. **Table 4** also shows some of the other neighborhoods with largest increases in confirmed cases between June 1 and October 14. Those twelve neighborhoods are mostly on the East Side and they all have more than 100 confirmed cases.

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| Table 4: Hot Spots |
| **Large Number of Cases** | **Other Neighborhoods with over 100 Cases** **as of October 14** |
|  | 1-Jun | 7-Jul | 13-Aug | 14-Sep | 14-Oct |   | 1-Jun | 7-Jul | 13-Aug | 14-Sep | 14-Oct |
| Westwood | 209 | 451 | 617 | 692 | 757 | Evanston | 19 | 61 | 106 | 127 | 181 |
| CUF | 17 | 43 | 128 | 376 | 583 | Downtown | 9 | 38 | 105 | 119 | 166 |
| West Price Hill | 114 | 198 | 292 | 325 | 384 | Madisonville | 18 | 56 | 108 | 118 | 159 |
| East Price Hill | 154 | 224 | 272 | 293 | 312 | Bond Hill | 51 | 93 | 132 | 140 | 158 |
| College Hill | 45 | 162 | 229 | 261 | 296 | Roselawn | 20 | 65 | 114 | 125 | 145 |
| Avondale | 47 | 122 | 186 | 220 | 243 | Pleasant Ridge | 60 | 84 | 108 | 121 | 143 |
| Mt.Airy | 40 | 127 | 190 | 206 | 226 | Corryville | 3 | 13 | 31 | 90 | 138 |
| Oakley | 29 | 56 | 114 | 159 | 215 | Hartwell | 42 | 78 | 105 | 108 | 120 |
|  |  |  |  |  |  | Over-the-Rhine | 7 | 50 | 85 | 93 | 111 |
|  |  |  |  |  |  | Walnut Hills | 20 | 56 | 84 | 95 | 108 |
|  |  |  |  |  |  | Mt. Auburn | 11 | 39 | 69 | 85 | 103 |
|  |  |  |  |  |  | West End | 13 | 63 | 95 | 106 | 114 |

***Source:*** *Cincinnati Health Department June 1, July 7, August 13, September 14, October 14*

## Conclusions

The data presented in this report need to be considered in the location of testing sites and in the allocation of outreach, contact tracing, and education resources. ***The neighborhoods listed in Table 4 should be top priority.*** Second priority should be the low socio-economic status areas (SES I) listed in the socioeconomic status map (**Figure 2** from The Social Areas of Cincinnati, Fifth Edition ([www.socialareasofcincinnati.org](http://www.socialareasofcincinnati.org))). This will include, for example, impoverished sections of the West End, Lower Price Hill, Sedamsville, the Mill Creek Valley and the near east side along Reading Road and Montgomery Road. Some of these neighborhoods, though their numbers are small, show up in **Table 5** with very high percent increases in confirmed cases:

Sayler Park 5400%

South Fairmount 1500%

Villages at Roll Hill 967%

Millvale 900%

As testing becomes more widespread, we can perhaps expect the highest percent increases will continue to be in this category of neighborhoods.

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| **Table 5: Covid-19 Virus Confirmed Cases by Neighborhood** |
|  | **Case Count** | **Case Count** |
| **Neighborhood** | **1-Jun** | **7-Jul** | **13-Aug** | **14-Sep** | **14-Oct** | **%Inc** | **Neighborhood** | **1-Jun** | **7-Jul** | **13-Aug** | **14-Sep** | **14-Oct** | **%Inc** |
| Queensgate | 2 | 2 | 3 | 3 | 4 | 100.00% | Roselawn | 20 | 65 | 114 | 125 | 145 | 625.00% |
| West End | 13 | 63 | 95 | 106 | 114 | 776.92% | Bond Hill | 29 | 93 | 132 | 140 | 158 | 444.83% |
| CBD-Riverfront | 9 | 38 | 105 | 119 | 166 | 1744.44% | N. Avondale – Paddock Hills | 7 | 25 | 51 | 57 | 65 | 828.57% |
| Over-the-Rhine | 7 | 50 | 85 | 93 | 111 | 1485.71% | Avondale | 47 | 122 | 186 | 220 | 243 | 417.02% |
| Mt. Adams | 0 | 4 | 8 | 12 | 25 | #DIV/0! | Clifton | 18 | 38 | 70 | 81 | 91 | 405.56% |
| Mt. Auburn | 11 | 39 | 69 | 85 | 103 | 836.36% | Spring Grove Village | 5 | 17 | 25 | 26 | 30 | 500.00% |
| Clifton/University Heights—Fairview (CUF) | 9 | 45 | 128 | 376 | 583 | 6377.78% | Northside | 17 | 43 | 70 | 85 | 89 | 423.53% |
| Camp Washington | 2 | 6 | 20 | 22 | 22 | 1000.00% | S. Cumminsville | 3 | 9 | 12 | 15 | 16 | 433.33% |
| Corryville | 3 | 13 | 31 | 90 | 138 | 4500.00% | Winton Hills | 12 | 34 | 52 | 56 | 64 | 433.33% |
| Evanston | 19 | 61 | 106 | 127 | 181 | 852.63% | College Hill | 45 | 162 | 229 | 261 | 296 | 557.78% |
| E. Walnut Hills | 8 | 18 | 34 | 41 | 57 | 612.50% | Mt. Airy | 40 | 127 | 190 | 206 | 226 | 465.00% |
| Walnut Hills | 20 | 56 | 84 | 95 | 108 | 440.00% | Villages at Roll Hill | 3 | 22 | 29 | 32 | 32 | 966.67% |
| East End | 0 | 2 | 6 | 9 | 10 | #DIV/0! | N. Fairmount | 5 | 19 | 24 | 25 | 29 | 480.00% |
| California | 0 | 1 | 1 | 2 | 2 | #DIV/0! | S. Fairmount | 3 | 32 | 45 | 47 | 48 | 1500.00% |
| Mt. Washington | 27 | 55 | 86 | 114 | 146 | 440.74% | Lower Price Hill | 8 | 16 | 18 | 18 | 18 | 125.00% |
| Columbia-Tusculum | 1 | 2 | 6 | 11 | 20 | 1900.00% | East Price Hill | 154 | 224 | 272 | 293 | 312 | 102.60% |
| Mt. Lookout | 9 | 14 | 35 | 65 | 88 | 877.78% | West Price Hill | 114 | 198 | 292 | 325 | 384 | 236.84% |
| Linwood | 1 | 2 | 3 | 3 | 6 | 500.00% | Westwood | 209 | 451 | 617 | 692 | 757 | 262.20% |
| Hyde Park | 20 | 35 | 92 | 140 | 205 | 925.00% | Sedamsville | 2 | 3 | 7 | 7 | 8 | 300.00% |
| Oakley | 29 | 56 | 114 | 159 | 215 | 641.38% | Sayler Park | 1 | 9 | 21 | 39 | 55 | 5400.00% |
| Madisonville | 18 | 56 | 108 | 118 | 159 | 783.33% | East Westwood | 21 | 40 | 52 | 53 | 56 | 166.67% |
| Pleasant Ridge | 60 | 84 | 108 | 121 | 143 | 138.33% | Pendleton | 0 | 7 | 17 | 20 | 21 | #DIV/0! |
| Kennedy Heights | 20 | 45 | 69 | 76 | 92 | 360.00% | English Woods | 1 | 1 | 2 | 5 | 7 | 600.00% |
| Hartwell | 42 | 78 | 105 | 108 | 120 | 185.71% | Riverside | 3 | 5 | 14 | 19 | 23 | 666.67% |
| Carthage | 11 | 23 | 29 | 33 | 41 | 272.73% | Millvale | 2 | 11 | 17 | 18 | 20 | 900.00% |

***Source:*** *Cincinnati Health Department June 1, July 7, August 13, September 14, October 14*

***Table 5*** *shows the trends in the entire list of Cincinnati neighborhoods. The author will provide periodic updates.*

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