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.

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.

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.

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.

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)). 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:
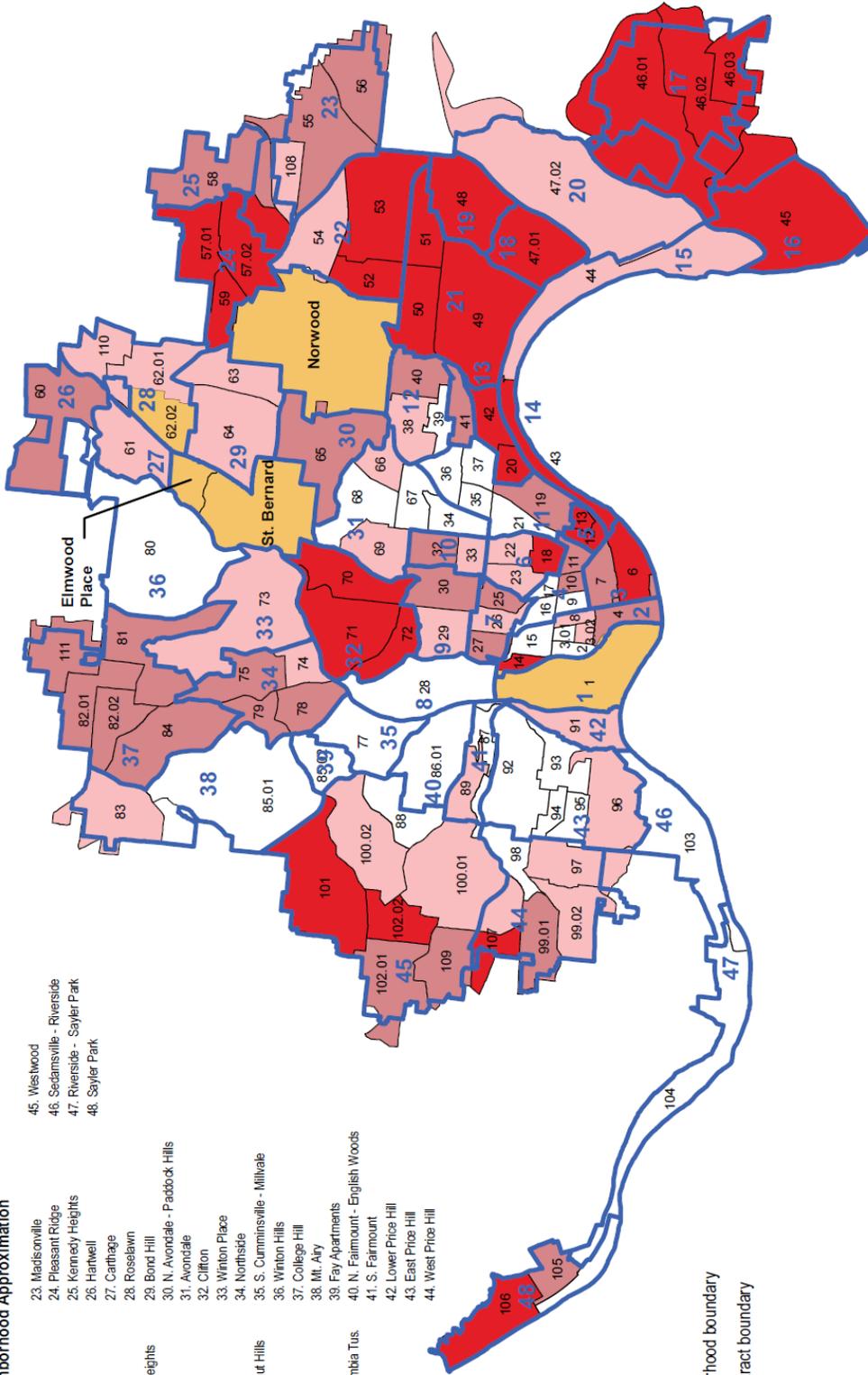
       Sayler Park   5400%
       South Fairmount   1500%
       Villages at Roll Hill 967%
       Millvale   900%

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

Figure 2

2005-2009 Cincinnati City SES Quartiles

Cincinnati Neighborhood Approximation

1. Queensgate
2. West End
3. CBD - Riverfront
4. Over-the-Rhine
5. Mt. Adams
6. Mt. Auburn
7. Fairview - Clifton Heights
8. Camp Washington
9. University Heights
10. Corryville
11. Walnut Hills
12. Evanston
13. Evanston - E. Walnut Hills
14. E. Walnut Hills
15. East End
16. California
17. Mt. Washington
18. Mt. Lookout - Columbia Tus.
19. Mt. Lookout
20. Linwood
21. Hyde Park
22. Oakley

23. Madisonville
24. Pleasant Ridge
25. Kennedy Heights
26. Hartwell
27. Carthage
28. Roselawn
29. Bond Hill
30. N. Avondale - Paddock Hills
31. Avondale
32. Clifton
33. Winton Place
34. Northside
35. S. Cumminsville - Millvale
36. Winton Hills
37. College Hill
38. Mt. Airy
39. Fay Apartments
40. N. Fairmount - English Woods
41. S. Fairmount
42. Lower Price Hill
43. East Price Hill
44. West Price Hill

45. Westwood
46. Sedamsville - Riverside
47. Riverside - Sayler Park
48. Sayler Park

Legend

Neighborhood boundary
Census tract boundary

SES Quartiles
- SES I
- SES II
- SES III
- SES IV
- NA*

00 Neighborhood number
00.00 Census tract number

0 0.5 1   2   3   4   5
Miles

N

* Tracts 1,62.02, St. Bernard, Norwood and Elmwood Place have been excluded from this analysis. See text for more details.

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.

Michael Maloney is Convener of the Urban Appalachian Community Coalition, a community organizer and social researcher. His publications include the five editions of the Social Areas of Cincinnati: Analysis of Social Needs (vols. 4-5 with Christopher Auffrey).