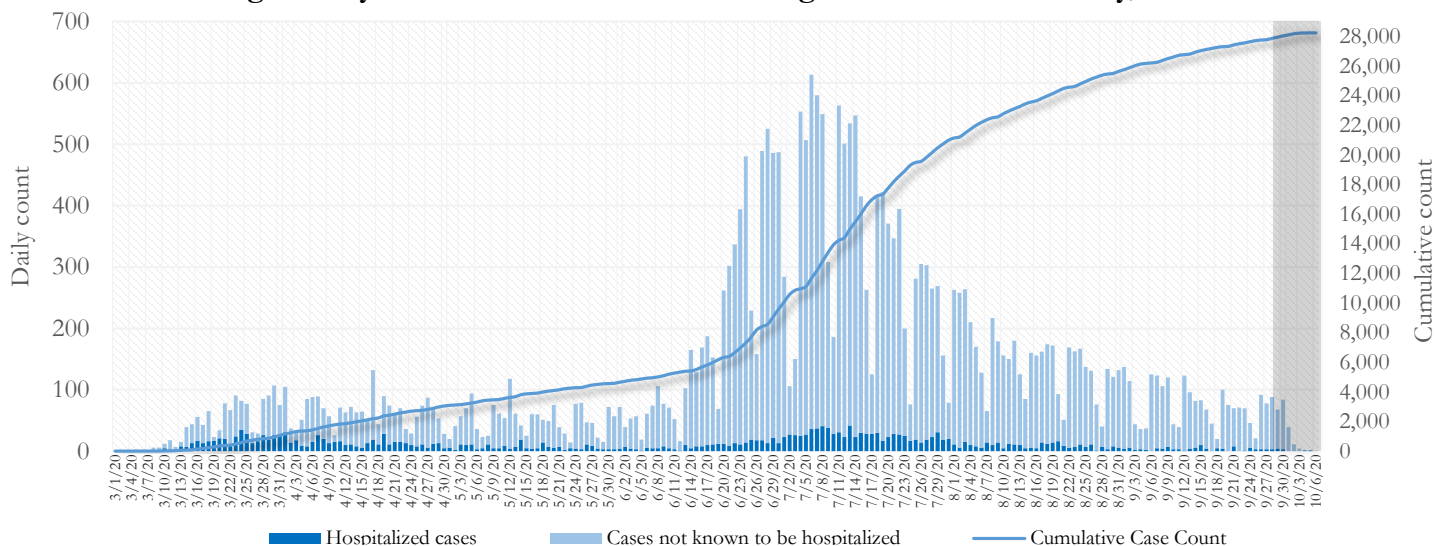


SUMMARY

- As of October 6, 2020, Fulton County has recorded **28,242 cases of the 2019 novel coronavirus (COVID-19)** and **506 confirmed COVID-19 deaths**. 74 deaths are currently being reviewed by GaDPH to confirm cause of death.
- Of **1,014 new diagnoses** made between September 15 and September 29, the central portion of the county (Atlanta metro) accounted for 40% while the northern and southern parts accounted for 38% and 17% respectively.
- By city, new COVID-19 case rates range from 62.9 per 100,000 persons (East Point) to 205.9 per 100,000 persons (Palmetto). **[Fulton County Diagnoses Rates (per 100,000 persons): Cumulative – 2654.5; Incidence –95.3]**. See map showing incident case rate by ZIP code on Pg.17. Recent geocode cleaning may have increased cumulative city counts.
- Among all persons diagnosed with COVID-19 in Fulton County since June 1, **6.3% required hospitalization and 1.6% died**.

Fig 1. Daily and Cumulative COVID-19 diagnoses in Fulton County, GA



*Counts shown reflect the number of confirmed cases as of 7:00 am on 10/6/20 using the date of first positive sample collection. Where date of sample collection was not available or missing, the date of report creation in GA SENDSS was used instead. **Note:** Delays in data reporting may cause changes in data counts, particularly in the shaded portion. Data throughout this report are preliminary and subject to ongoing data cleaning processes, and thus are subject to change.

DISTRIBUTION OF COVID-19 DIAGNOSES BY REGION

New cases: 40% of the new COVID-19 cases diagnosed in the past 2 weeks occurred in Atlanta while 38% and 17% occurred in the Northern and Southern regions of the county respectively.

Fulton Region	% Cumulative count	% New cases*
Atlanta	43.1%	39.6%
North ¹	28.3%	38.0%
South ²	20.3%	16.6%
Unincorporated/Unknown	8.2%	5.8%

¹Includes all Fulton County cities north of Atlanta metro (Alpharetta, Milton, Johns Creek, Roswell, Sandy Springs, Mountain Park) |²Includes all cities south of Atlanta (College Park, Chattahoochee Hills, East Point, Hapeville, Palmetto, South Fulton, Fairburn, and Union City) ***New cases:** Cases diagnosed in the past 2 weeks only (between 9/15/20 – 9/29/20).

In the past two weeks (9/15-9/29), there were fewer new cases of COVID-19 in Fulton County than the previous two weeks (9/1-9/14).



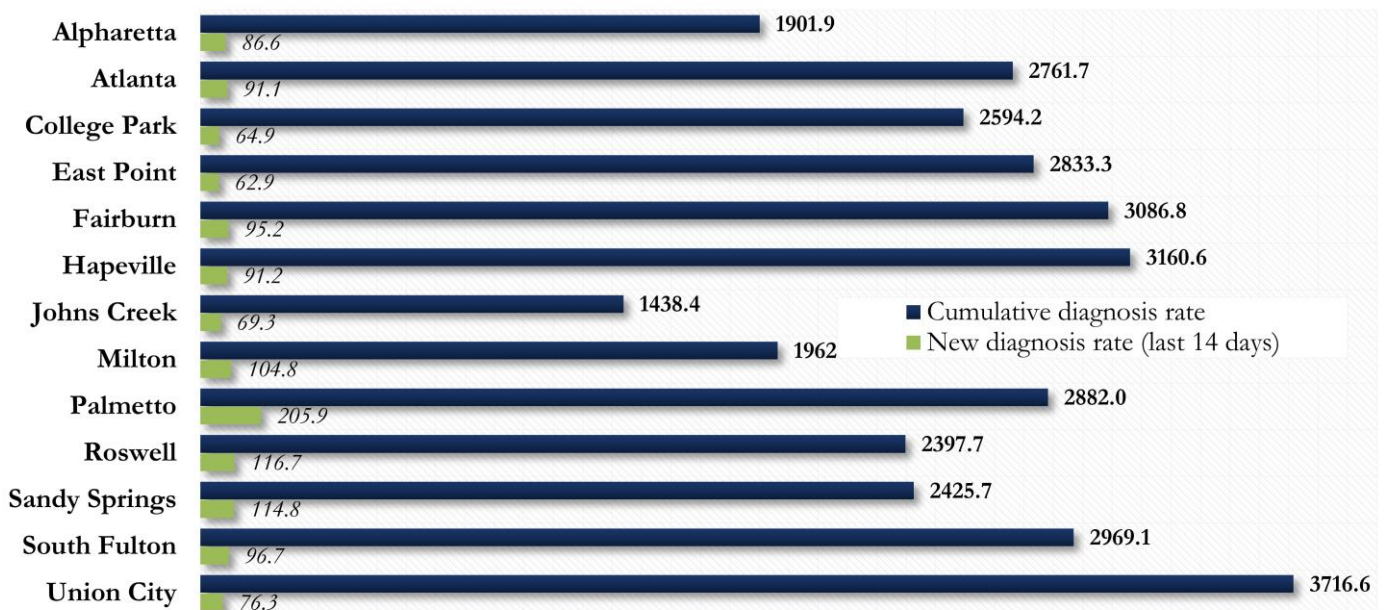
*Delayed a week to account for testing results turnaround time.

COVID-19 CASE COUNTS AND RATES BY CITY

	Prior (10/2/20)	Current Total (10/6/20)			New Cases (Period: 9/1/20 – 9/29/20) ¹			
	Count	Count	%	Cum. Rate ²	1 st 14 d. (9/1–9/14)	Last 14 d. (9/15–9/29)	% change ³	Rate ⁴ (Last 14 d).
Alpharetta	1210	1230	4.4%	1901.9	109	56	↓ 48.6%	86.6
Atlanta	11930	12184	43.1%	2761.7	500	402	↓ 19.6%	91.1
Chattahoochee Hills	1	1	0.0%	-	0	0	-	0.0
College Park	357	360	1.3%	2594.2	10	<10	↓ 10.0%	64.9
East Point	980	991	3.5%	2833.3	28	22	↓ 21.4%	62.9
Fairburn	448	454	1.6%	3086.8	17	14	↓ 17.6%	95.2
Hapeville	205	208	0.7%	3160.6	<10	<10	-	91.2
Johns Creek	1173	1203	4.3%	1438.4	87	58	↓ 33.3%	69.3
Milton	729	749	2.7%	1962.2	57	40	↓ 29.8%	104.8
Mountain Park	6	6	0.0%	960.0	<10	0	-	-
Palmetto	116	126	0.4%	2882.0	<10	<10	-	205.9
Roswell	2235	2260	8.0%	2397.7	178	110	↓ 38.2%	116.7
Sandy Springs	2500	2557	9.1%	2425.7	121	121	-	114.8
South Fulton	2785	2824	10.0%	2969.1	91	92	↑ 1.1%	96.7
Union City	776	779	2.8%	3716.6	28	16	↓ 42.9%	76.3
Unknown	2791	2310	8.2%	-	57	58	-	-

¹**New cases:** Cases diagnosed in most recent 28 days (based on reported dates of positive sample collection). To allow for lag in reporting results of new diagnoses from samples collected in the most recent week, data used for incident diagnoses analyses were moved back by one week. ²**Cumulative diagnosis rate:** Population estimates from US Census Bureau used to calculate cumulative diagnoses rate. All rates shown are per 100,000 persons. ³**% change:** These reflect the percentage increase or decrease in new diagnoses between the 14 days preceding the most recent 7 days and the 14 days preceding that. Changes in cities with less than 10 cases in both 2 week intervals are not reported. ⁴**(Incidence) Rate:** Rate of new diagnoses in the last 14 day period preceding the immediate past week. ****Data cleaning** (either during case interviews or address geo-coding) may lead to reassignment of few cases from one territory to another based on their corrected addresses. These may appear as “decreases” when compared to the previous day’s count. These do not reflect errors in the data collection or analysis process but only reflect the minor day-to-day fluctuations in case counts that arise in an evolving public health database like COVID’s. **Note: All data reported are preliminary and subject to change.**

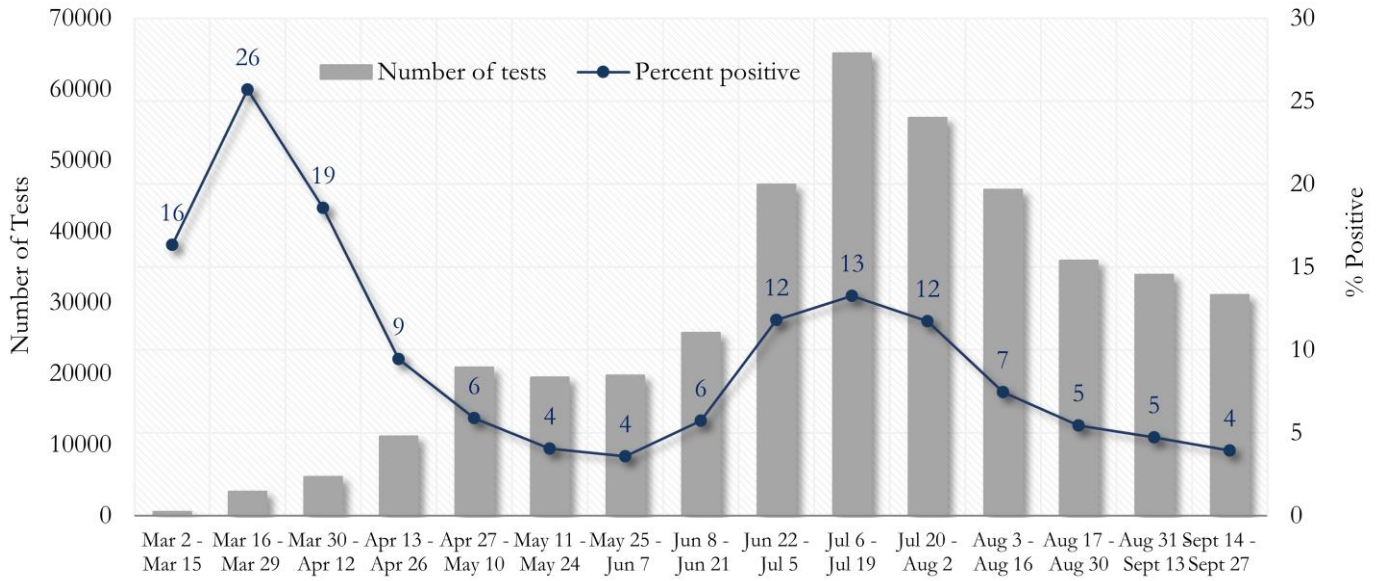
Fig. 2. Incident & Cumulative Diagnoses Rates for COVID-19 by City



*Rates shown are per 100,000 persons | **Note:** Mass testing in specific locations (e.g. long term care facilities) may cause sharp increases in the cumulative rate of COVID-19 diagnosis in those territories. All data shown are preliminary and are subject to change as testing results get updated.

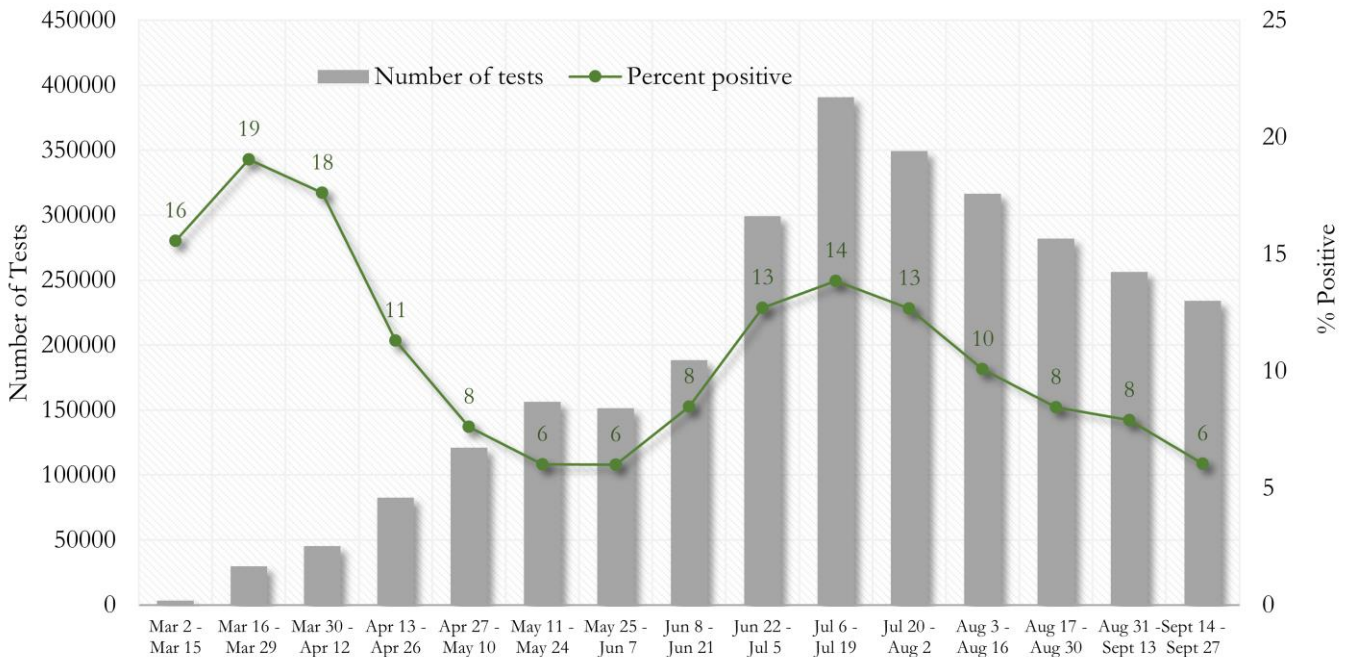
COVID-19 TESTING AND POSITIVITY IN FULTON COUNTY AND GEORGIA

Fig. 3. Trends in Positive COVID-19 Tests in Fulton County by 14-day Periods



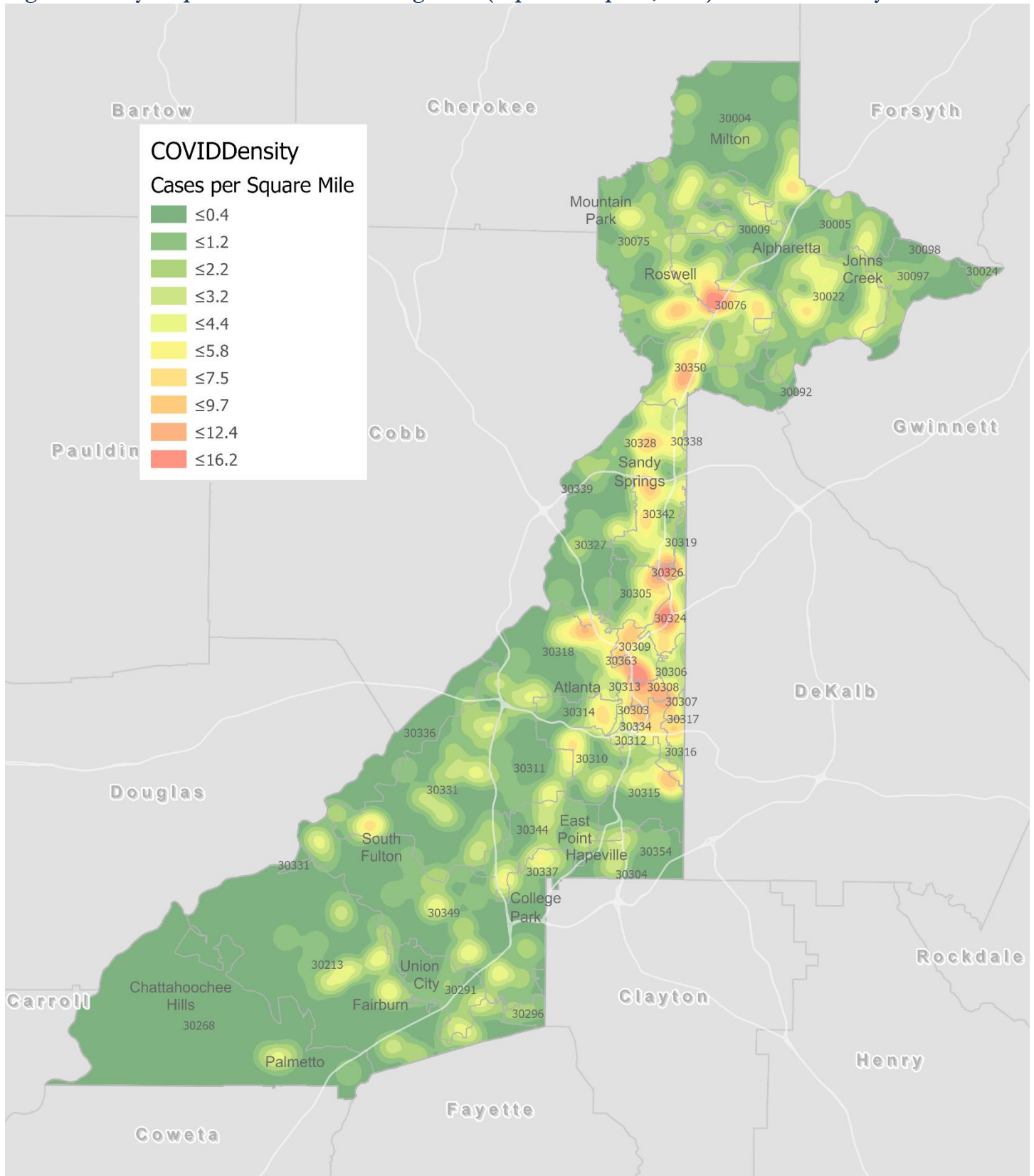
*Data on Polymerase Chain Reaction (PCR) tests only included.

Fig. 4. Trends in Positive COVID-19 Tests in Georgia by 14-day Periods



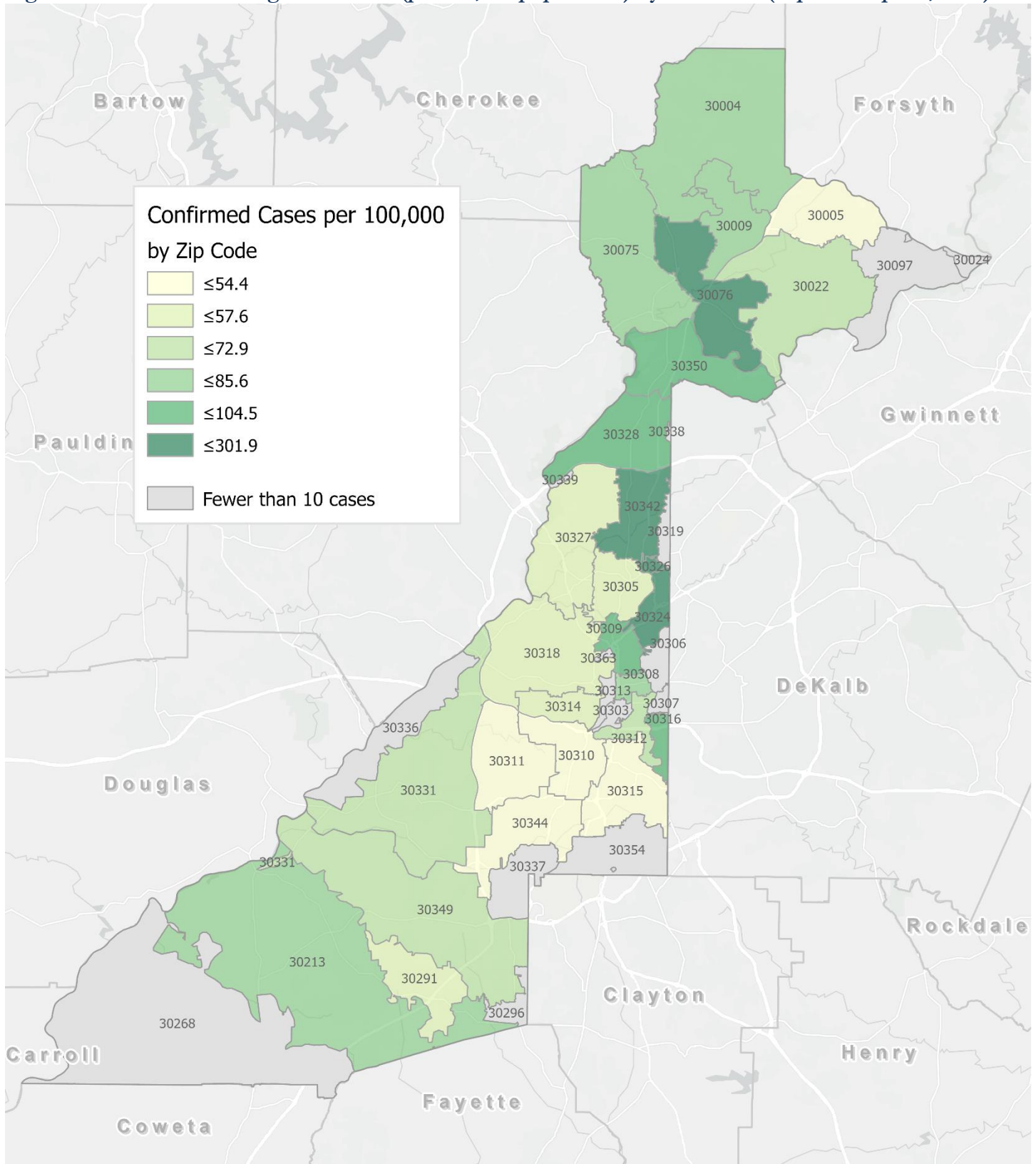
*Data on Polymerase Chain Reaction (PCR) tests only included.

Fig. 5. Density Map – New COVID 19 Diagnoses (Sept 15 – Sept 29, 2020) in Fulton County



New COVID-19 cases: Cases diagnosed in most recent 14 days (based on reported dates of positive sample collection). To allow for lag in reporting results of positive cases from samples collected in the immediate past 7 days, data used for incident diagnoses analyses are moved back by one week. Map reflects new COVID-19 cases diagnosed between Sept 15th and Sept 29th, 2020 across Fulton County, excluding LTCF cases.

Fig. 6. New COVID-19 Diagnoses Rates (per 100,000 population) by ZIP Code (Sept 15– Sept 29, 2020)



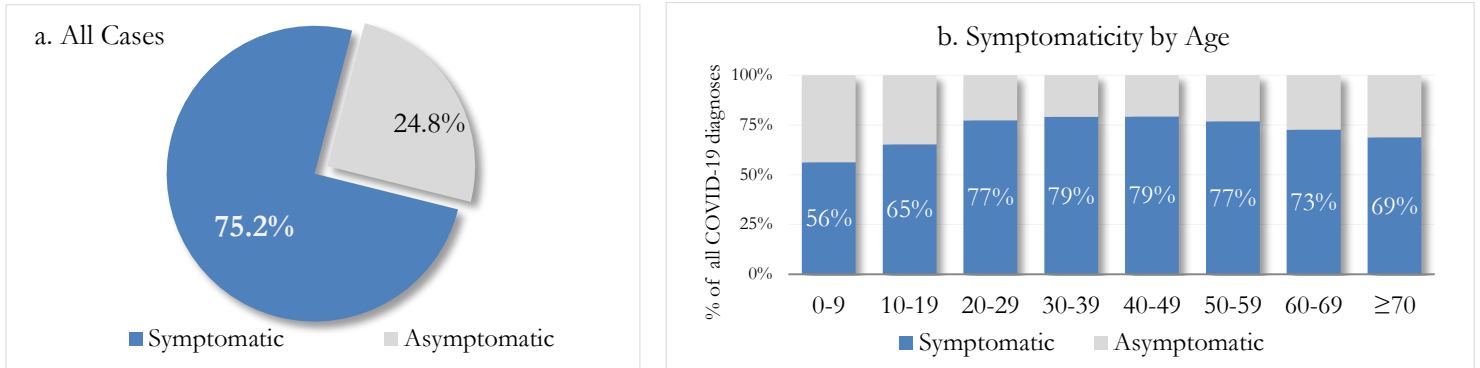
*Rates shown are per 100,000 populations.

New COVID-19 cases: Cases diagnosed in most recent 14 days (based on reported dates of positive sample collection). To allow for lag in reporting results of positive cases from samples collected in the immediate past 7 days, data used for incident diagnoses analyses are moved back by one week. Data used excludes outbreak-related cases at long-term care facilities and map shown reflects only the new non-LTCF cases diagnosed between the dates shown in map title. See page 17 for zip code break down table.

REPORTING SYMPTOMS AMONG PERSONS WITH COVID-19 IN FULTON

People with COVID-19 have reported a wide range of symptoms ranging from mild symptoms to severe illness. Symptoms may appear 2-14 days after exposure to the virus. Symptoms reported include: cough, shortness of breath/difficulty breathing, fever, chills, muscle pain, headache, sore throat, congestion, nausea or vomiting, diarrhea, or new loss of taste or smell – Centers for Disease Control and Prevention (CDC)
<https://www.cdc.gov/coronavirus/2019-ncov/symptoms-testing/symptoms.html>

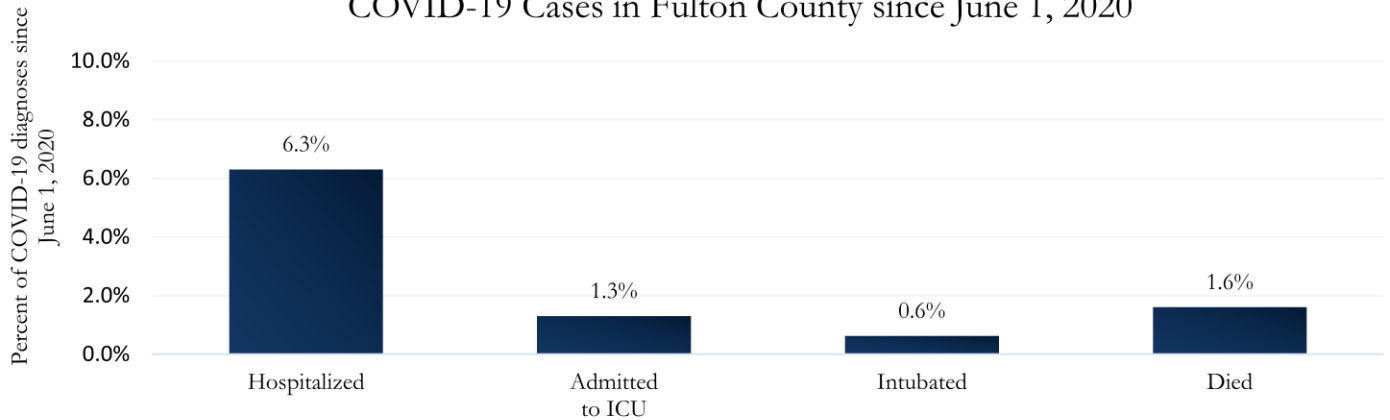
Fig. 7a & b. Total Proportion Reporting Symptoms in Fulton County



COVID-19 cases who have been case interviewed or had medical charts reviewed as of 10/6/20 only. n = 18,661

COVID-19 HOSPITALIZATIONS, ICU ADMISSIONS AND DEATHS IN FULTON

Fig. 8. Hospitalizations, ICU Admissions, Intubations, and Deaths among COVID-19 Cases in Fulton County since June 1, 2020



DEMOGRAPHIC DISTRIBUTIONS – COVID 19 CASES AND DEATHS

A. Distribution of COVID-19 cases by gender, age, and race in Fulton County by Fulton Region

	North Fulton Cities ¹ Count (%)	Atlanta Count (%)	South Fulton Cities ² Count (%)	Unknown City Count (%)	All Fulton Count (%)
Total COVID-19 cases	8005	12184	5743	2310	28242
Gender: Female	4062 (50.7%)	5961 (48.9%)	3188 (55.5%)	1131 (49.0%)	14342 (50.8%)
Male	3772 (47.1%)	5767 (47.3%)	2393 (41.7%)	1094 (47.4%)	13026 (46.1%)
Unknown*	171 (2.1%)	456 (3.7%)	162 (2.8%)	85 (3.7%)	874 (3.1%)
Age: 0-9	269 (3.4%)	222 (1.8%)	176 (3.1%)	61 (2.6%)	728 (2.6%)
10-19	1194 (14.9%)	839 (6.9%)	397 (6.9%)	164 (7.1%)	2594 (9.2%)
20-29	1754 (21.9%)	3619 (29.7%)	1115 (19.4%)	613 (26.5%)	7101 (25.1%)
30-39	1231 (15.4%)	2643 (21.7%)	1190 (20.7%)	508 (22.0%)	5572 (19.7%)
40-49	1249 (15.6%)	1599 (13.1%)	1065 (18.5%)	368 (15.9%)	4281 (15.2%)
50-59	1159 (14.5%)	1319 (10.8%)	785 (13.7%)	282 (12.2%)	3545 (12.6%)
60-69	594 (7.4%)	888 (7.3%)	523 (9.1%)	176 (7.6%)	2181 (7.7%)
≥70	549 (6.9%)	1012 (8.3%)	489 (8.5%)	130 (5.6%)	2180 (7.7%)
Unknown*	<10	43 (0.4%)	<10	<10	60 (0.2%)
Race: Asian, NH	273 (3.4%)	197 (1.6%)	20 (0.3%)	44 (1.9%)	534 (1.9%)
Black, NH	834 (10.4%)	5412 (44.4%)	3874 (67.5%)	748 (32.4%)	10868 (38.5%)
White, NH	3113 (38.9%)	2682 (22.0%)	255 (4.4%)	531 (23.0%)	6581 (23.3%)
Hispanic	1563 (19.5%)	782 (6.4%)	477 (8.3%)	261 (11.3%)	3083 (10.9%)
Other, NH	300 (3.7%)	421 (3.5%)	152 (2.6%)	94 (4.1%)	967 (3.4%)
Unknown*	1922 (24.0%)	2690 (22.1%)	965 (16.8%)	632 (27.4%)	6209 (22.0%)

*Unknown included cases not yet interviewed.

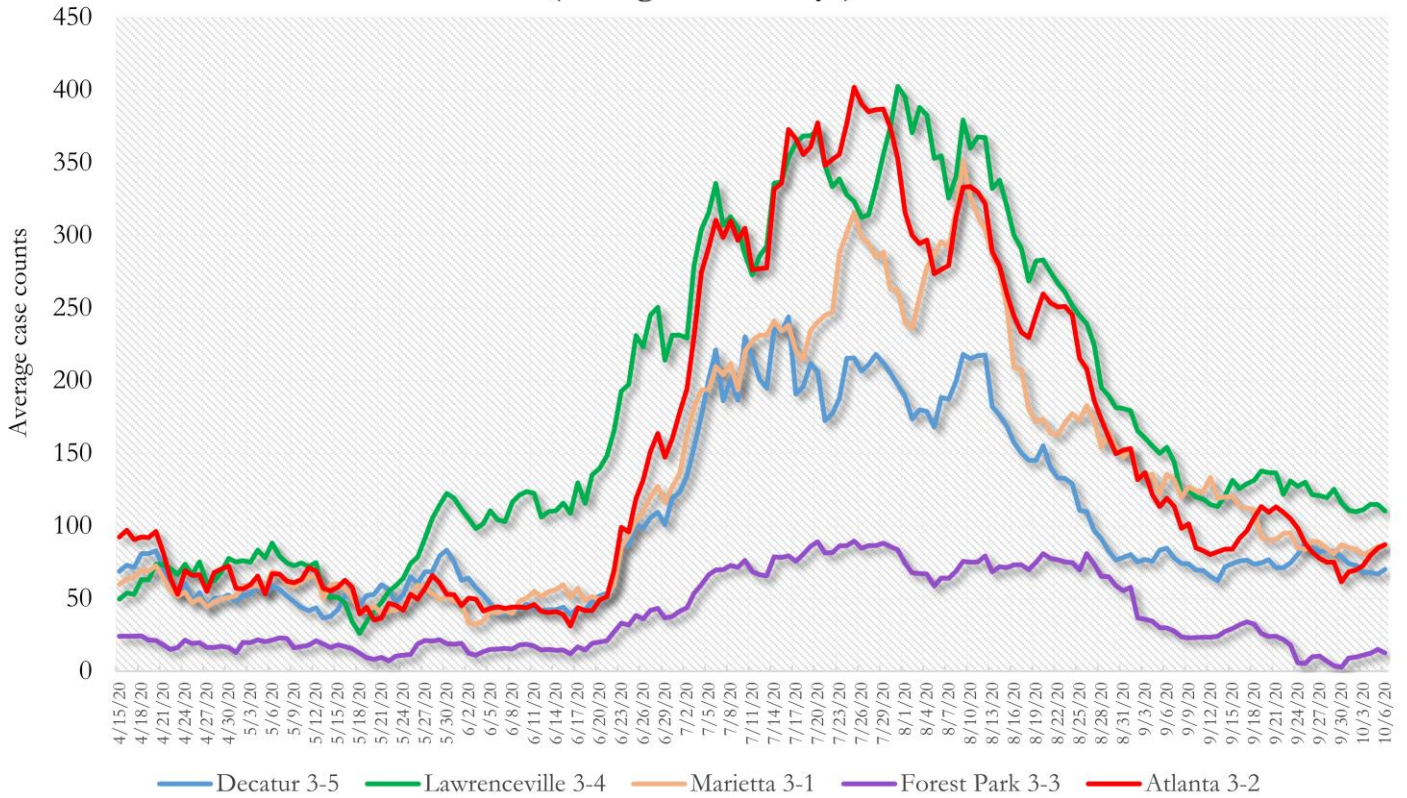
B. Distribution of COVID-19 deaths by gender, age, and race in Fulton County by Fulton Region

	North Fulton Cities ¹ Count (%)	Atlanta Count (%)	South Fulton Cities ² Count (%)	Unknown City Count (%)	All Fulton Count (%)
Total COVID-19 deaths	125	282	155	18	580
Gender: Female	55 (44.0%)	125 (44.3%)	82 (52.9%)	<10	270 (46.6%)
Male	70 (56.0%)	157 (55.7%)	73 (47.1%)	10 (55.6%)	310 (53.4%)
Unknown	0	0	0	0	0
Age: ≤ 29	0	<10	<10	0	<10
30-39	<10	<10	<10	<10	12 (2.1%)
40-49	<10	<10	<10	<10	25 (4.3%)
50-59	<10	24 (8.5%)	18 (11.6%)	<10	49 (8.4%)
60-69	16 (12.8%)	52 (18.4%)	33 (21.3%)	<10	102 (17.6%)
≥70	97 (77.6%)	186 (66.0%)	91 (58.7%)	13 (72.2%)	387 (66.7%)
Unknown	0	<10	0	0	<10
Race: Asian, NH	<10	<10	<10	0	10 (1.7%)
Black, NH	22 (17.6%)	240 (85.1%)	129 (83.2%)	<10	398 (68.6%)
White, NH	87 (69.6%)	32 (11.3%)	18 (11.6%)	10 (55.6%)	147 (25.3%)
Hispanic	11 (8.8%)	<10	<10	<10	21 (3.6%)
Other, NH	0	<10	<10	0	<10
Unknown	<10	<10	0	0	<10

¹Includes all Fulton County cities north of Atlanta metro (Alpharetta, Milton, Johns Creek, Roswell, Sandy Springs, Mountain Park) ²Includes all cities south of Atlanta (College Park, Chattahoochee Hills, East Point, Hapeville, Palmetto, South Fulton, Fairburn, Union City). **Note:** All data reported are preliminary and subject to change. This table includes data on all presumed COVID-19 deaths and is subject to change as GaDPH completes cause of death confirmation processes.

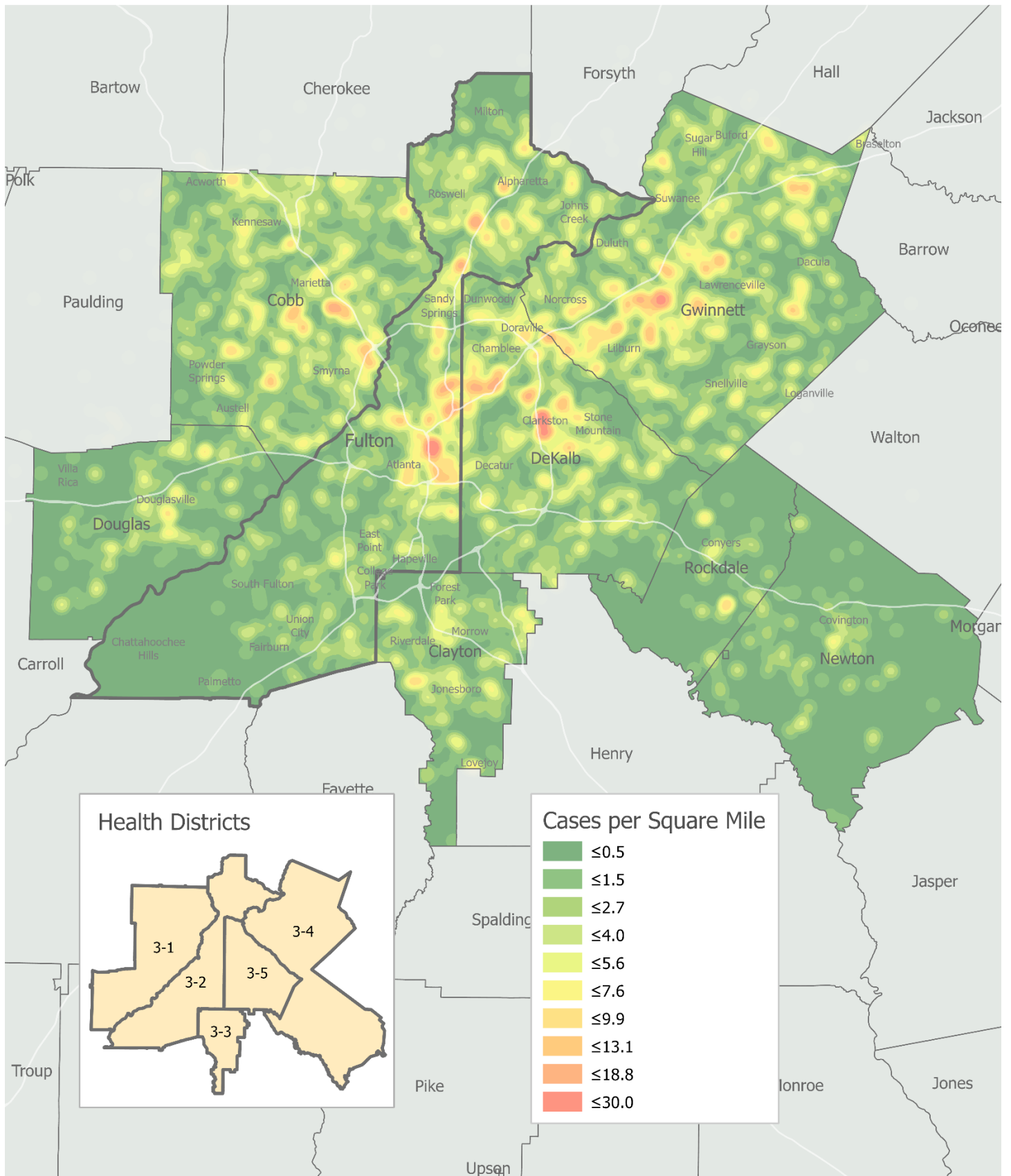
COVID-19 CASE TRENDS IN FULTON AND SURROUNDING DISTRICTS

**Fig. 9. Daily Case Counts for Atlanta Metro Districts
(Averaged over 7 days)**



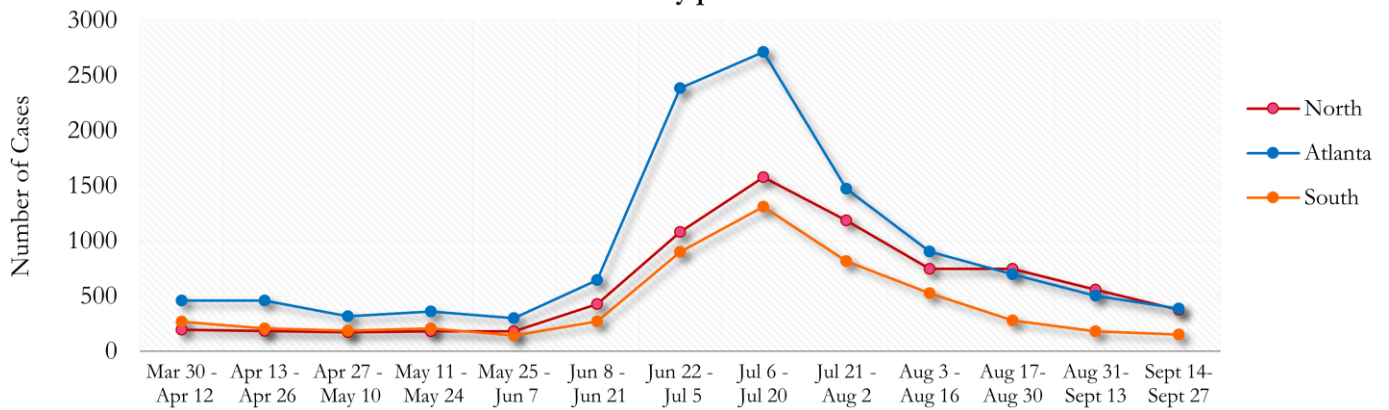
*Graph shows the average number of cases calculated from the daily cumulative case counts in the metro Atlanta districts. Increases in daily cumulative case counts may include cases diagnosed earlier during the pandemic but were only recently reported to the state as cases diagnosed belonging to these districts.

Fig. 10. COVID-19 Cases in Fulton County and Surrounding Districts (Sept 15 – Sept 29, 2020)



TRENDS IN COVID-19 CASES AMONG DEMOGRAPHIC GROUPS (14 DAY PERIODS)

Fig. 11. Trends in Geographic distribution of COVID -19 Diagnoses in Fulton County by 14-day periods



In the past two weeks, the city of Atlanta and the Northern region have accounted for almost equal amounts of new cases.

*North - Includes all Fulton cities north of Atlanta (Alpharetta, Milton, Johns Creek, Roswell, Sandy Springs, Mountain Park)

*South - Includes all Fulton cities south of Atlanta (College Park, Chattahoochee Hills, East Point, Hapeville, Palmetto, South Fulton, Fairburn, and Union City)

Fig. 12. Trends in Racial Distribution of COVID -19 Diagnoses in Fulton County by 14-day periods

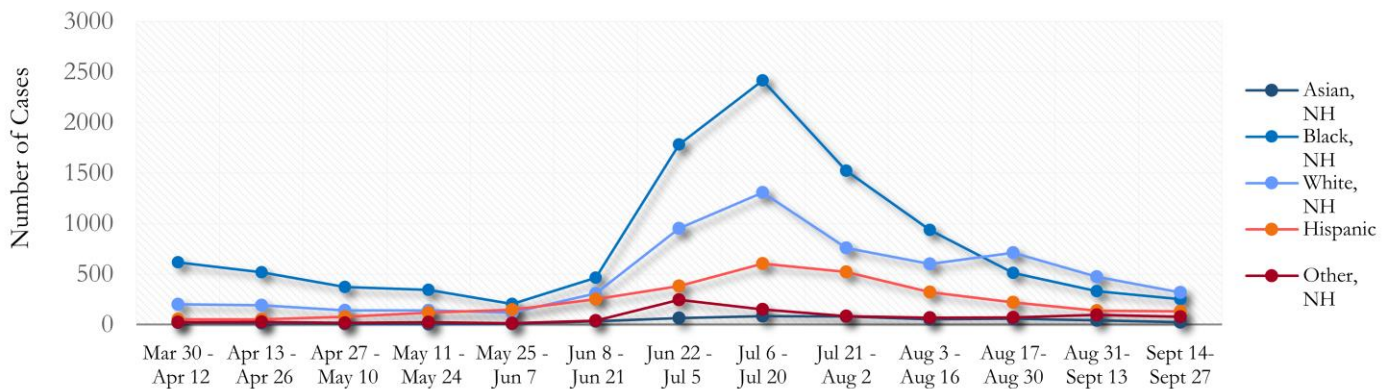
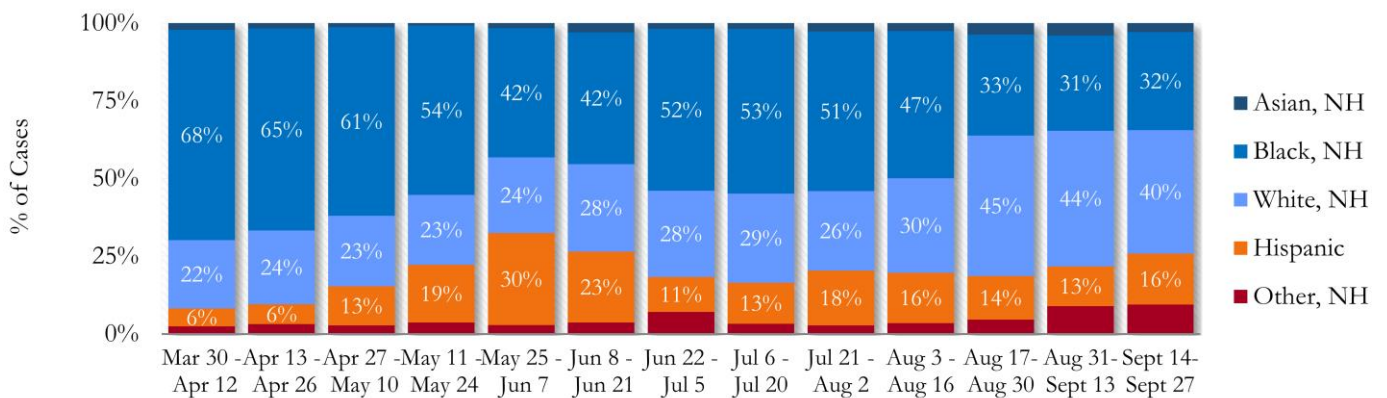


Fig. 13. Racial Distribution of COVID -19 Cases in Fulton County by 14-day periods



About 23% of COVID cases are missing data on patient race and ethnicity. The majority of diagnoses made in the past two weeks were White-NH (40%).

Fig. 14. Trends in Gender Distribution of COVID -19 Diagnoses in Fulton County by 14-day periods

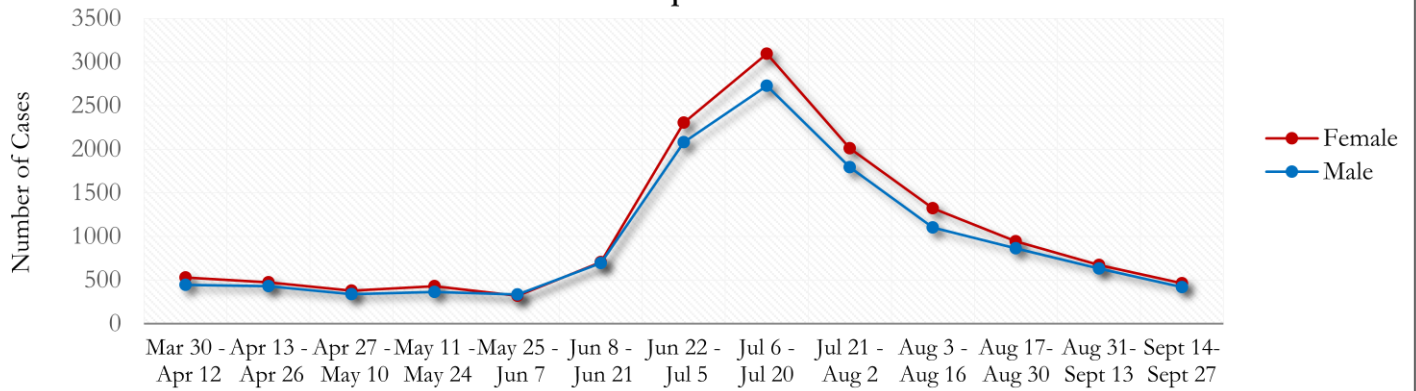
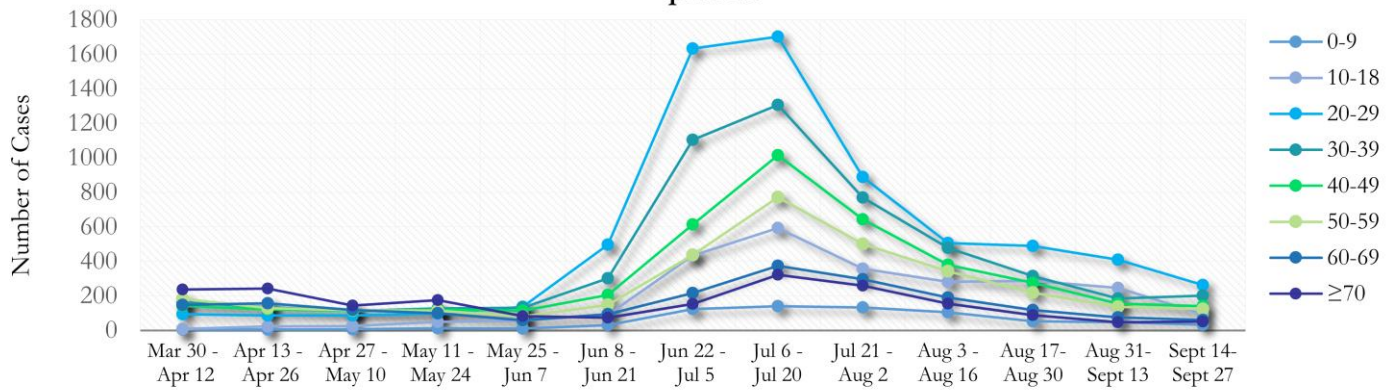
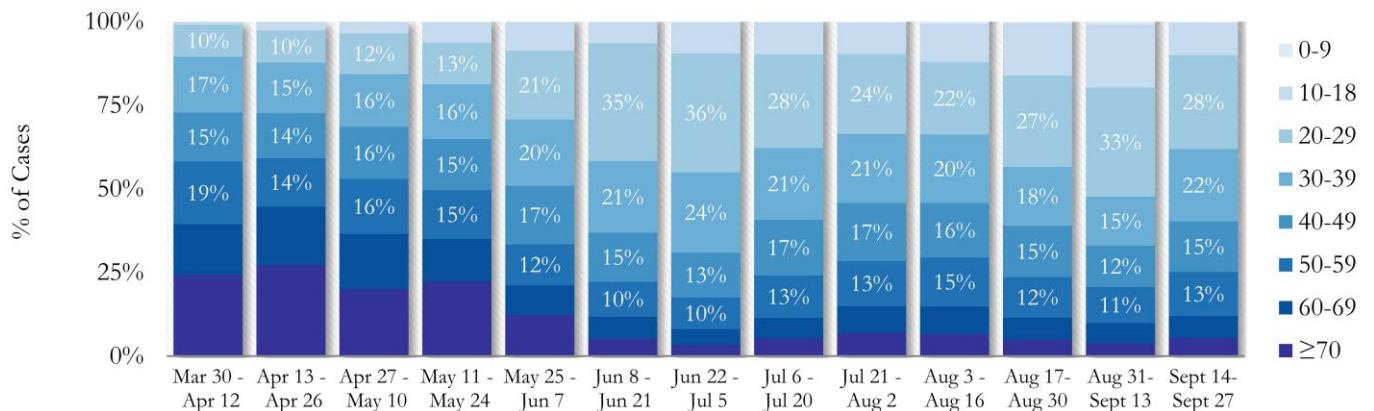


Fig. 15. Trends in Age Distribution of COVID -19 Diagnoses in Fulton County by 14-day periods



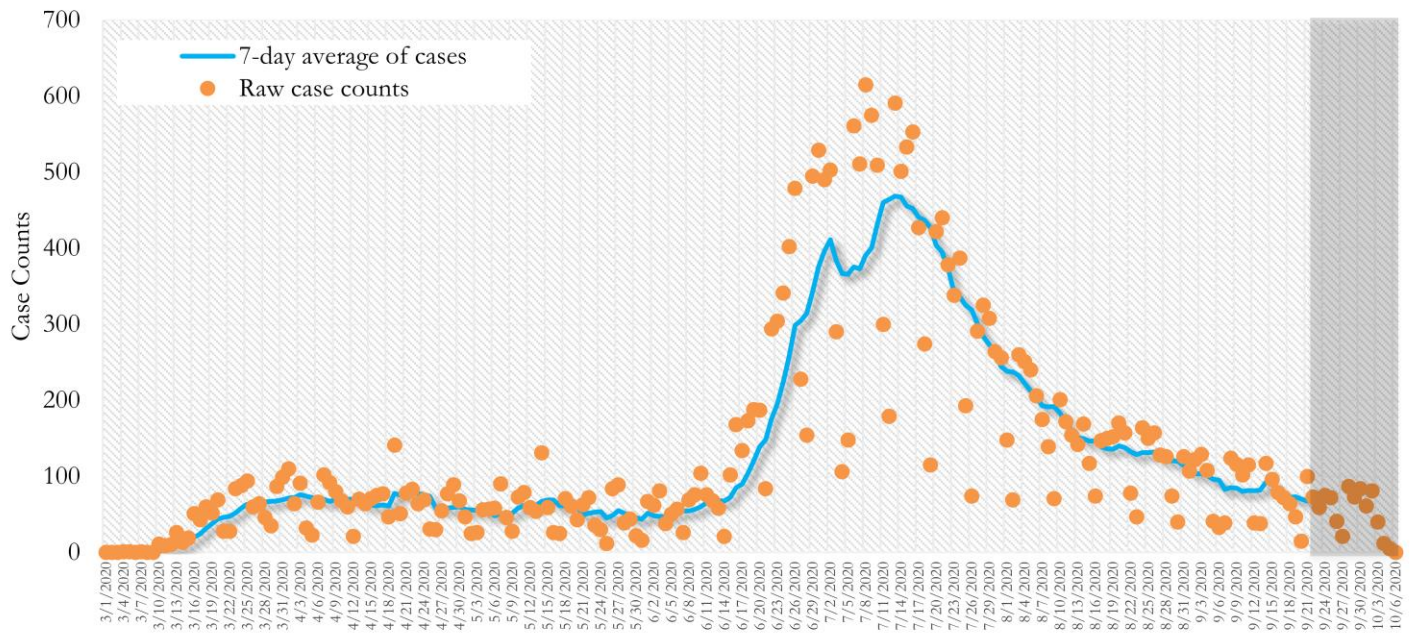
Earlier (March-May 2020) large proportions of reported cases were among persons aged 60 and older. However, starting in June, a higher number of cases were among persons aged between 20-29 years.

Fig. 16. Age Distribution of COVID -19 Cases in Fulton County by 14-day periods



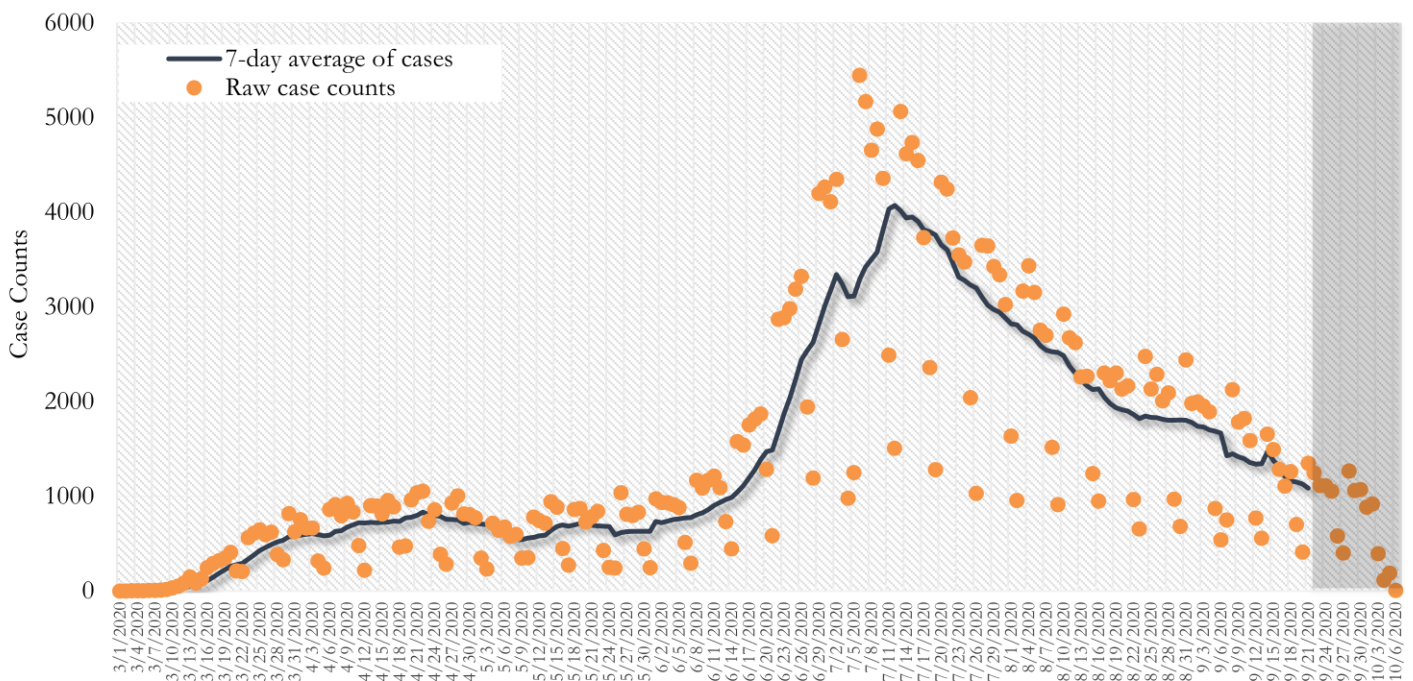
TRENDS IN COVID-19 CASES, HOSPITALIZATIONS AND DEATHS (7-DAY MOVING AVE.)

Fig. 17. New COVID-19 Cases in Fulton County Daily (Averaged over 7 days)



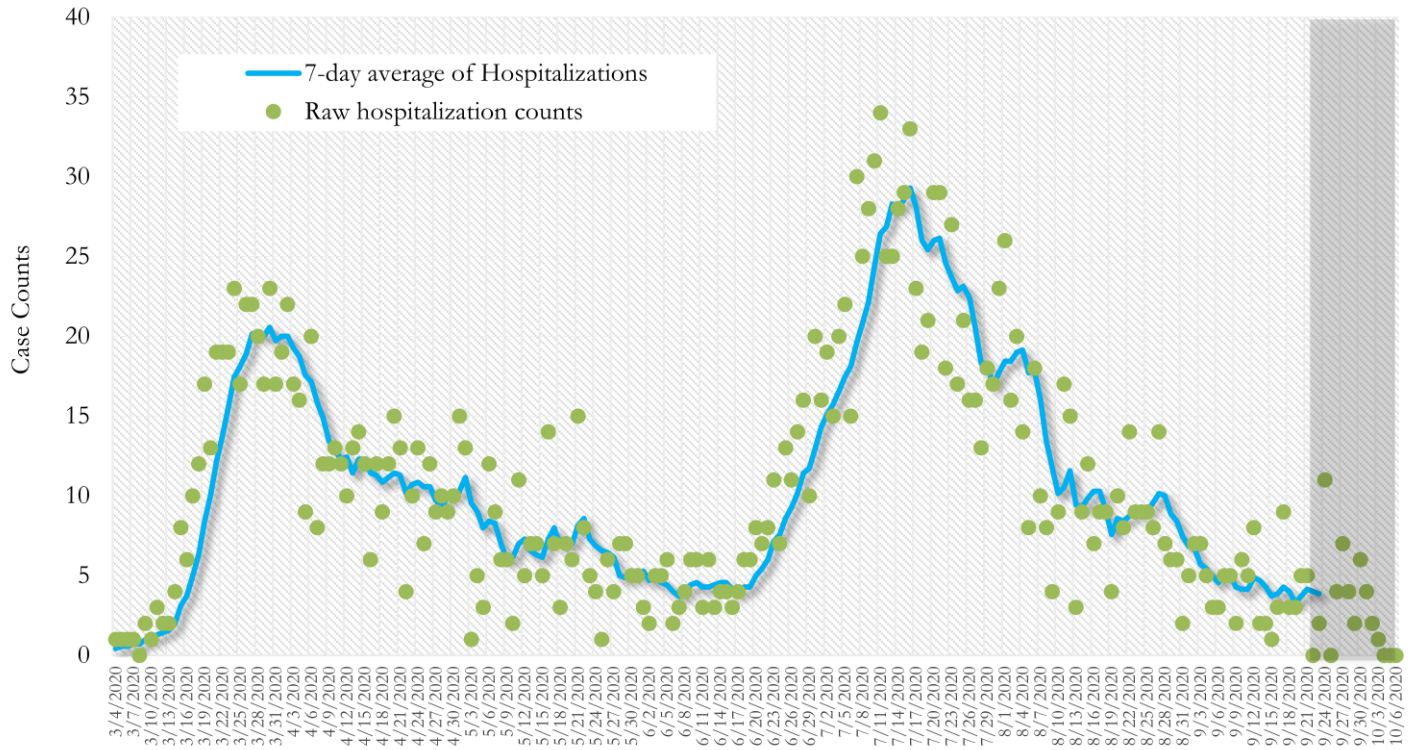
*Date of collection of first positive sample used (report creation date used where sample collection date is missing). Graph above reflects the trend in COVID-19 diagnosis. Due to the high volume of testing in recent weeks, there have been delays in reporting lab results. Thus, the trend is subject to change as more lab results get added to the state surveillance database.

Fig. 18. New COVID-19 Cases in Georgia State Daily (Averaged over 7 days)



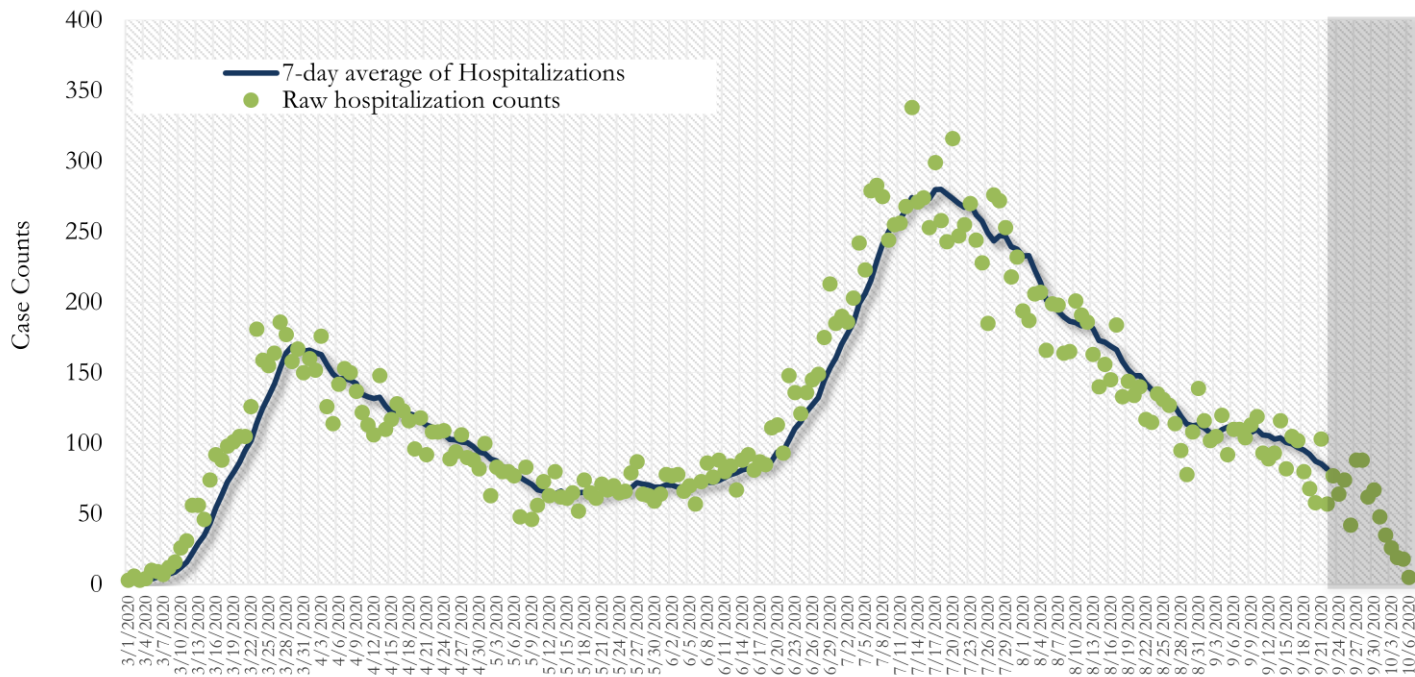
*Date of collection of first positive sample used (report creation date used where sample collection date is missing). Graph above reflects the trend in COVID-19 diagnosis. Due to the high volume of testing in recent weeks, there have been delays in reporting lab results. Thus, the trend is subject to change as more lab results get added to the state surveillance database.

Fig. 19. COVID-19 Hospitalizations in Fulton County Daily (Averaged over 7 days)



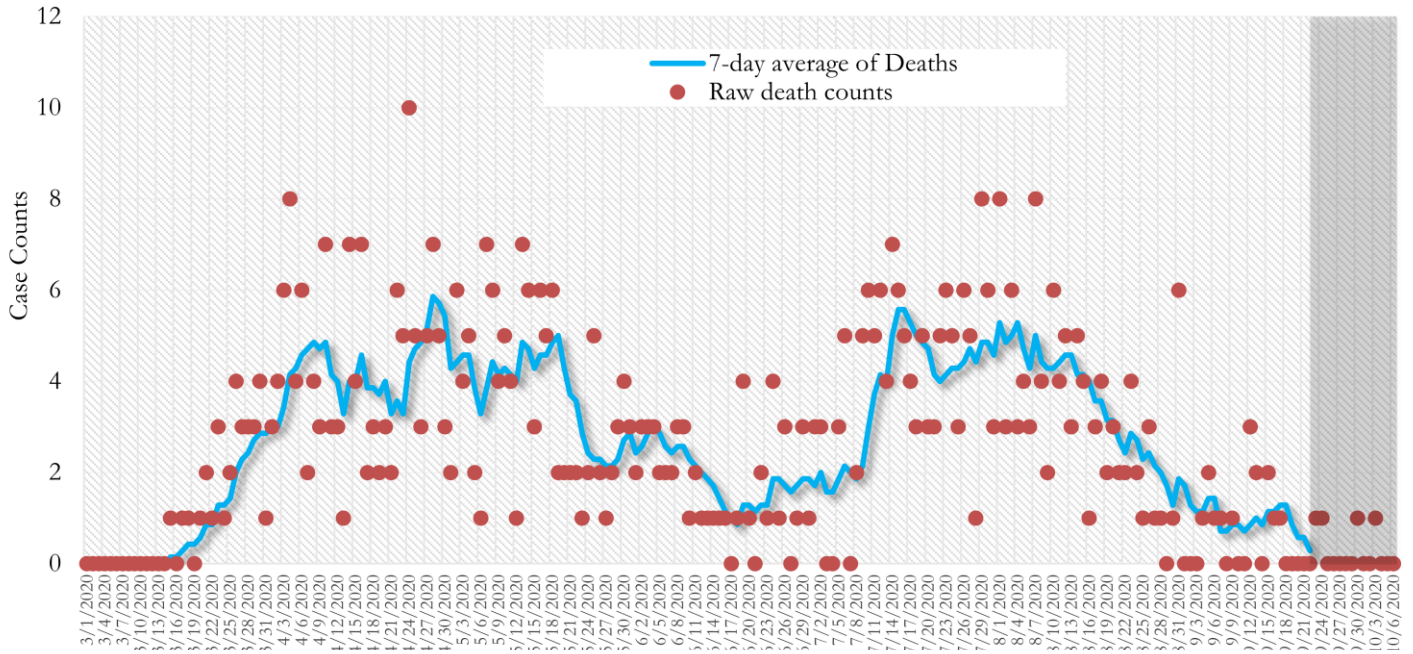
*Reported date of hospital admission used. Graph above reflects the trend in COVID-19 hospitalizations. Due to the high volume of new cases being added daily, there have been delays in reporting hospitalization data. Thus, the trend is likely to change as more hospitalization data is reported in the state surveillance database.

Fig. 20. COVID-19 Hospitalizations in Georgia State Daily (Averaged over 7 days)



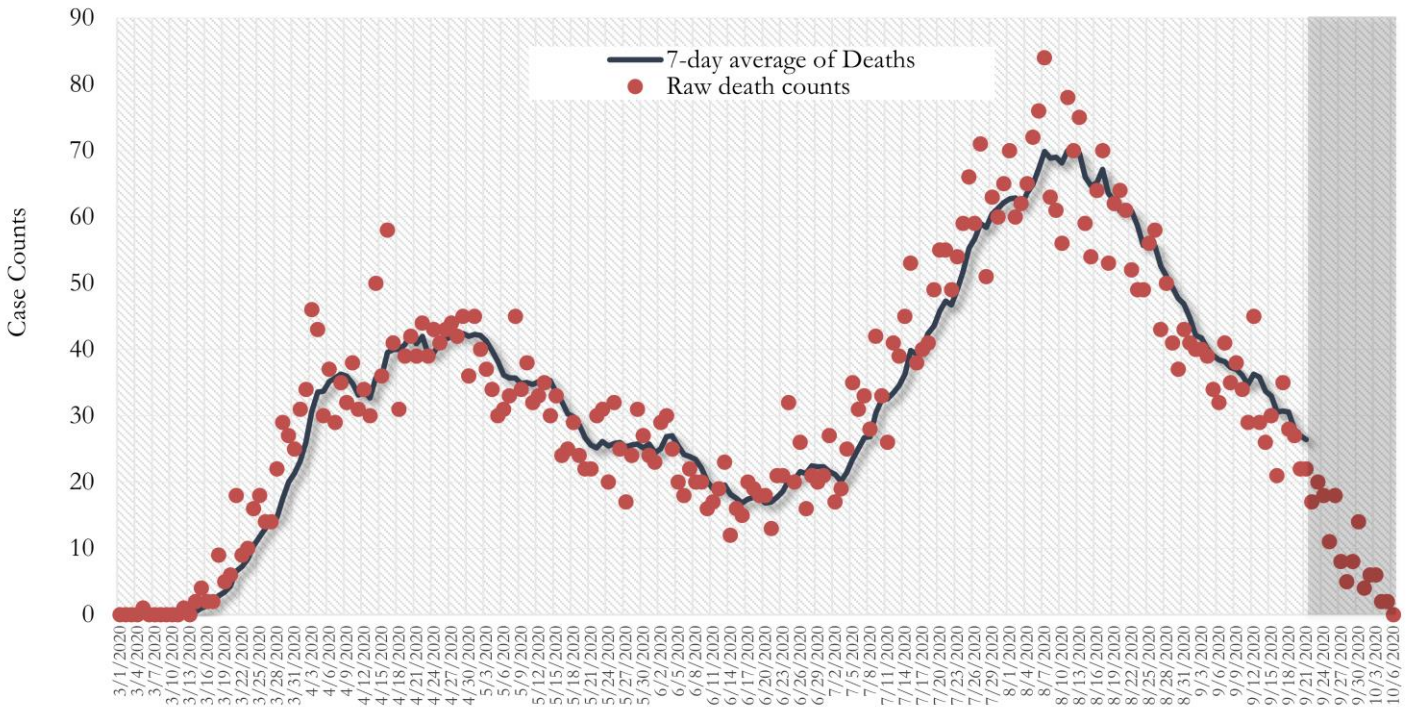
*Reported date of hospital admission used. Graph above reflects the trend in COVID-19 hospitalizations. Due to the high volume of new cases being added daily, there have been delays in reporting hospitalization data. Thus, the trend is likely to change as more hospitalization data is reported in the state surveillance database.

Fig. 21. COVID-19 Deaths in Fulton County Daily (Averaged over 7days)



* Reported date of death used. Graph above reflects the trend in deaths attributed to COVID-19. The trend is likely to change as more data on deaths among persons with COVID-19 is reported in the state surveillance database.

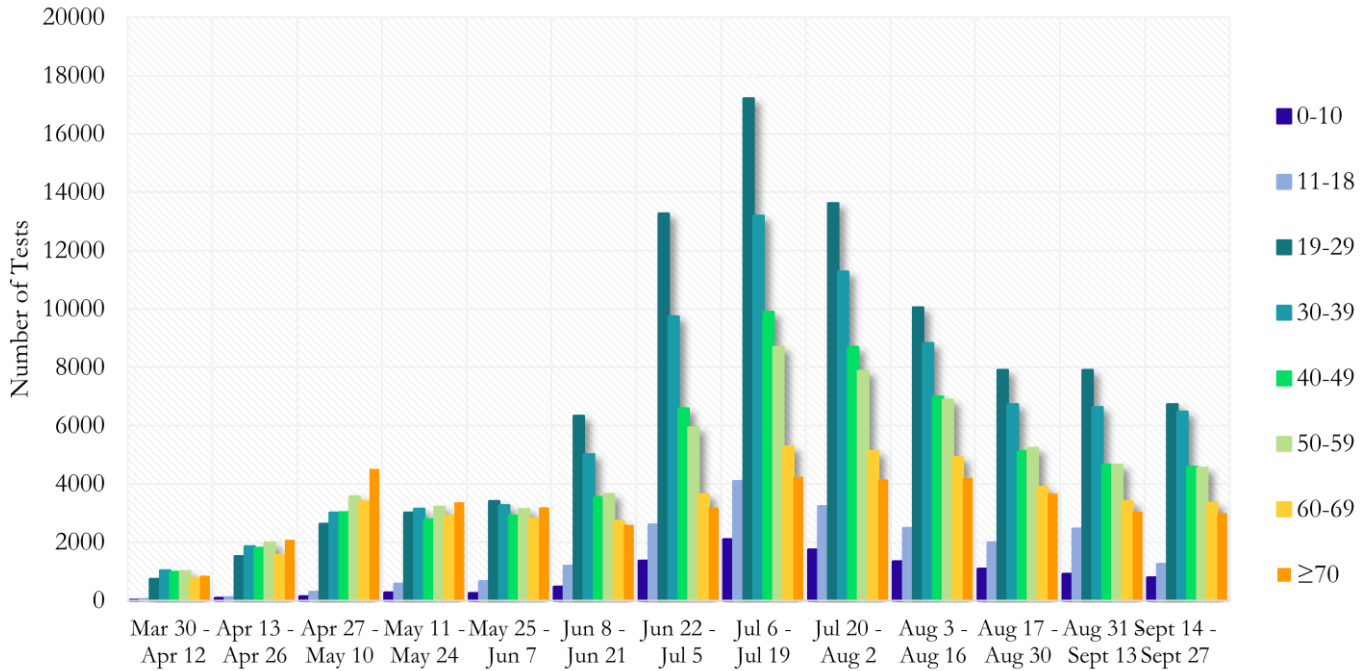
Fig. 22. COVID-19 Deaths in Georgia State Daily (Averaged over 7 days)



* Reported date of death used. Graph above reflects the trend in deaths attributed to COVID-19. The trend is likely to change as more data on deaths among persons with COVID-19 is reported in the state surveillance database.

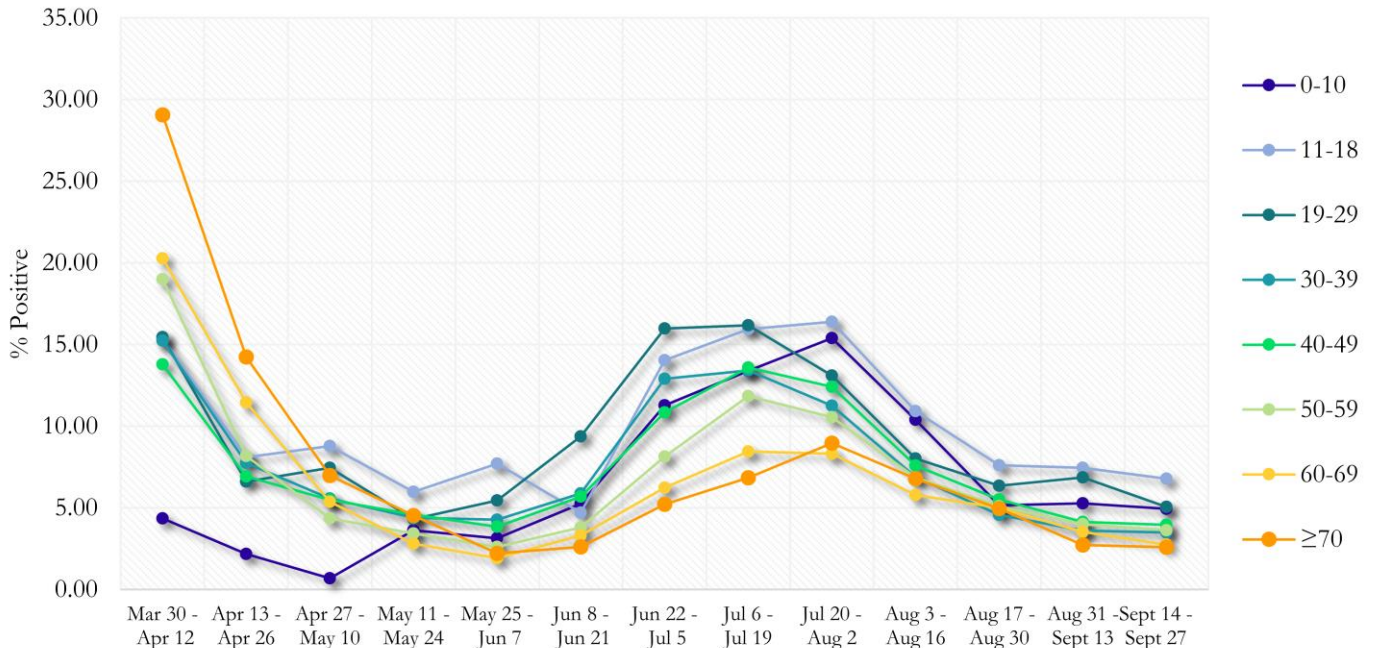
COVID-19 TESTING AND POSITIVITY IN FULTON COUNTY BY AGE AND RACE

Fig. 23. COVID-19 Tests by Age in Fulton County by 14-day Periods



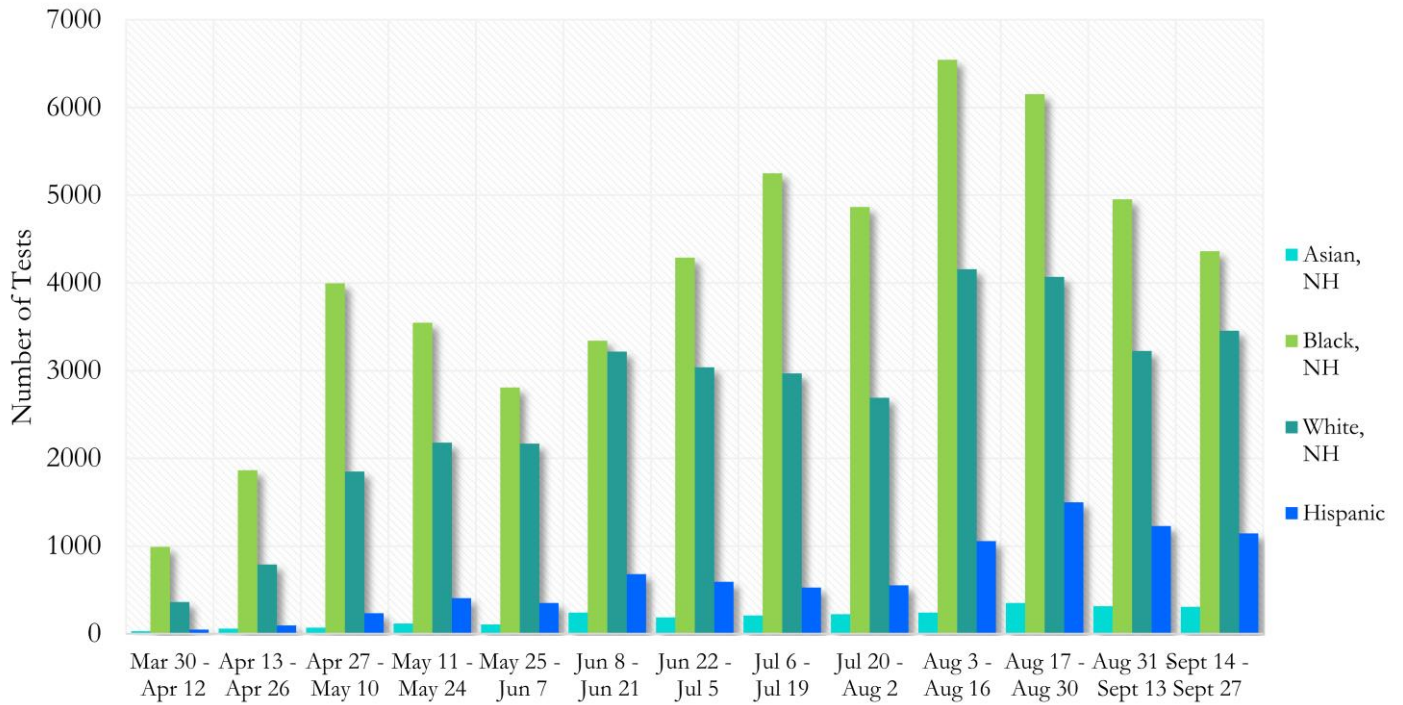
*Data on Polymerase Chain Reaction (PCR) tests only included.

Fig. 24. Percent Positive COVID-19 Tests by Age Group in Fulton County by 14-day Periods



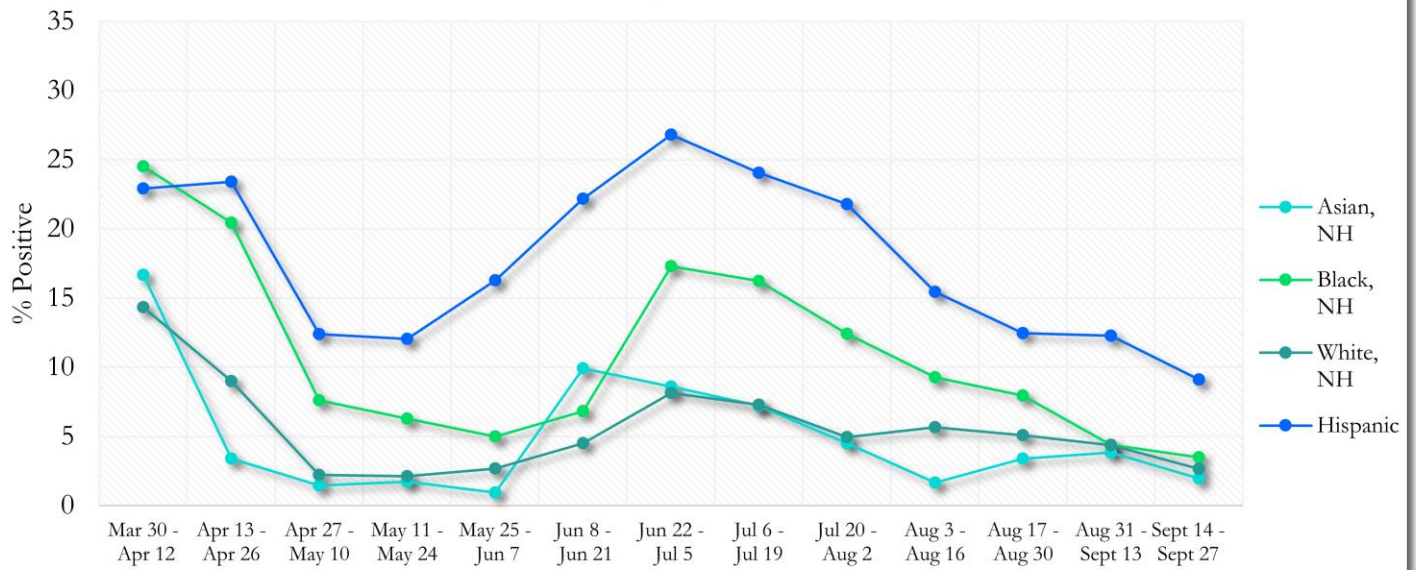
*Data on Polymerase Chain Reaction (PCR) tests only included.

Fig. 25. COVID-19 Tests by Race and Ethnicity in Fulton County by 14-day Periods



*Data on Polymerase Chain Reaction (PCR) tests only included.

Fig. 26. Percent Positive COVID-19 Tests by Race and Ethnicity in Fulton County by 14-day Periods



*Data on Polymerase Chain Reaction (PCR) tests only included.

COVID-19 CASE COUNTS BY ZIP CODE

	Prior (10/2/20)	Current Total (10/6/20)		New Cases (Period: 9/1/20 – 9/29/20) ¹		
	Count	Count	%	1st 14 days (Sept 1– Sept 14)	Last 14 d. (Sept 15– Sept 29)	% change ²
All Fulton	27784	28242	100%	1297	1014	↓ 21.8%
30004	921	946	3.35%	74	53	↓ 28.4%
30005	518	525	1.86%	44	26	↓ 40.9%
30009	468	476	1.69%	56	26	↓ 53.6%
30022	1197	1221	0.87%	74	59	↓ 20.3%
30023	<10	<10	<0.1%	0	0	-
30024	17	17	<0.1%	0	<10	-
30075	1091	1100	3.89%	86	46	↓ 46.5%
30076	1084	1099	3.89%	81	63	↓ 22.2%
30080	<10	<10	<0.1%	0	0	-
30097	276	282	1.00%	28	<10	↓ 67.9%
30098	-	-	-	0	0	-
30135	10	11	<0.1%	<10	0	↓ 100.0%
30138	<10	<10	<0.1%	0	0	-
30139	-	-	-	0	0	-
30213	1066	1077	3.81%	27	41	↑ 51.9%
30268	189	205	0.73%	<10	11	↑ 57.1%
30291	769	769	2.72%	29	16	↓ 44.8%
30296	54	54	0.19%	<10	<10	-
30301	10	10	<0.1%	<10	0	↓ 100.0%
30303	369	373	1.32%	<10	<10	-
30305	773	788	2.79%	32	20	↓ 37.5%
30306	340	342	1.21%	15	<10	↓ 40.0%
30307	196	197	0.70%	<10	<10	-
30308	508	530	1.88%	30	27	↓ 10.0%
30309	792	808	2.86%	47	43	↓ 8.5%
30310	726	739	2.62%	23	20	↓ 13.0%
30311	782	784	2.78%	23	17	↓ 26.1%
30312	776	798	2.83%	25	21	↓ 16.0%
30313	221	245	0.87%	22	14	↓ 36.4%
30314	559	564	2.00%	12	15	↑ 25.0%
30315	860	869	3.08%	35	23	↓ 34.3%
30316	383	390	1.38%	11	11	-
30318	1666	1700	6.02%	69	48	↓ 30.4%
30319	141	145	0.51%	10	<10	↓ 20.0%
30321	11	10	<0.1%	0	0	-
30324	921	933	3.30%	40	43	↑ 7.5%
30326	238	243	0.86%	12	21	↑ 75.0%
30327	548	555	1.97%	32	16	↓ 50.0%
30328	810	832	2.95%	42	44	↑ 4.8%
30331	1746	1764	6.25%	65	51	↓ 21.5%
30334	13	13	<0.1%	0	0	-
30336	85	85	0.30%	<10	<10	-
30337	337	341	1.21%	<10	10	↑ 11.1%
30338	154	149	0.53%	<10	<10	-
30339	279	276	0.98%	<10	<10	-
30340	34	35	0.12%	0	0	-
30341	34	34	0.12%	0	<10	-
30342	1194	1215	4.30%	48	45	↓ 6.3%
30344	896	906	3.21%	27	19	↓ 29.6%
30345	28	28	<0.1%	0	<10	-

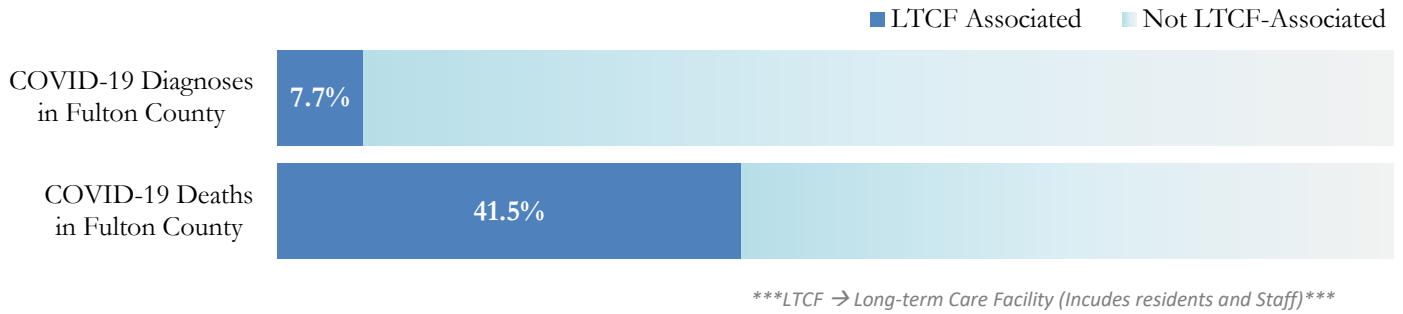
30349	1790	1817	6.43%	51	43	↓ 15.7%
30350	613	628	2.22%	41	38	↓ 7.3%
30354	420	425	1.50%	12	10	↓ 16.7%
30358	<10	<10	<0.1%	0	0	-
30363	63	64	0.23%	<10	<10	-
30374	31	31	0.11%	0	0	-
30606	<10	<10	<0.1%	0	0	-
31131	<10	<10	<0.1%	0	0	-
31150	<10	<10	<0.1%	0	<10	-
Unknown	1207	766	2.71%	23	14	-

¹**New cases:** Cases diagnosed in most recent 28 days (based on reported dates of positive sample collection). To allow for lag in reporting results of new diagnoses from samples collected in the most recent week, data used for incident diagnoses analyses were moved back by one week. ²**Percent change:** These reflect the percentage increase or decrease of new diagnoses between the 14 days preceding the past 7 days and the 14 days preceding that. Changes in ZIP codes with less than 10 cases in both 2 week intervals are not reported**Data cleaning (either during case interviews or address geo-coding) may lead to reassignment of few cases from one territory to another based on their corrected addresses. These may appear as “decreases” when compared to the previous day’s count. These do not reflect errors in the data collection or analysis process but only reflect the minor day-to-day fluctuations in case counts that arise in an evolving public health database like COVID’s. **Note:** Sharp increases in territorial COVID case counts often reflect new cases diagnosed at long term care facilities located in those territories during facility-wide /mass screening events **All data reported are preliminary and subject to change.**

COVID-19 IN LONG-TERM CARE FACILITIES IN FULTON COUNTY

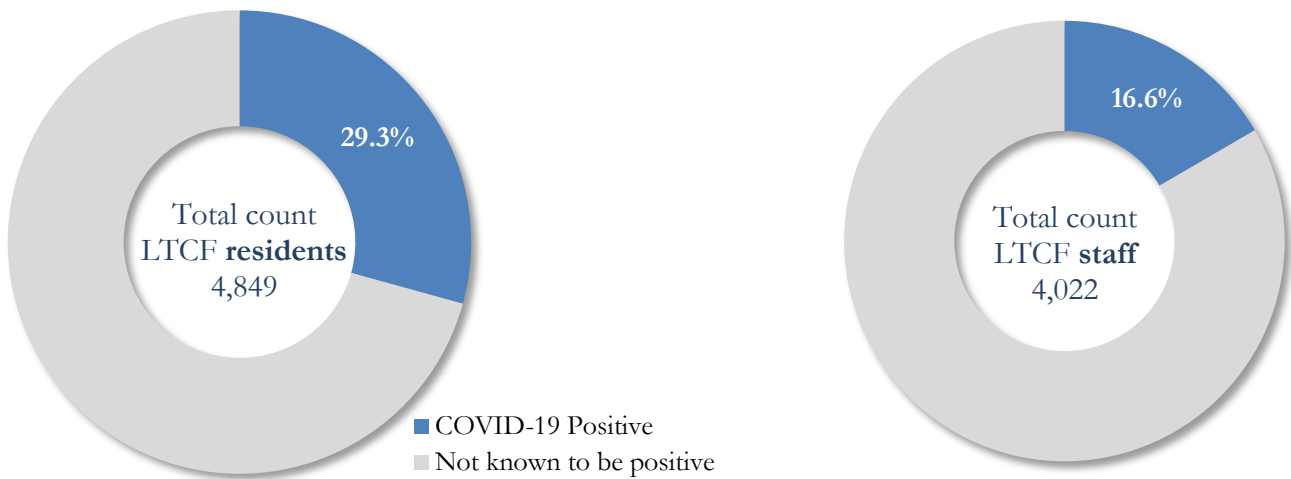
Older persons (aged 65 years and older) and persons who live in nursing homes or other long-term care facilities seem to be at higher risk for developing more serious complications from COVID-19. Extra precautions are recommended for individuals within this risk groups – Centers for Disease Control and Prevention (CDC 2020) <https://www.cdc.gov/coronavirus/2019-ncov/need-extra-precautions/people-at-higher-risk.html>

Fig. 27. COVID-19 Diagnoses and Deaths in Fulton County Associated with Long-Term Care Facilities



COVID-19 POSITIVITY:

Fig. 28. COVID-19 Positivity at 64 reporting Long-Term Care Facilities (LTCF) in Fulton County



COVID-19 Cases, Hospitalizations, and Deaths among 64 reporting Long-Term Care Facilities in Fulton County

	LTCF Residents (n=4,849)			LTCF Staff (n=4,022)		
	Cases	Hospitalizations	Deaths	Cases	Hospitalizations	Deaths
Average (count per fac.) ¹	22	5	4	10	1	<0.1
Median (count per fac.) ¹	9	1	1	7	0	0
Lowest counts	0	0	0	0	0	0
Highest counts	138	48	30	66	8	2
Total Count	1420 (29.3%) ^a	304 (21.4%) ^b	232 (16.3%) ^b	668 (16.6%) ^a	32 (4.8%) ^b	5 (<1.0%) ^b

^a Percentage shown reflects proportion of total residents/staff tested who were positive (i.e. COVID-19 Positivity). | ^b Percentages shown are proportions of persons residents/staff diagnosed with COVID-19 who were hospitalized or died after diagnoses.