January 4, 2021 Report Week: 53

DOH-Hillsborough County COVID-19 Surveillance Report

Authors: Michael Wiese, MPH, CPH; Dr. Douglas Holt, MD; Danilo Polanco, MPH, CPH; Nikki Coble, MPH
Contributors: Dr. Edwin Michael (USF), Dr. Jason L. Salemi, PhD, MPH (USF)

SUMMARY: Over the past week (12/27 – 1/2), 5,587 COVID cases were identified in Hillsborough County, an increase of 31% from 4,276 during the previous week. The 7-day moving **average of cases per day (798)** and rolling **percent positivity (15.7%) both increased sharply** from the previous week. Case rates increased across every age group and **case rates are highest in the 45-54 age group**. Rates increased in all race/ethnicities during week 49, and **case rate was highest in Hispanics**. Case rates are also **sharply increasing Statewide and in all Tampa Bay area counties**. During the past week, **testing volume has remained consistent**. Pinellas County is experiencing higher testing per 100 residents compared to Pasco and Hillsborough. Antigen testing results are now being reported on average within the same day. PCR testing turnaround time has stayed consistent at around 2 days. Hillsborough County **hospitalizations for COVID continue to increase** and are now averaging 399 total COVID inpatients a day, up 22% from last week.

INFLUENZA/RESPIRATORY SURVEILLANCE: Influenza activity remains extremely low throughout Hillsborough County and the State. No outbreaks of Influenza or other respiratory pathogens have been reported this influenza season. Very few positive influenza labs have been received and no pediatric mortalities have been reported. Additional information and data about influenza surveillance is available at: http://www.floridahealth.gov/diseases-and-conditions/influenza/

Fig 1. Daily New COVID cases and percent positivity trends in Hillsborough County Residents. The **7-day moving average for percent positivity increased sharply and is now 15.7%. The 7-day average number of new cases per day (798) also increased sharply this past week and surpassed the previous peak (732) seen on July 13, 2020.** Hillsborough County has reported 80,035 cases to date.

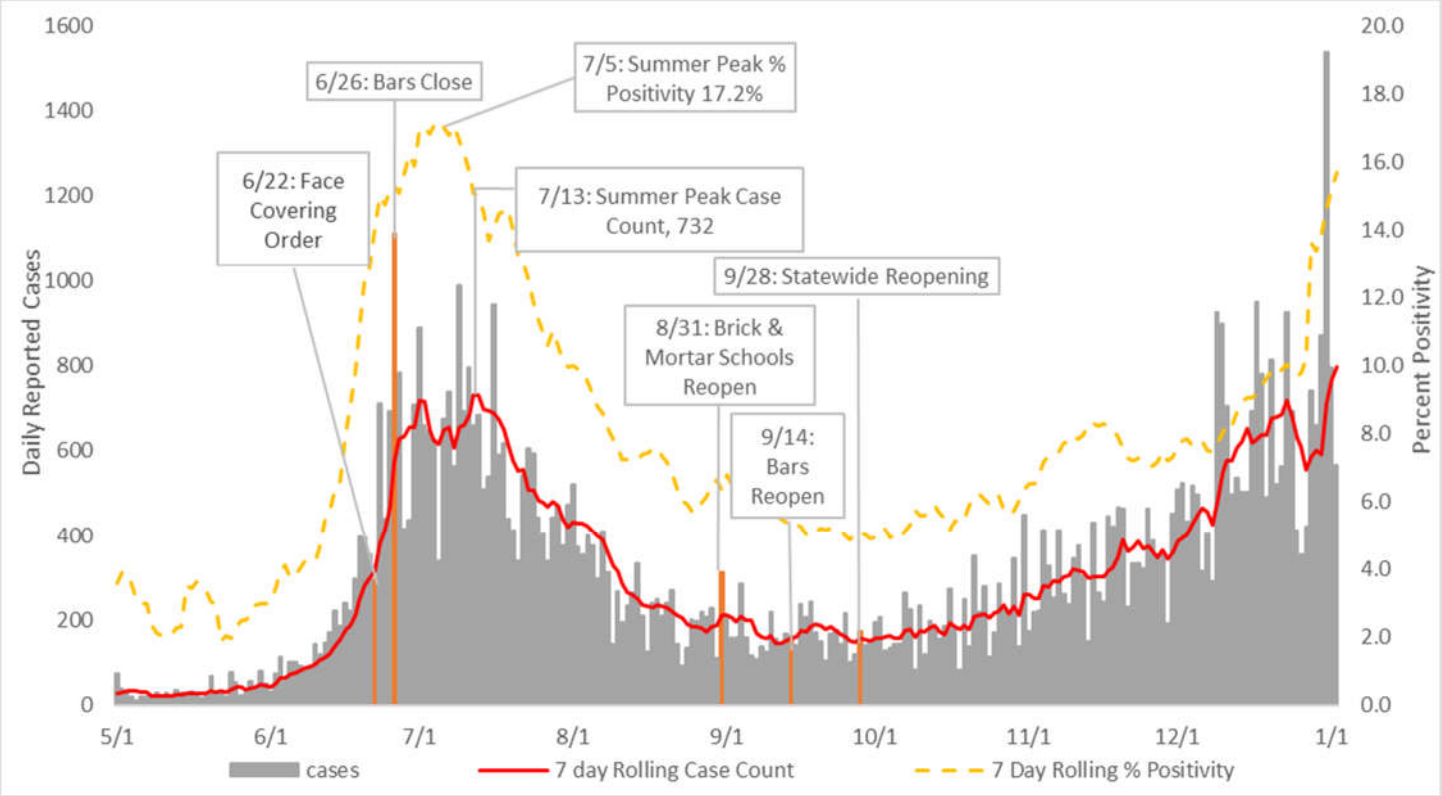
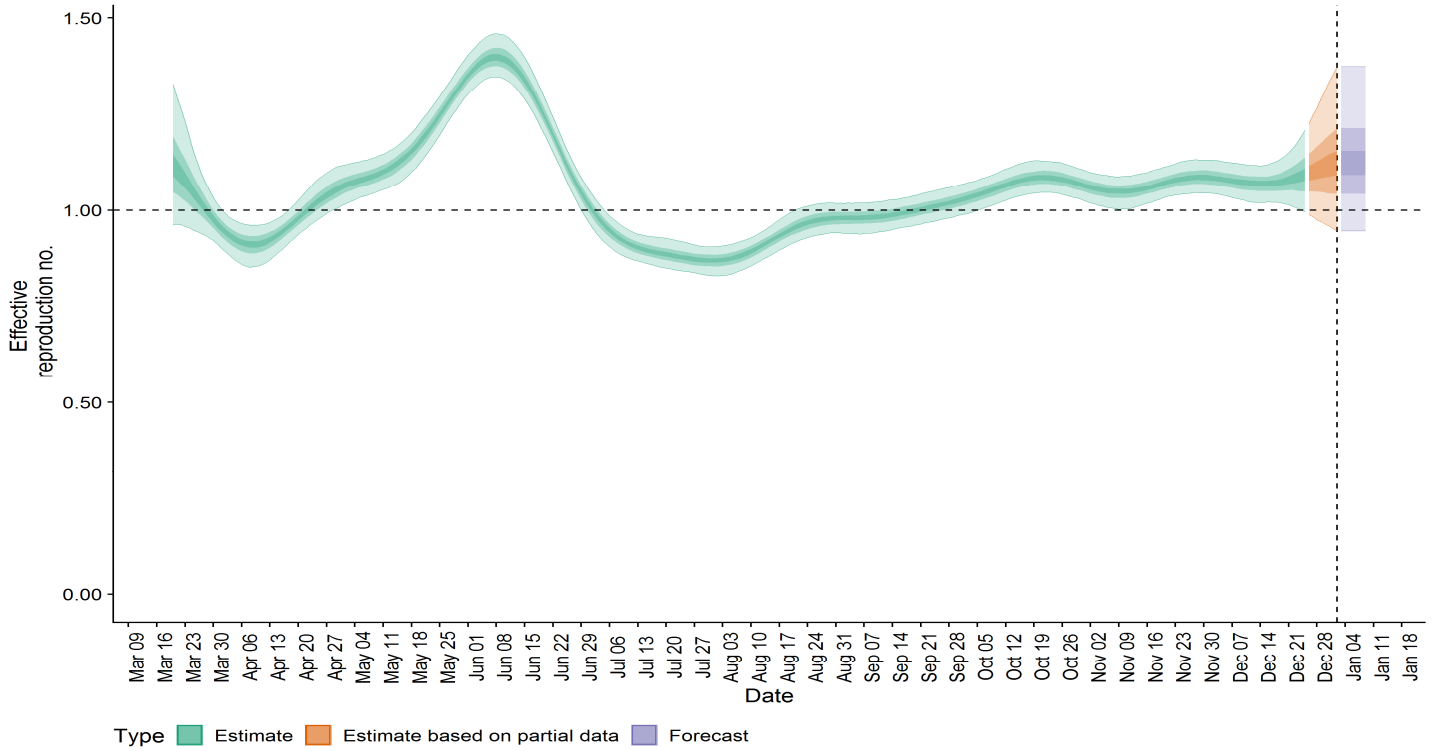
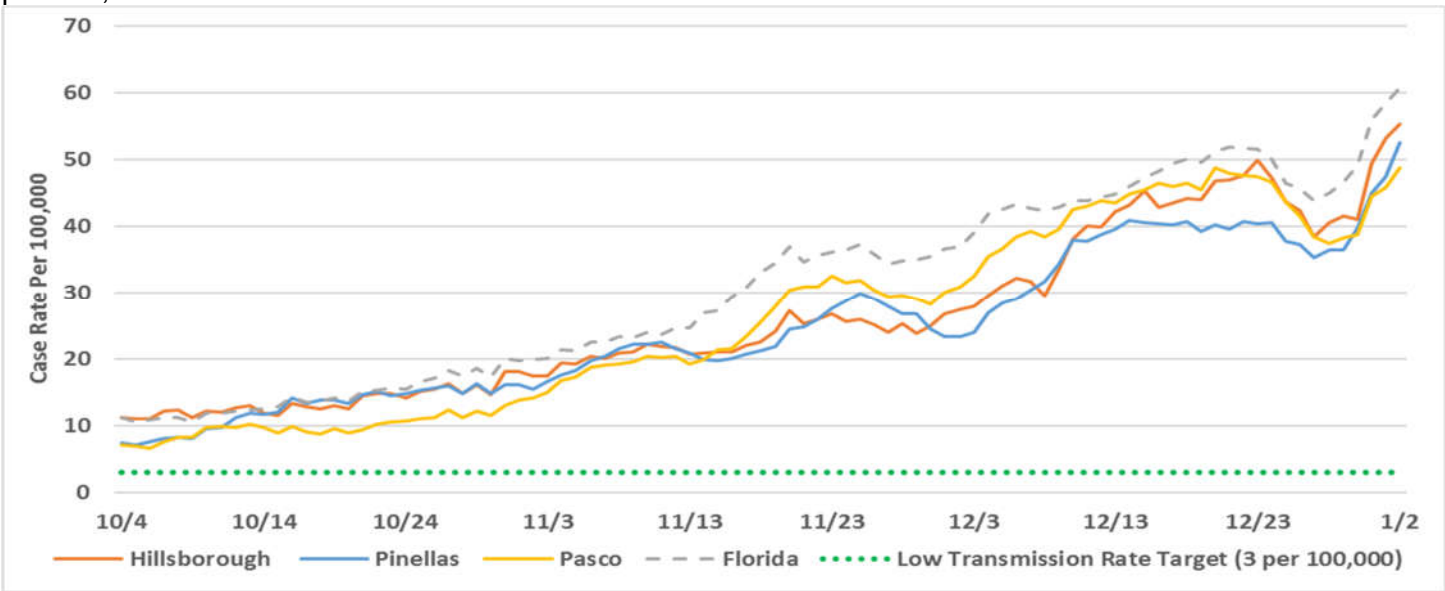


Fig 2 (below). R_t median estimate for Hillsborough County since March 2020. R_t estimate is calculated based on "nowcasted" new case rates (incidence). Nowcasted refers to the fact that the incidence data has been corrected for the disease progression, reporting delays and observation error. Figure 2 includes the historical R_t median estimates (green), the past weeks nowcasted R_t median estimate based on partial data (orange) and the next 7 days forecasted R_t median estimate (purple). The colors, from darkest to lightest, indicate 20%, 50% and 90% credible intervals (CI), respectively. An R_t above 1.0 means the outbreak is growing – or viewed another way, one person is infecting more than one additional person – and R_t below 1.0 means that outbreak is shrinking. **The current estimate of R_t for Hillsborough County is 1.12 (90% CI = 0.95-1.19)** an increase from last week where the estimate was 0.97 (90% CI = 0.75-1.2).



CASES, CASE RATES AND GROUP SETTINGS

Fig 3. Comparison of COVID 7-day average case rate per 100,000 population for Pinellas, Pasco and Hillsborough Counties and the State of Florida for the past 90 days. All three **Tampa Bay Area counties saw sharp increases in rates** over the past week. The **Florida case rate also increased** and is now 60.6 cases per 100,000.



COVID DATA ARE PROVISIONAL AND SUBJECT TO CHANGE

Fig 4. Comparison of COVID 7-day average case rate per 100,000 population by race and ethnicity for the past 90 days in Hillsborough County. Population data was acquired from FLHealth CHARTS. Cases with unknown race or ethnicity are excluded. Rates are increasing for most race and ethnicities, but **rates continue to reman highest among Hispanics.**

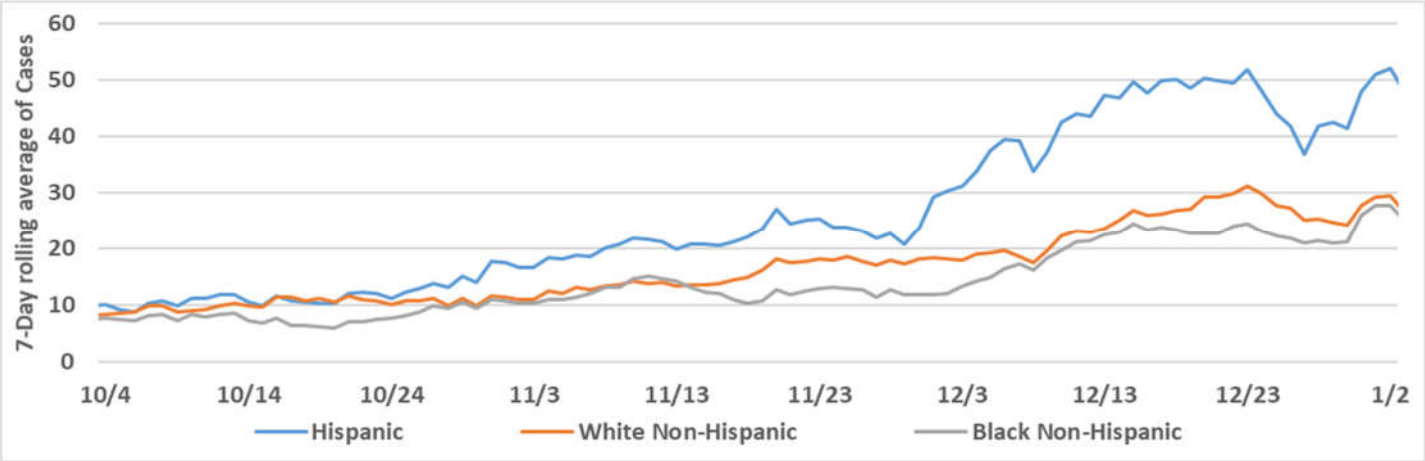


Fig 5. COVID 7-day average case rates per 100,000 population by age group for the past 90 days in Hillsborough County. **Rates across all age groups increased sharply this past week. Case rate was highest in 45-54 age group.**

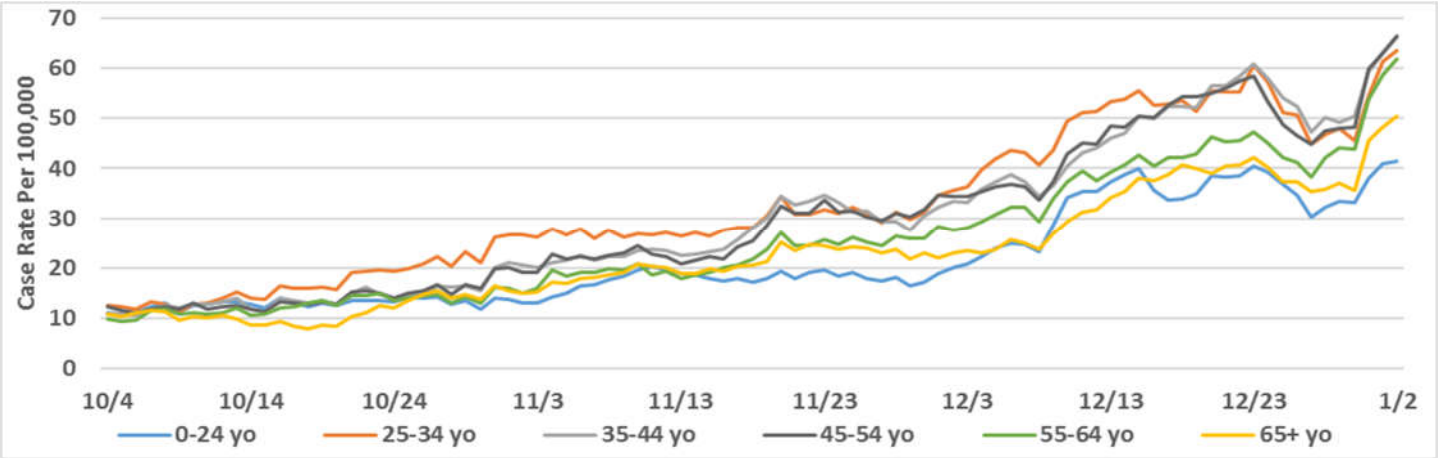
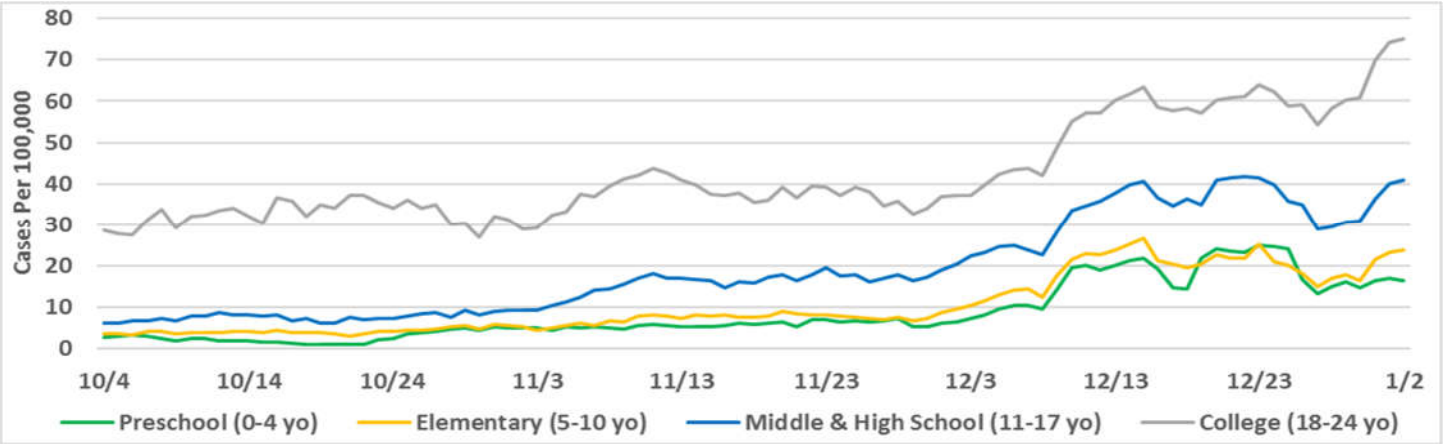
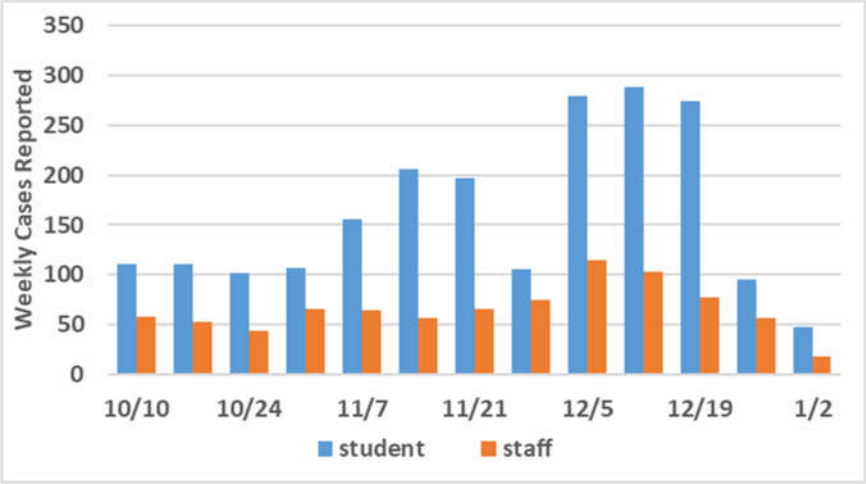


Fig 6. The 0-24 yo age group from Fig 5 (above), broken out into Preschool aged (0-4 yo), Elementary aged (5-10 yo), Middle/High School aged (11-17 yo) and College aged (18-24 yo). COVID pediatric and college-aged case rates per 100,000 population by age group, over the past 90 days in Hillsborough County. **Rates continue to remain highest in college aged cases, but all age groups increased during the past week.**



COVID DATA ARE PROVISIONAL AND SUBJECT TO CHANGE

Fig 7. (right) Weekly reported COVID cases associated with **students and staff at K-12 schools** in Hillsborough County. COVID case must have been on campus during exposure period or infectious period to be counted. Public schools in Hillsborough County were closed for winter break and the weekly total number of cases decreased from last week. The majority of cases are associated with family gatherings, travel and extra-curricular activities.



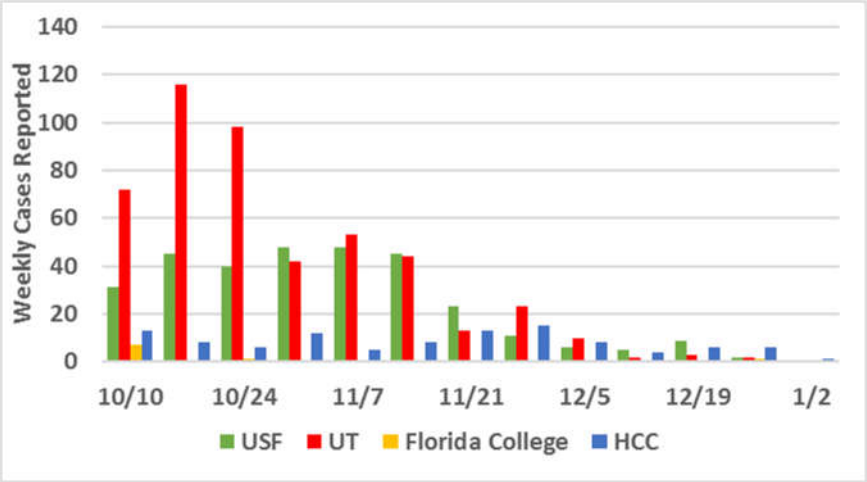
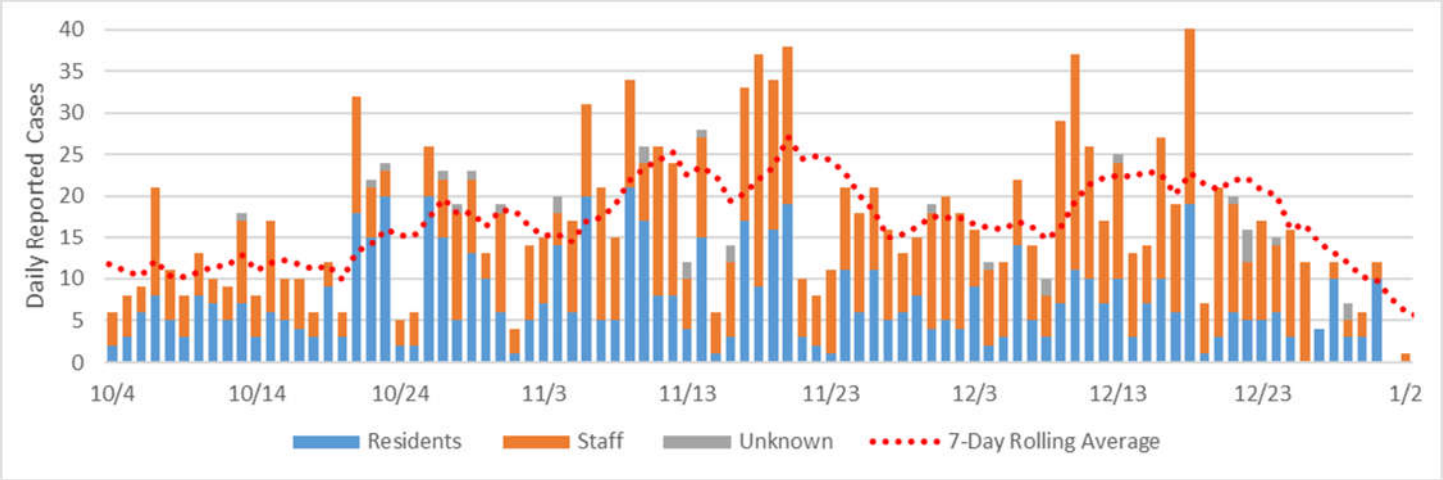


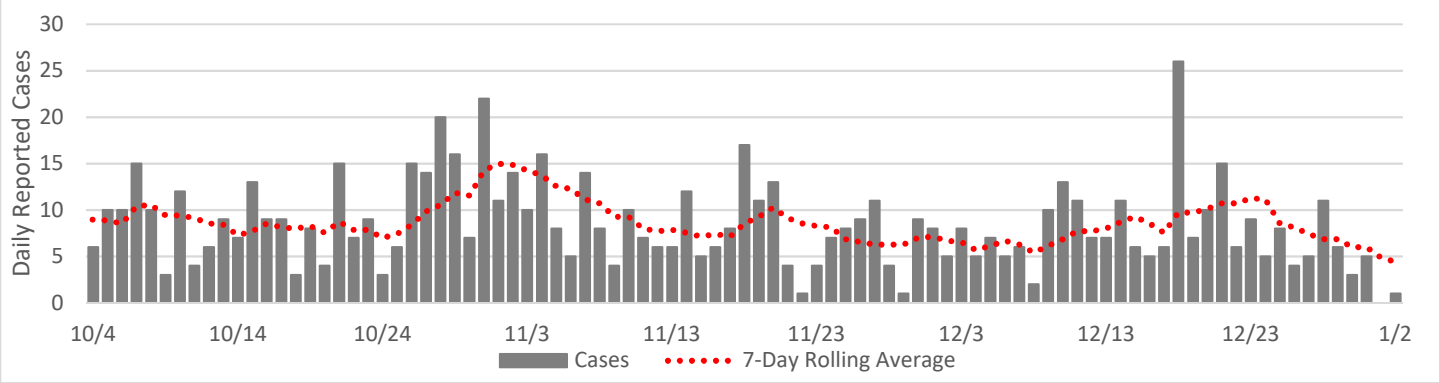
Fig 8. (left) Weekly reported COVID cases associated with **college students and staff** by reporting week. COVID case must have been on campus during exposure period or infectious period to be counted. All local campuses – except HCC - are doing only online learning and most have finished for the fall semester and have had limited numbers of students on campus since the Thanksgiving holiday. Low numbers of total cases were identified and **decreased this past week**.

Fig 9. Daily COVID cases associated with **LTCF residents and staff** for the past 90 days in Hillsborough County. COVID case must have been on LTCF site during the exposure period or infectious period to be counted. **Cases among residents and staff decreased overall this past week**.



COVID DATA ARE PROVISIONAL AND SUBJECT TO CHANGE

Fig. 10. COVID cases in **Health Care Workers (HCW)** for the past 90 days. To collect case occupation a case interview is required with the case, therefore the past week has missing/incomplete data, as case investigations are ongoing. Reported cases in HCWs are showing a slight decrease this past week but remain stable.



TESTING VOLUME, TURN-AROUND TIME AND PERCENT POSITIVITY

Fig 11. Reported COVID testing volume for Hillsborough County residents for the past 90 days. Tests are not de-duplicated by person or day; therefore, one person can have multiple tests counted across multiple days. Antigen testing continues to remain stable in volume, but **overall testing volume increased during the past week.**

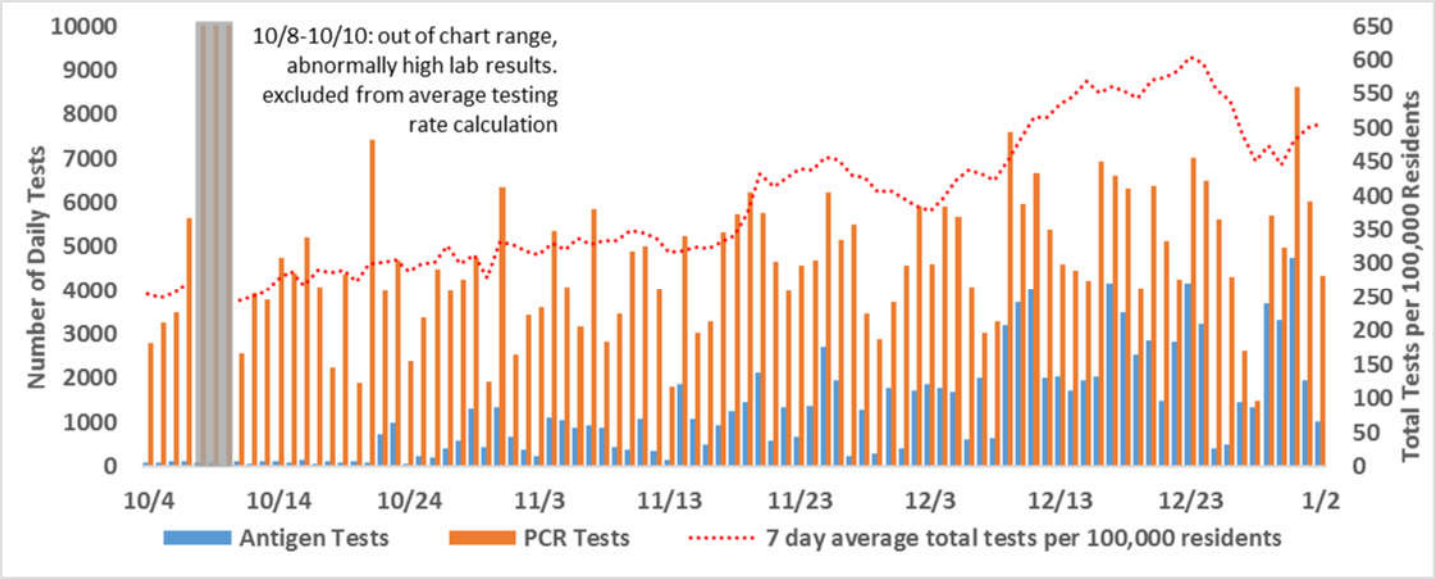
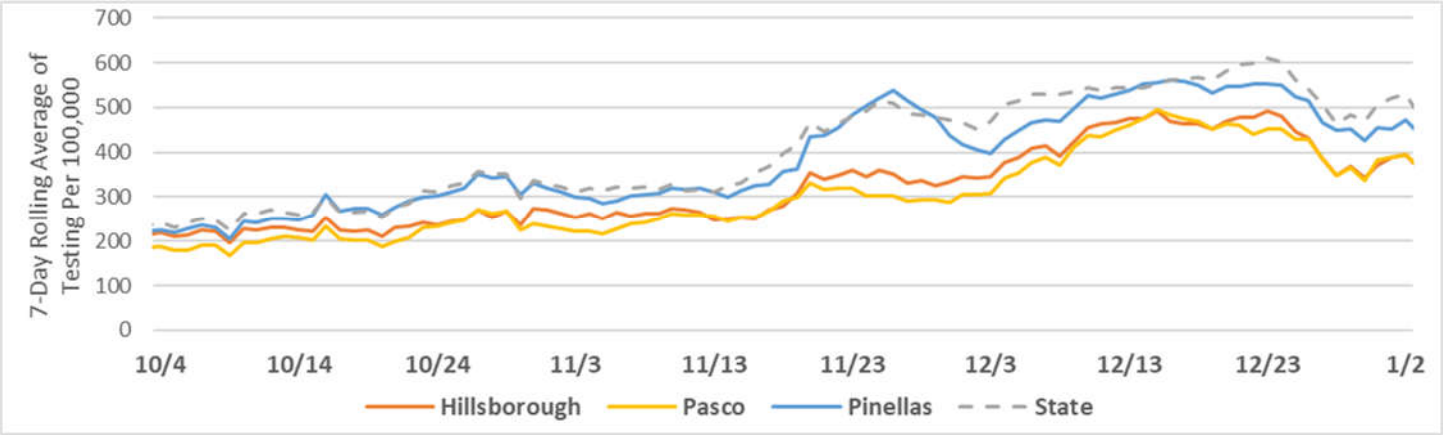


Fig 11B. Reported COVID 7-day average testing volume per 100,000 population for Pinellas, Pasco, and Hillsborough Counties for the past 90 days. Tests are not de-duplicated by person; therefore, one person can have multiple tests counted across multiple days. Testing volume has remained stable in all counties, **testing volume continues to be highest in Pinellas County.**



COVID DATA ARE PROVISIONAL AND SUBJECT TO CHANGE

Fig 12. Average COVID testing turn-around-time (TAT) from specimen collection until results reported to DOH for the past 90 days. We are seeing delays in the turnaround time for the reporting of antigen testing results from a few facilities. When these results are filtered out of the analysis for the past month (dashed line), average TAT for antigen tests is generally less than one day. **PCR test average TAT remains around 2 days.**

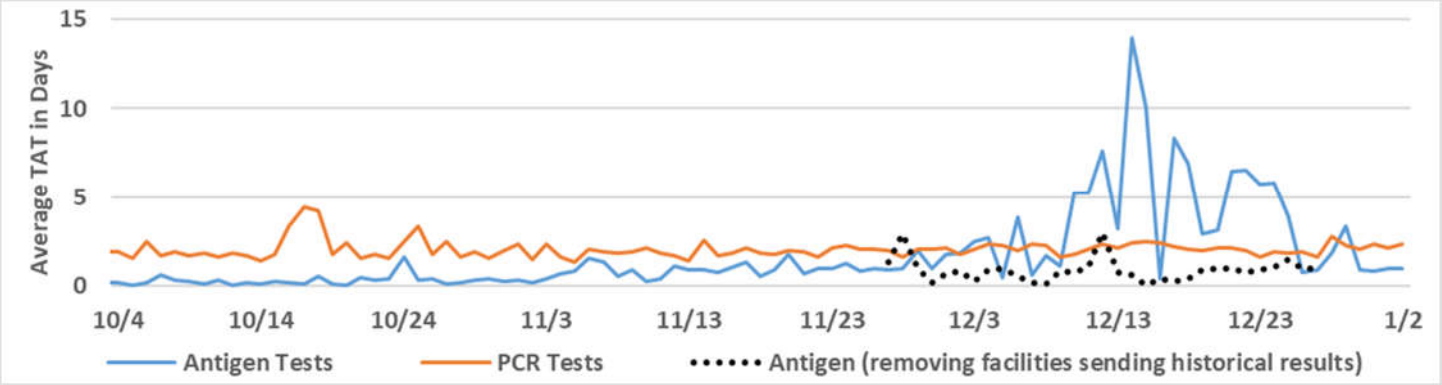


Fig 13. COVID testing percent positivity by age group for the past 90 days on a weekly average, based on Merlin case data for Hillsborough County. Percent positivity was calculated by the date a lab was created that week for a positive COVID case divided by the total number of people tested that week. Decreasing percent positivity is indicating that fewer people tested positive, therefore the lower the percent positivity value the better, which is represented in green. Higher percent positivity values are represented in red. **Percent positivity has increased across every age group this past week, and rates are highest in the 5-14 age group.**

	10/3	10/10	10/17	10/24	10/31	11/7	11/14	11/21	11/28	12/5	12/12	12/19	12/26	1/2
0-4 years	4.3%	3.2%	1.9%	2.8%	5.5%	5.7%	5.5%	4.1%	6.9%	6.9%	6.6%	8.1%	9.0%	9.9%
5-14 years	6.1%	6.0%	6.5%	6.8%	8.0%	8.2%	10.4%	7.9%	8.5%	9.2%	9.0%	9.3%	11.8%	17.1%
15-24 years	9.2%	10.1%	10.3%	9.7%	8.8%	10.6%	12.2%	8.7%	7.6%	8.4%	9.5%	10.3%	10.6%	14.9%
25-34 years	4.8%	4.9%	5.9%	6.6%	7.7%	8.0%	8.8%	7.8%	6.8%	8.4%	9.0%	9.4%	8.4%	12.7%
35-44 years	4.5%	4.9%	5.5%	5.5%	6.9%	7.5%	8.4%	8.7%	7.8%	8.5%	8.5%	10.0%	10.5%	14.6%
45-54 years	5.1%	4.9%	5.0%	5.4%	6.7%	7.7%	7.8%	8.6%	8.7%	8.6%	9.2%	11.4%	10.4%	15.1%
55-64 years	3.9%	4.0%	4.4%	4.7%	5.0%	6.3%	6.3%	6.0%	7.0%	7.1%	7.6%	9.0%	9.3%	14.2%
65-74 years	4.1%	3.8%	3.1%	4.4%	4.3%	5.9%	5.9%	5.6%	7.1%	6.0%	7.1%	9.0%	9.6%	13.8%
75-84 years	3.8%	3.7%	2.7%	3.5%	4.5%	6.5%	6.8%	5.9%	6.9%	5.8%	6.4%	8.2%	9.0%	12.7%
85+ years	4.1%	2.3%	3.4%	4.8%	4.2%	5.1%	5.0%	2.9%	3.6%	2.9%	4.8%	5.8%	5.7%	8.6%

Fig 13B. COVID testing rate by age group, per 100,000 population for the past 90 days on a weekly average, based on Merlin case data for Hillsborough County. Testing rates indicate how many people in that specific age group for Hillsborough County are being tested to identify cases within the community. The higher the testing rate the better, indicated in green. The lower the testing rate is indicated in red. **Testing rate is highest in the 85+ age group, and lowest in the 0-4 and 5-14 age groups.**

	10/3	10/10	10/17	10/24	10/31	11/7	11/14	11/21	11/28	12/5	12/12	12/19	12/26	1/2
0-4 years	71	76	66	85	94	95	93	124	106	136	289	277	185	164
5-14 years	71	84	74	81	90	96	95	137	122	175	288	256	209	168
15-24 years	233	250	266	270	284	291	276	355	414	458	553	513	504	445
25-34 years	257	263	270	292	339	325	308	394	460	498	566	548	668	562
35-44 years	230	258	245	257	293	285	271	375	375	440	519	521	510	464
45-54 years	234	264	259	257	294	283	275	363	356	425	487	474	449	440
55-64 years	264	278	281	288	324	302	298	404	379	429	492	476	441	435
65-74 years	238	265	242	262	334	275	270	379	332	371	435	432	361	352
75-84 years	294	303	282	300	418	322	321	465	385	452	484	491	423	410
85+ years	411	397	420	398	494	426	537	856	562	815	833	760	796	644

COVID DATA ARE PROVISIONAL AND SUBJECT TO CHANGE

HOSPITALIZATIONS AND HOSPITALIZATION RATE

Fig 14. COVID admits and inpatients in Non-ICU and ICU beds in Hillsborough County, based on the AHCA ESS Report. Hillsborough County **hospitalizations for COVID continue to increase** and are now averaging 399 total COVID inpatients a day, up 22% from last week. Daily COVID admits have averaged 55 per day this past week.

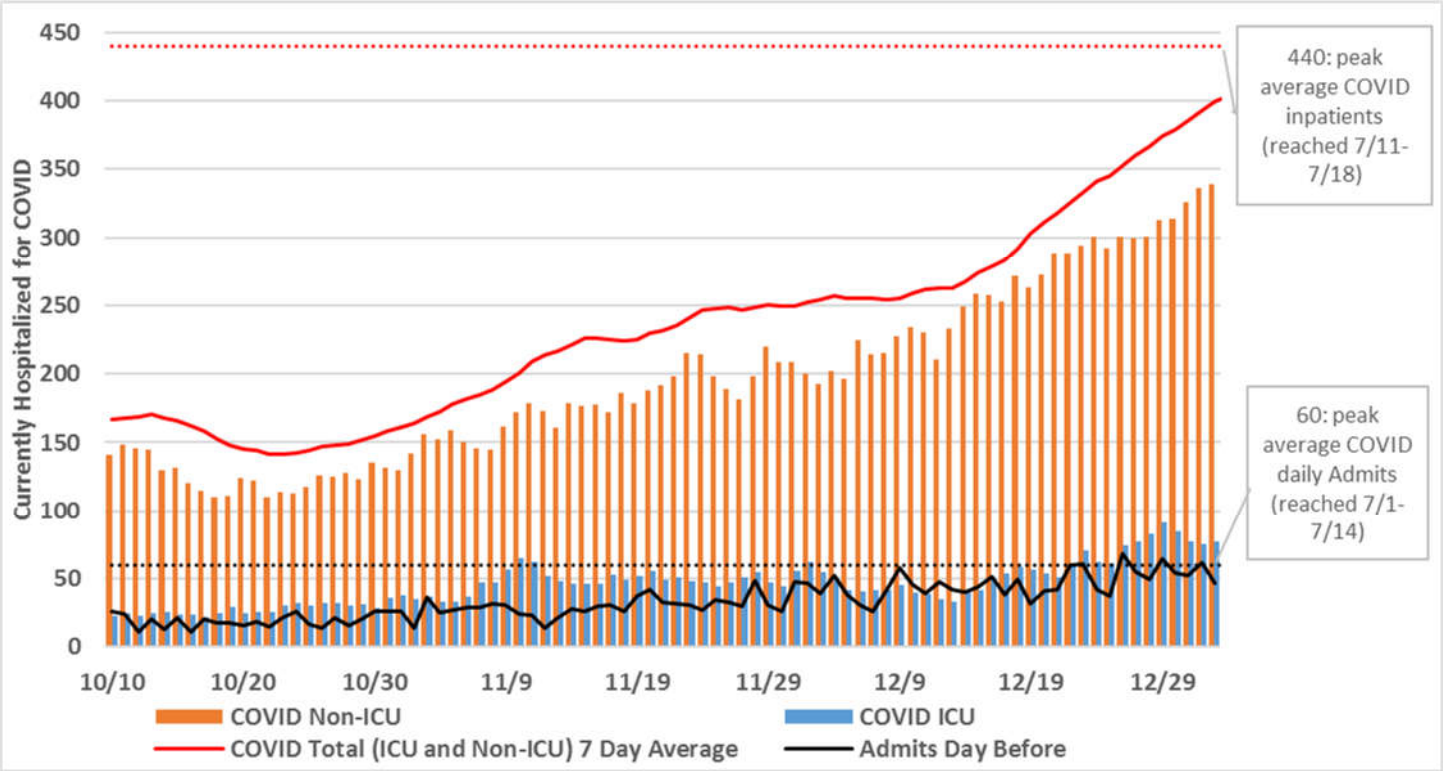
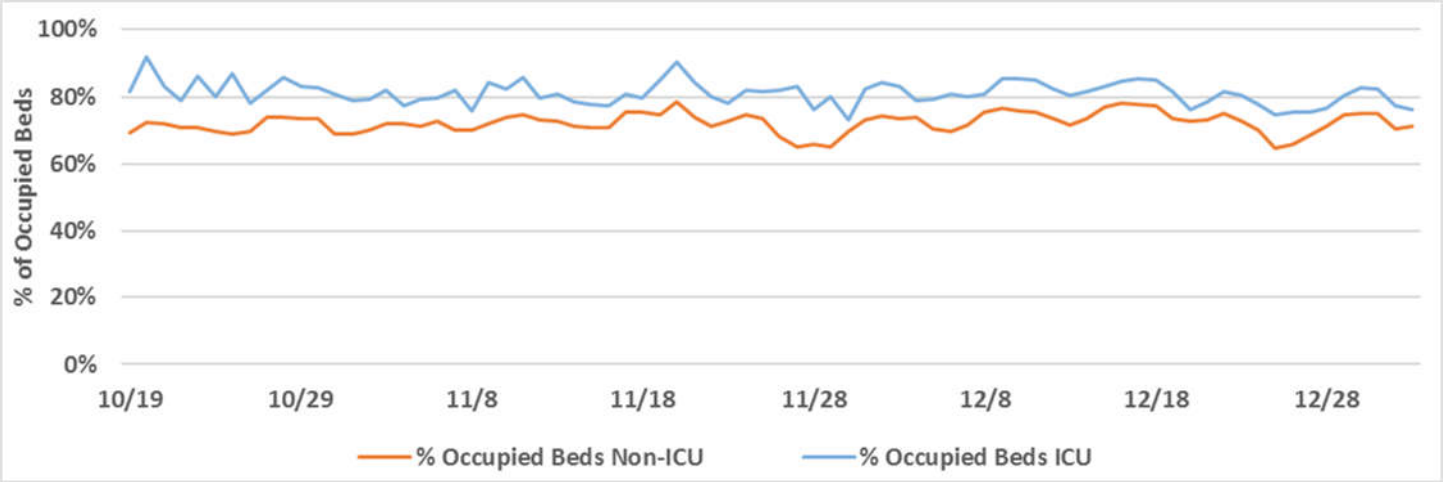


Fig 15. Percentage of Hospital and ICU beds occupied in Hillsborough County, based on AHCA ESS Report. Occupied beds remained at 79% for ICU bed and around 72% in Non-ICU beds.



COVID DATA ARE PROVISIONAL AND SUBJECT TO CHANGE

Fig 16. COVID Hospitalization rate per 100,000 by Race/ethnicity, over the past 90 days, based on Merlin case data. Cases with unknown race/ethnicity are excluded. Population data was acquired from FLHealth CHARTS. To collect case hospitalization a case investigation and/or interview is required with the case, therefore the past week has missing/incomplete data as case investigations are ongoing. Over the past week, **Hospitalization rates were highest in Black Non-Hispanic and Hispanic cases.**

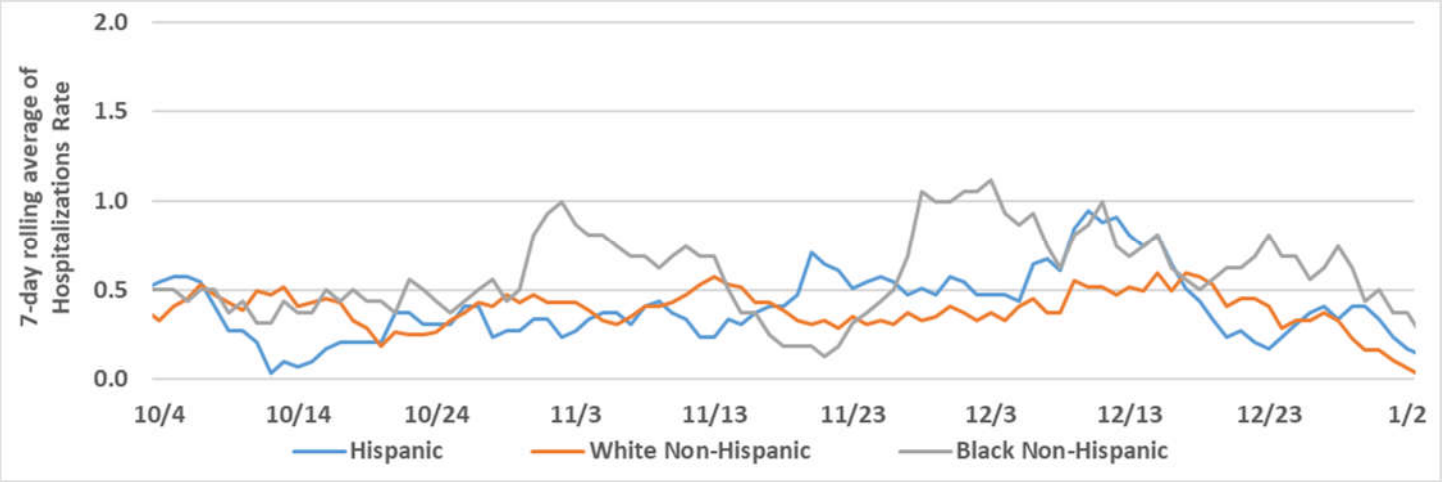
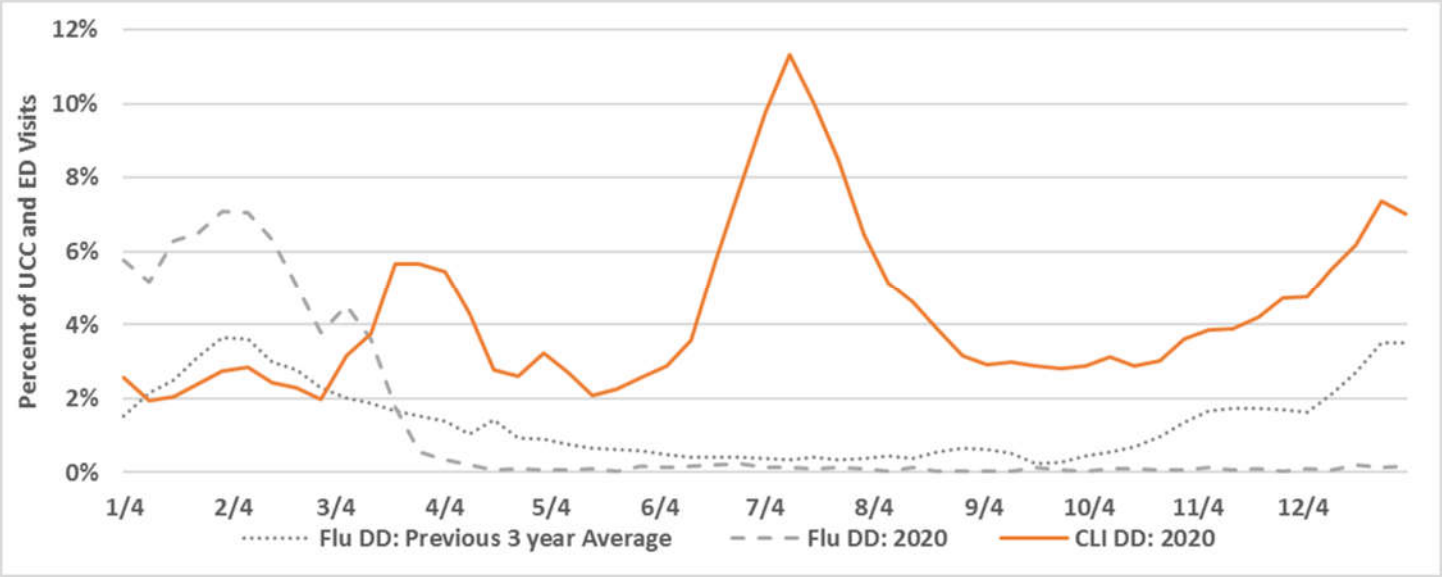


Fig 17. Percentage of Urgent Care Center (UCC), Hospital, and Emergency Department (ED) visits with a discharge diagnosis (DD) for influenza (flu) or COVID-like illness (CLI) in Hillsborough County, based on FL-ESSENCE reporting facilities, by reporting week. Visits remain well below the historical values for flu. **The percentage of visits for CLI have been trending up for the past 2 months,** but decreased slightly during the past week.



DEATHS AND DEATH RATES

Important Note: COVID deaths are reported to DOH from a variety of sources including hospitals, Medical Examiners Offices and from the Vital Statistics database. The Vital Statistics Database Data is reported electronically and can have delays of 2-4 weeks from the date of death until the date reported. Data during this time frame should be assumed to be incomplete and is indicated by the shaded area in each graph below.

COVID DATA ARE PROVISIONAL AND SUBJECT TO CHANGE

Fig 18. Daily COVID deaths reported by date of death over the past 90 days, based on Merlin case data and Vital Statistics Death data. Over the past 90 days, reported COVID deaths have averaged been between 1-2 per day, **deaths are currently stable but could change due to delays in reporting.**

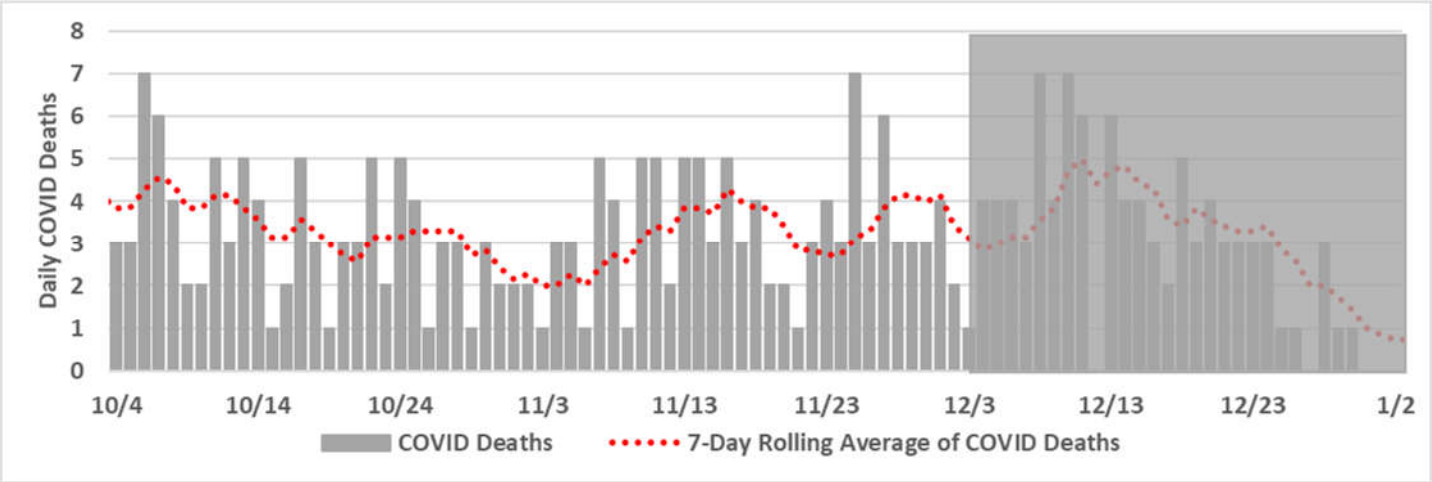


Fig 19. COVID 7-day rolling average death rate per 100,000 by race/ethnicity, for the past 90 days, based on Merlin case data and Vital Statistics Death data. Population data was acquired from FLHealth CHARTS. Cases with unknown race/ethnicity are excluded. Over the past 90 days, **death rates have been slightly decreasing across all race/ethnicities, but could change due to delays in reporting.**

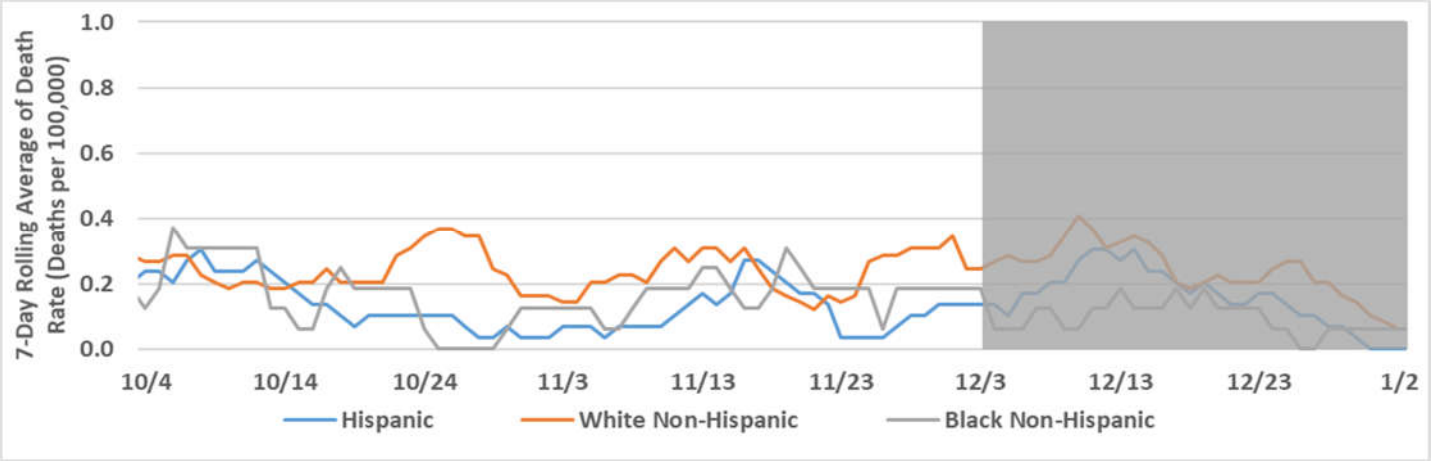
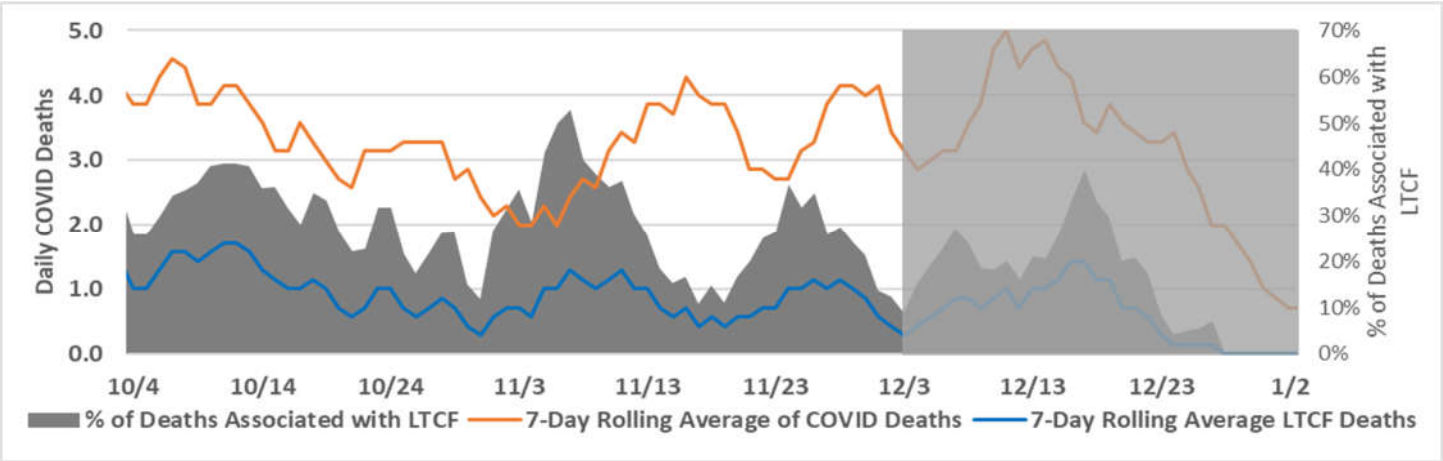


Fig 20. COVID Deaths associated with LTCFs as a percentage of all deaths, over the past 90 days, based on Merlin Data and Vital Statistics Death data. To date, 450 of the 1090 (41%) COVID deaths in Hillsborough County were associated with LTCFs. Recently, LTCF associated deaths have accounted for about 1 death/day.



COVID DATA ARE PROVISIONAL AND SUBJECT TO CHANGE

Fig 21. COVID cases, deaths, case fatality rate, and mortality rates by gender, age group and race/ethnicity in Hillsborough County.

Gender	Cases	Deaths	Case Fatality Rate	Mortality rate per 100,000 population
Female	42016	514	1.22%	69.63
Male	36489	576	1.58%	81.47
Unknown	784	0	0.00%	
Total	**79289**	**1090**	**1.37%**	**75.42**
Age Group	**Cases**	**Deaths**	**Case Fatality Rate**	**Mortality rate per 100,000 population**
0-4 years	1652	0	0.00%	0.00
5-14 years	4300	1	0.02%	0.55
15-24 years	14113	2	0.01%	1.09
25-34 years	15489	1	0.01%	0.45
35-44 years	12493	16	0.13%	8.13
45-54 years	11967	36	0.30%	18.74
55-64 years	9168	125	1.36%	71.95
65-74 years	5243	235	4.48%	190.82
75-84 years	2928	355	12.12%	596.84
85+ years	1493	319	21.37%	1336.46
Unknown	443	0	0.00%	
Race	**Cases**	**Deaths**	**Case Fatality Rate**	**Mortality rate per 100,000 population**
White	35110	725	2.06%	67.53
Black	9584	169	1.76%	65.53
Other	12490	155	1.24%	136.20
Unknown	22105	41	0.19%	
Total	**79289**	**1090**	**1.37%**	**75.42**
Ethnicity	**Cases**	**Deaths**	**Case Fatality Rate**	**Mortality rate per 100,000 population**
Hispanic	22175	248	1.12%	58.69
Non-Hispanic	32181	684	2.13%	66.88
Unknown	24933	158	0.63%	
Total	**79289**	**1090**	**1.37%**	**75.42**

VACCINATIONS

Fig 22. COVID-19 vaccine summary for statewide and Hillsborough County. Data through 1/2/2021.

Statewide COVID-19 Vaccinations	255,808		Hillsborough County COVID-19 Vaccinations	14,893
First Dose	255,808		First Dose	14,893
Series Complete	0		Series Complete	0

COVID DATA ARE PROVISIONAL AND SUBJECT TO CHANGE

Fig 23. NEW this week: COVID vaccine doses administered in Hillsborough County by week based on FLSHOTS data.

Week End Date	Weekly Vaccines Administered	Total People Vaccinated (Cumulative)	% of County Vaccinated
12/19/2020	4430	4430	0.3%
12/26/2020	4736	9166	0.6%
1/2/2021	5727	14893	1.0%

Additional COVID surveillance data, visualizations and information can be found at the links below:

- Florida Department of Health Statewide COVID Dashboard: https://experience.arcgis.com/experience/96dd742462124fa0b38ddedb9b25e429/
- Hillsborough County COVID Dashboard: https://www.hillsboroughcounty.org/en/residents/public-safety/emergency-management/stay-safe/covid-19-dashboard
- Hillsborough County School District Dashboard: https://hillsboroughschools.org/doc/2744/school-reopening-plan/frequently-asked-questions/coviddash/

Additional notes about data sources and data collection for the charts and tables used in this report:

Merlin reportable disease database: Merlin serves as the state's repository of reportable disease case reports, including automated notification of staff about individual cases of high-priority diseases. Access to Merlin is available only to approved Department of Health employees. COVID data is entered in Merlin in multiple ways. Data fields associated with Electronic Lab Reports (ELRs) or electronic case reports will be auto populated when available. Additionally, specific to COVID cases, the Healthy Together APP allows for individuals to complete and report demographics, symptomology and other data elements to DOH. Case investigators and contact tracers also make attempts to interview each COVID case to collect or verify demographics and other important public health data. As the data is collected from case investigations the Merlin database will be updated. Some data elements, such as deaths and group care associations (Jails, LTCFs, and Schools) are reviewed by local and state staff for accuracy. Data within Merlin is considered provisional and is subject to change.

AHCA ESS Report: Florida's Agency for Health Care Administration (AHCA) requires all licensees providing residential or inpatient services to use the Emergency Status System (ESS) database for reporting its emergency status, planning or operations. In response to COVID the Agency added new reporting requirements related to COVID cases and hospitalizations at AHCA licensed facilities.

ESSENCE-FL: The Electronic Surveillance System for the Early Notification of Community-based Epidemics (ESSENCE) is a biosurveillance system that collects emergency department chief complaint data from participating hospitals and urgent care centers in Florida, call data from the Florida Poison Information Center Network, reportable disease data from the Merlin database, and mortality data from the Florida Office of Vital Statistics. The objective of this surveillance system is to provide the epidemiologist with the data sources and analytic tools needed to identify outbreaks or unusual trends more rapidly, leading to a timelier public health response.

FLSHOTS: Florida SHOTS is a free, statewide, centralized online immunization information system that helps healthcare providers and schools keep track of immunization records to ensure that patients of all ages receive the vaccinations needed to protect them from dangerous vaccine-preventable diseases. FLSHOTS is a program of the Florida Health Immunization Section and is supported by the Centers for Disease Control and Prevention.

Vital Statistics: The Florida Department of Health, Bureau of Vital Statistics manages the official database and records for deaths in the State of Florida. When a death occurs, the cause of death and medical certification is completed by a medical certifier, which includes physicians, medical examiners and autonomous advanced practice registered nurses. As these medical certifications occur, data and records are managed and stored within the Vital Statistics database.

FLHealth CHARTS: Powered by Florida's Bureaus of Community Health Assessment and Vital Statistics. CHARTS stands for Community Health Assessment Resource Tool Set, and compiles multiple datasets from a variety of agencies into a single source. Several data sources include Agency for Health Care Administration (AHCA), Florida Department of Health, Florida Department of Elder Affairs, Florida Department of Law Enforcement, and many others. A complete list of data sources can be found here. Data queries such as population estimates, birth rates, death rates, marriage rates, and reportable disease statistics can be found using this tool.

COVID DATA ARE PROVISIONAL AND SUBJECT TO CHANGE