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Brief Report

PUBLIC HEALTH REPORTS

The Florida Department of Health STEPS Public Health Approach: The COVID-19 Response Plan and Outcomes Through May 31, 2020

Public Health Reports
2020, Vol. 135(5) 560-564
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DOI: 10.1177/0033354920946785
journals.sagepub.com/home/phr
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Abstract

In January 2020, the Florida Department of Health began planning for a potential coronavirus disease 2019 (COVID-19) outbreak. The first 2 cases of COVID-19 in Florida were confirmed on March 1, 2020. The state's multiagency response to the COVID-19 pandemic was based on the Florida STEPS plan: (1) social distancing, (2) testing and contact tracing, (3) elderly and medically vulnerable population protection, (4) preparing hospitals for a patient surge and health care worker protection, and (5) stopping the introduction of COVID-19 into the state. This brief report describes COVID-19 response strategies and outcomes in Florida through May 31, 2020.

Keywords

public health, COVID-19, epidemiology

The first 2 cases of coronavirus disease 2019 (COVID-19) in Florida were confirmed on March 1, 2020. Not long afterward, it was projected that Florida and other states would have large numbers of COVID-19–related hospitalizations and deaths in the spring months, further highlighting the potential seriousness of this virus and the importance of preparedness.[1,2] In mid-March, the Institute for Health Metrics and Evaluation posted that by mid-April Florida could have more than 6000 hospitalizations per day.[2,3] Covid Act Now, a COVID-19 case-projection website, projected potentially more than 150 000 hospitalizations for Florida as well.[1]

As of May 31, 2020, Florida had 2449 COVID-19–related deaths (11.4 per 100 000 population; national rank, 27); 56 169 cases (276 per 100 000 population; national rank, 35); and 10 188 hospitalizations (45 per 100 000 population; national rank, 29). On May 31, the 7-day cumulative average positivity rate in Florida was 3.4 per 100 000 population. [4] Through May 31, hospital capacity also was not overwhelmed in any region of the state (unpublished data, Florida Department of Health [FL DOH], June 1, 2020).

Beginning in January, FL DOH began planning for a potential COVID-19 outbreak based on alerts from the Centers for Disease Control and Prevention (CDC).[5] The state's multiagency response to the COVID-19 pandemic was based on the Florida STEPS plan: (1) social distancing, (2) testing and contact tracing, (3) elderly and medically vulnerable population protection, (4) preparing hospitals for a patient surge and health care worker protection, and (5) stopping the introduction of COVID-19 into the state.

This brief report describes the FL DOH COVID-19 response strategies and outcomes through May 31, 2020. Because the timing of each response strategy overlapped, it was not possible to identify the relative contribution of each measure. Further updates will be provided in the future.

Demographic Characteristics

Florida is the third most populous state in the nation, with more than 21 400 000 residents, and is diverse in population composition and density, industry, and geography.[6] Each of Florida's 67 counties has its own county health department, which together are part of a fully integrated public health department system of FL DOH. This structure allows for a

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unified approach in responding to public health issues. Each county health department has clinical care, environmental health, infection control, epidemiology, and communication programs. FL DOH has 3 major state laboratories with molecular virology and complex testing capabilities.

Florida has the third-largest population aged ≥65 in the nation, with an estimated 4 408 000 people aged >65, 1 404 000 people aged 75-84, and >577 000 people aged >85.[6] Florida has more than 4400 licensed nursing homes and assisted living facilities, with approximately 194 000 licensed beds and 146 000 residents. Approximately 4 240 000 people in Florida have underlying medical conditions, including diabetes, heart disease and stroke, respiratory disease, and other conditions.[7]

Social Distancing

In January, based on CDC recommendations,[8] FL DOH began delivering messages about the importance of basic public health measures in COVID-19 prevention. On March 1, the state surgeon general declared a Public Health Emergency, which was associated with the messaging of general mitigation measures.[9] The governor issued an Executive Order on March 17 that restricted access to bars and restaurants.[10] In mid-March, elementary schools, high schools, and universities were closed for in-person classes. From March 18 to April 1, several counties in Florida issued stay-at-home or related orders.[11] On April 1, the governor issued a statewide "safer-at-home" Executive Order that also limited commerce to essential businesses.[12]

Assessment of movement within the state using Google mobility and Unacast mobility analytics based on de-identified cell phone data showed that the closing of schools resulted in a 40% to 55% reduction in average distance traveled compared with pre-outbreak levels.[13,14] The safer-at-home order resulted in a further reduction in average distance traveled. Per Unacast data, as of April 30, the density of in-person encounters had decreased by 74% to 82%, visits to nonessential venues by 55%, and overall distance traveled by 45% compared with pre-outbreak levels on March 1.[13] Assessment of physical movement within the state using Google mobility and Unacast mobility analytics showed that on May 31, average distance traveled had decreased by 25% to 40% compared with pre-outbreak levels.[13,14]

Testing

Initially, CDC performed polymerase chain reaction (PCR) testing for COVID-19 RNA in January and February. With the availability of approved CDC COVID-19 PCR test kit protocols at the end of February,[15] testing at FL DOH state laboratories began on February 28. When US Food and Drug Administration–approved kits became commercially available in early March, several Clinical Laboratory Improvement Amendments–certified laboratories also began testing. To help Clinical Laboratory Improvement Amendments–certified laboratories with molecular virology capabilities conduct testing, the state purchased commercially available kits to allow a total of 650 000 tests to be performed. These kits were distributed to more than 50 laboratories in early March. Large commercial laboratories began testing in Florida in mid-March and had conducted more than 68% of the total PCR tests performed as of May 31 (unpublished data, FL DOH, June 1, 2020).

As of May 31, approximately 26 000 COVID-19 PCR tests were being conducted every day. Based on testing recommendations at that time, an estimated 16 000 people per day needed to be tested statewide.[16]

The collection of clinical samples initially took place at FL DOH county health department sites and expanded to 10 federally supported drive-through testing sites in major cities. State and community partners established >10 walk-up community testing sites in urban areas, as well as testing sites in rural counties. In addition, mobile PCR testing laboratories provided point-of-care testing in several cities.

As of May 31, Florida had tested 1 022 279 people for COVID-19, with an average of 454 tests conducted per 100 000 population per day. On May 31, the overall 7-day-average daily positivity rate, as determined from the number of new cases per day and the total number of test results, was 4.1% (unpublished data, FL DOH, June 1, 2020).

In addition to testing for clinical purposes, FL DOH established sentinel surveillance testing. Sentinel testing studies focused on the testing of asymptomatic employees in nursing homes, assisted living facilities, and other congregate living facilities.

To assess COVID-19 prevalence in the population, studies were initiated on May 15 with the largest statewide blood-donation program to test for the presence of COVID-19 antibodies. As of May 31, more than 20 000 people had been tested for the presence of COVID-19 antibodies. The positivity rate was highest (3.5%) in the 3 counties with the highest prevalence of COVID-19 (Palm Beach, Broward, and Miami-Dade) and was approximately 1% in other regions of the state.

From the beginning of FL DOH's COVID-19 response, epidemiologists at each county health department led efforts to perform contact tracing of people with COVID-19. Until March 15, when about 120 cases of COVID-19 had been confirmed, nearly all cases had been linked to international travel, cruise travel, or contact with a known COVID-19 patient. After this date, multiple unlinked cases of COVID-19 met the CDC definition for minimal to moderate community spread.[17] To meet the need for additional epidemiology support, FL DOH hired students and faculty from schools of public health in March and hired additional staff members throughout the response. As of May 31, more than 2000 people were involved in contact tracing.

Protecting Older and Vulnerable Populations

A prominent strategy for reducing mortality was protection of older populations. Recognizing that adults aged ≥65 have higher mortality from COVID-19 than people aged <65,[18] the Agency for Health Care Administration (AHCA) put precautions in place in early March to prevent the introduction of COVID-19 into nursing homes and assisted living facilities. Initial guidance included enhanced hygienic measures, such as screening all staff members and visitors for illness and for travel to CDC-identified at-risk areas of the COVID-19 outbreak in the previous 14 days. In addition, FL DOH teams that included emergency medical services visited more than 4000 nursing homes and assisted living facilities to provide education about best practices in COVID-19 infection control.

On March 11, all visitation to these facilities was suspended. On March 20, FL DOH and the AHCA strongly recommended that all staff members wear face masks. Surveillance testing of staff members also took place in early March. Of nearly 300 staff members tested in March, the positivity rate was approximately 1%.

In mid-March, FL DOH established a call center for nursing homes needing assistance, and FL DOH and AHCA created strike teams that visited facilities when FL DOH was notified of a case of COVID-19. Strike teams consisted of AHCA representatives, an infection control nurse, an epidemiologist, and other FL DOH personnel.

In mid-April, teams comprising National Guard and FL DOH personnel began additional surveillance testing. The teams tested employees and residents of the facilities to determine the number of asymptomatic employees and residents. When a resident received a positive test result, he or she was hospitalized for medical attention or placed under care with precautions. Of approximately 116 000 staff members and residents tested by May 31, about 3.4% of test results were positive. By June 12, the testing of nearly all 150 000 staff members was completed with a similar positivity rate.

In addition to measures aimed at preventing COVID-19 among people in nursing homes and assisted living facilities, public health messaging was directed toward people in the community. People who were aged ≥65 or had underlying medical conditions were asked to avoid going out in public, unless necessary. On March 28, the state surgeon general sent a statewide text alert advising these populations to stay at home. The state also included symptomatic adults aged ≥65 or people with underlying medical conditions at any age for testing at FL DOH or at drive-through testing sites.

In addition, chronic disease and health equity programs focused on people with underlying medical conditions in an effort to reduce morbidity and mortality associated with COVID-19. The FL DOH Division of Community Health Promotion directed messaging campaigns to people with chronic medical conditions and their support groups.

As of May 31, 1229 deaths (50% of total deaths attributed to residents of Florida) were among residents of long-term care facilities. Of 4449 licensed long-term care facilities, 622 (14.0%) had at least 1 case of COVID-19 and 240 (5.4%) had ≥5 cases of COVID-19. Data from June 1 from the Centers for Medicare & Medicaid Services showed that among states with a population of ≥5 million, the COVID-19 case and death rates in nursing homes in Florida (39.8 and 17.9 per 1000 residents, respectively) were lower than the national average (62.0 and 27.5 per 1000 residents, respectively).[19]

Preparing Hospitals

Florida has more than 68 000 licensed hospital beds.[20] In early January, FL DOH began a series of calls with hospitals alerting them to a potential COVID-19 pandemic. FL DOH asked hospitals to review their pandemic plans and begin training personnel, acquiring personal protective equipment (PPE), planning for surge capacity, determining the availability of ventilators, and planning for repairs of ventilators. FL DOH and AHCA asked ambulatory surgical centers to develop plans to be able to transition to clinical care sites. FL DOH suggested that all patients seen in acute-care settings be given a surgical mask upon arrival and seen in separate areas. FL DOH and AHCA also emphasized the importance of training staff members in infection control measures and the proper use of PPE.

To conserve PPE and hospital beds in the event of a surge of patients, on March 20, the governor issued an Executive Order limiting nonessential hospital procedures.[21] In addition, the Division of Emergency Management procured and distributed PPE to hospitals.

The AHCA continuously monitored hospital bed capacity using the Emergency Status System, by which hospitals electronically report information daily. This system assessed the availability of hospital beds, intensive care units, and ventilators and monitored the number of patients with COVID-19 in each hospital in the state.

In the event that hospital capacity would be inadequate, 5 field hospitals with a total capacity of more than 1000 beds were established in areas with relatively high numbers of cases. As of May 31, these hospitals had not been used.

The number of hospitalized COVID-19 cases peaked on April 22, and the number of COVID-19 admissions to intensive care units peaked on April 14. From March 1 to May 31, more than 20 000 hospital beds, more than 2000 intensive care unit beds, and more than 6000 ventilators remained available each day.

Stopping the Introduction of COVID-19

Beginning on March 9, FL DOH followed CDC travel advisory alerts[22] and asked that people from countries and cruises with level 2 and level 3 travel advisories monitor their symptoms, avoid public places, and avoid being around people aged ≥65 and people with underlying medical conditions for 14 days after returning to Florida. In addition, beginning in February, people coming from domestic areas of public spread were asked to follow the same guidelines.

FL DOH contact tracing activities also informed public messaging to recommend that people from certain countries and states not on the CDC travel advisory list self-isolate, because cases of COVID-19 had been found among people who arrived from Egypt, Spain, Ireland, Belgium, England, France, Germany, Trinidad, and New York State.

On March 27, the governor issued an Executive Order mandating that travelers from areas with high outbreaks of COVID-19 (eg, California, New Jersey, New York) self-isolate for 14 days upon arrival in Florida.[23] At several large airports in the state, personnel from FL DOH and the National Guard assessed the health of passengers upon arrival and gave instructions for self-isolation. Health screening and requests for self-isolation of people driving into the state from states with outbreaks of COVID-19 (eg, Georgia, Louisiana) also took place along major roadways into Florida.

Lessons Learned

A coordinated and proactive response involving multiple agencies, along with the various agencies being co-located in the State Emergency Operation Center, was essential to our response. Identifying the populations most at risk for severe outcomes related to COVID-19 was a major component in our strategy for reducing the number of hospitalizations and deaths. Recognizing that COVID-19 could spread in congregate facilities, including nursing homes and assisted living facilities, guided many of our approaches. The ability to increase testing as quickly as possible, at a time when testing supplies and reagents were limited, highlights the importance of having an adequate supply chain. Contact tracing early on provided information on where COVID-19 may have been entering the state and facilities, leading to strategies to slow its introduction. The ability to engage academic institutions, hospitals, health care systems, and community partner agencies also played a role in our initial response, and this engagement took place through regularly scheduled conference calls. Having a single statewide reporting system to monitor hospitalizations was also valuable in monitoring trends. The Florida response also built upon infrastructure and coordinated processes that have been used by the state to respond to meteorological and other disaster situations.

Summary

Preparation for the COVID-19 outbreak in Florida began nearly 2 months before the first diagnosed cases in the state. The integrated public health system of 67 county health departments led to a statewide response focusing on social distancing, testing and contact tracing, protecting older and medically vulnerable populations, preparing hospitals for patient surge and protecting health care workers, and stopping the introduction of COVID-19 into the state and long-term care facilities. Based on the number of COVID-19–related hospitalizations, new cases, and deaths; the daily percentage of positive COVID-19 test results; and syndromic surveillance data through May 31, the initial peak number of cases and morbidity occurred in mid-April in Florida. Efforts based on our areas of focus will continue and expand as we manage this new and serious pandemic.

Addendum

While this report was being peer reviewed, during the period from June 15 through June 25, similar to several other states,[24] the absolute number of cases and rates of test positivity (14.3%, 7-day average) increased substantially in Florida. As of June 25, a total of 114 032 cases of COVID-19, 13 760 hospitalizations, 3323 deaths, and an overall cumulative positivity rate of 6.3% had occurred in Florida. During this period, we observed a shift in infections to a younger age group (median age range, 32-38 years). Mobility data on distance traveled showed increased activity during this period, as compared with that seen at the end of May, along with an increase in person-to-person encounter density.[13] FL DOH is currently identifying the factors underlying these changes and reinforcing the importance of COVID-19 mitigation measures through a public health advisory and a marketing campaign that includes public service announcements.

Acknowledgments

The authors thank Courtney Coppola, Florida Department of Health chief of staff, for her outstanding leadership in supporting this response, and the dedicated members of the Florida Department of Health.

Declaration of Conflicting Interests

The authors declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

Funding

The authors received no financial support for the research, authorship, and/or publication of this article.

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