



## Smart Quarantines and Isolation

### I. Background

The proven public health approach to COVID-19 includes four interventions to reduce exposure and new cases. The multiphase plan depends on widespread testing, extensive contact tracing, centralized isolation, and continued surveillance. Zihong Lin did an analysis of the 25,000 cases in Wuhan and concluded that stay at home orders and social distancing practices reduced the spread but not enough to stop it until they offered centralized isolation. Family transmission is common so positive people are more likely to infect others in their household and close contacts in the community when there is a mandate for everyone to stay together at home. Furthermore, the CDC estimates that as many as 25% of cases may be asymptomatic and pre-symptomatic transmission occurred between one and three days before symptom onset. The SEIR diagram, a common epidemiological model, shows how individuals move through each compartment (Susceptible-Exposed-Infectious-Recovered/Removed). Even with tighter social distancing orders, the SEIR diagram shows that there will continue to be population movement between infected people and susceptible people without smart quarantine and centralized isolation (See Diagram 1 and 2).

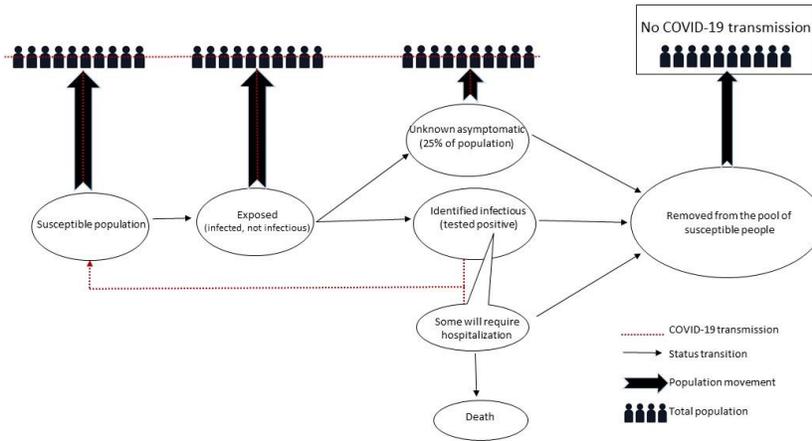
### II. Proposal

Smart quarantine and isolation is most successful when it is offered at the time of the positive result and when it is presented to community members as voluntary, convenient, and free. Adopting a smart quarantine plan requires public planning and funding for designated temporary accommodations and staff to monitor symptoms. Most people will recover and return home in about two weeks using a time-since-recovery strategy (>6 days since onset of symptoms and 72 hours of symptom resolution) or after testing negative at least twice. The long-term benefits of a medically supervised isolation plan is that it results in fewer infections, hospitalizations, and deaths because severe cases are identified and treated earlier. Smart isolation preserves I.C.U. beds, ventilators, personal protective equipment, and healthcare workers for those who need it the most.

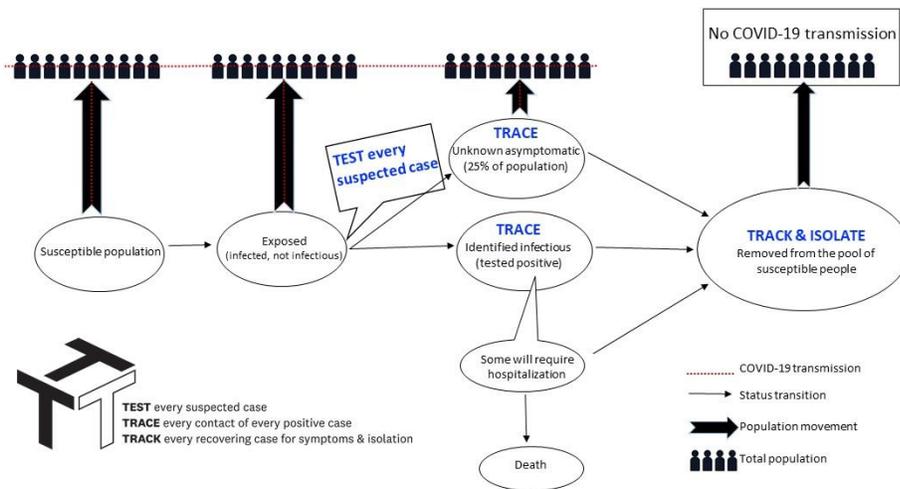
### III. Recommendation

Local surveillance shows the close contact cases account for 36% of all positive tests and current testing criteria does not offer it to all close contacts of all infected—there are more unascertained close contact cases in our community. San Antonio is still in the early stage and starting an intervention for centralized isolation of infected and exposed community members will reduce the number of new infections, relieve the pressure on the hospital system, stop the outbreak, and ultimately save lives. The PHAC recommends the City of San Antonio procure designated free isolation facilities for exposed and positive community members who need accommodations to prevent the spread in their home. Many cities and states have partnered and leased hotel rooms, university dormitories, shuttered school buildings, community centers, YMCAs, state parks and other commercial buildings to serve as temporary residence halls and healthcare facilities. The accommodations are offered to mild patients who cannot care for themselves at home or who need a place to stay away from elderly or immune-compromised, for those experiencing homelessness and for healthcare workers who are worried about exposing their families. Social distancing measures are effective to limit the contact of some of the positive cases, but we cannot depend on limiting the movement of the entire population indefinitely.

**Diagram 1. SEIR Model for COVID-19 without a comprehensive plan**



**Diagram 2. SEIR Model for COVID-19 with a T3 plan**





## Population Health Advisory Committee

Apdx	Location	Linked Publication	Date	Key Points
A	Houston	Houston Chronicle	3.25	<ul style="list-style-type: none"> <li>-Looking to lease rooms from hotels for COVID-19 patients who cannot isolate at home or in a medical center</li> <li>-CDC \$5 mil grant to use to establish quarantines and buy equipment for testing</li> <li>-Finalizing lease for 2 hotels (180 rooms) that could also be used for homeless</li> </ul>
B	Georgia and Louisiana	Outside Online	3.20	<ul style="list-style-type: none"> <li>-State parks being turned into refuges where infected patients can recover in peace.</li> <li>-Dining on local takeout that was delivered to his door by state health officials.</li> <li>-Once he was symptom-free for seven days</li> <li>-Park 20 min from NOLA has 10 positive patients</li> <li>-Isolation area at Bayou Segnette is intended for those who are awaiting test results for COVID-19 and cannot be sent home—either because they have no home to go to or because they live alongside other individuals with high infection risks, such as in a nursing home.</li> <li>-Patients will be released if they test negative and, if they test positive, will be held until they are cleared by a medical professional.</li> <li>-To secure the area, 150 National Guardsmen have been deployed to the park.</li> </ul>
C	Los Angeles	Daily Bulletin	3.20	<ul style="list-style-type: none"> <li>-LA contracted to open up 244 beds in a local hotel to quarantine patients who show symptoms but haven't been tested.</li> </ul>
D	Connecticut	Middletown Press	3.23	<ul style="list-style-type: none"> <li>-CT officials are using a local university to house both patients and professionals</li> <li>-108-bed hall and an 80-bed ball</li> <li>-Overflow space is also being prepared for patients at the school's Payne Whitney Gym</li> <li>-Space could be used for coronavirus patients who do not need to be admitted to a hospital, but cannot care for themselves at home, or who need a place to stay away from elderly or immune-compromised family members</li> <li>-Offer general care — monitoring of vital signs and provision of food and hydration</li> </ul>
E	Houston	KRPC Houston	3.29	<ul style="list-style-type: none"> <li>-Transformation of former hospitals, hotels, and other commercial buildings to serve as temporary healthcare facilities.</li> <li>-Could also be used to house the homeless and quarantined individuals during the coronavirus pandemic.</li> <li>-Lease two hotels for first responders, who need to be quarantined away from family members.</li> </ul>
F	Louisiana	The Advocate	3.24	<ul style="list-style-type: none"> <li>-Hotels and vacant college dorm rooms are among the options for Louisiana's step-down patients</li> <li>-School officials have said there are several logistical issues surrounding making dorm rooms effective healthcare units, and most institutions are still mainly focused on transitioning their academic coursework and research projects to online platforms.</li> <li>-They would have to staff doctors, nurses and healthcare professionals</li> </ul>



## Population Health Advisory Committee

Apdx	Location	Linked Publication	Date	Key Points
F (cont.)	Louisiana	The Advocate	3.24	<ul style="list-style-type: none"> <li>-Conversely, a housing initiative by a national hotel association has produced a substantial list of hotels that are willing to partner with state governments to provide healthcare units.</li> <li>-The American Hotel &amp; Lodging Association announced its "Hotels For Hope" initiative has identified over 6,500 hotels nationwide.</li> <li>-Chicago has also partnered with five local hotels and is expected to have more than 1,000 rooms available for mildly ill patients.</li> <li>-Contacted the schools regarding the possibility of using vacated dorm rooms for the treatment, recovery or isolation of COVID-19 patients.</li> </ul>
G	Chicago	Book Club Chicago	3.23	<ul style="list-style-type: none"> <li>-Chicagoans with mild coronavirus symptoms and those who are homeless will be provided with hotel rooms during the outbreak</li> <li>-City plans to rent thousands of hotel rooms as part of the first-of-its-kind program,</li> <li>-Partnership with five hotels</li> <li>-Health care workers who are treating COVID-19 patients can access if they are worried about exposing their families</li> <li>-City will likely be able to house 1,000 people by Tuesday and 2,000 people in the hotel rooms by the end of the week,</li> <li>-The city will pay about \$175 per night upfront for the rooms, which will include three meals</li> <li>-Hotel workers will not come in direct contact with quarantined individuals</li> <li>-Public health officials will be in place to deliver any needed medical care</li> <li>-YMCA partnered to bring in 400 beds to the Y's Chicago locations so people who are homeless can stay there</li> </ul>
H	San Francisco	Mercury News	3.24	<ul style="list-style-type: none"> <li>-San Francisco supervisors are working on 8,500 hotel rooms available this week to homeless residents, healthcare workers and first-responders who have nowhere to isolate during the coronavirus pandemic.</li> <li>-Received responses from more than 30 hotels offering up about 8,500 empty rooms.</li> <li>-Secured 393 rooms in two hotels in Oakland to house homeless residents</li> <li>-San Francisco's hotels are only about 5% full</li> <li>-Rooms would be used to house first-responders and healthcare workers who need a place to quarantine</li> </ul>
I		New York Times	4.7	<ul style="list-style-type: none"> <li>-Need for smart quarantine</li> </ul>
J	Wuhan	Harvard		<ul style="list-style-type: none"> <li>-Family transmission is common</li> <li>-Mild cases were isolated</li> <li>-Early diagnosis is important</li> <li>-Increase testing capacity</li> </ul>



### Appendix A

Houston - Makeshift care centers, hotel rooms and quarantines: Houston gearing up for next phase of pandemic

Dylan McGuinness

Published March 25, 2020

The city has begun scouting sites that can be converted into medical centers easily and is looking to lease rooms from hotels for COVID-19 patients who cannot isolate at home or in a medical center, part of a geared-up response as city officials brace for what is expected to be the next, worse phase of the pandemic.

Mayor Sylvester Turner said Wednesday the city is looking at now-vacant hospital buildings, for example, and other facilities that could be used to treat patients if — or when — hospitals here reach capacity and are overwhelmed. “We’re looking at all potentially available resources,” Turner said. He said the city also is finalizing lease agreements with two hotels for around 180 rooms that could house patients who need to isolate themselves. Some of those rooms, he said, could be used for the city’s homeless population, as well.

The efforts were aided by the city’s acceptance Wednesday of a \$5 million health disaster grant from the U.S. Centers for Disease Control. The money also will be used to boost administrative health staff, provide behavioral and mental health support services, establish quarantines and buy equipment for testing, according to the agenda item presented to council members Wednesday. “It certainly will be a tremendous help for us at this point in time,” said Turner, who called it a “broad-based” grant. The plans reflect public health officials’ view that the pandemic will worsen before it begins to improve. Officials and hospital executives have closely monitored the situation in New York City, whose health care system is under increasing stress amid an outbreak there.

Houston-area hospitals would lack the necessary beds to care for all patients in need of hospitalization, even in the most conservative of three outbreak scenarios created by the Harvard Global Health Initiative. In that case, 20 percent of adults would contract the virus. Currently, most hospitals in Houston are not at capacity, though some said they already have little room to spare. The cancellation of elective procedures, among other moves, has helped free up some space. “It’s pretty much a full house all the time,” said Bryan McLeod, a spokesman for Harris Health System, which operates the county’s Ben Taub and Lyndon B. Johnson safety-net hospitals. He said they were at 87.3 percent of their capacities at the end of February, though most of the empty beds are not for critical adult care. The occupancy level will be recalculated at the end of March.

The Houston Methodist system, which operates eight hospitals, is at 71 percent capacity system-wide, a spokeswoman said. Memorial Hermann, which has 17 hospitals, is at 60 percent. Turner declined to be more specific about sites the city is exploring because negotiations are ongoing, though he said his office has informed the Texas Medical Center and some area hospitals of its plan. Gov. Greg Abbott announced a measure Wednesday to help increase bedspace, waiving certain licensing rules to allow facilities with pending applications, and those that have been closed for less than 36 months, to come online. The Texas Association of Freestanding Emergency Centers said those facilities stand ready to help ease the burden, as well. City officials said the fire department also will get some of the CDC grant money, according to the agenda, though it does not specify how much. Those funds will go toward “telemedicine, supplies and information sharing capabilities.” Council member Sallie Alcorn said it was important to maximize these early dollars. “I just think these early days of a disaster declaration, just like Harvey, super important to make sure we are capitalizing on all the draw-downs we can,” Alcorn said.



### Appendix B

GA and LA - State Parks Are Becoming Coronavirus Isolation Zones

Boyce Upholt

March 20, 2020

On March 10, Waffle House cook and National Guard veteran Joey Camp arrived at Georgia's Hard Labor Creek State Park. Camp had tested positive for COVID-19, but after four days in the hospital, his symptoms had abated, and he was relocated to a 26-foot RV trailer in the park for the rest of his quarantine. Camp was the first beneficiary of a novel idea being tested in Louisiana and Georgia: state parks being turned into refuges where infected patients can recover in peace.

Georgia governor Brian Kemp announced on March 9 that a one-acre section of Hard Labor Creek State Park, which is about 45 minutes east of Atlanta, would be secured as a location for "the isolation and monitoring of patients." Camp elected to be sent to the park, because he was worried about going home, where he might infect his roommate's infant son. He spent the next five days alone in a Jayco fifth-wheel RV, watching movies on his cell phone and dining on local takeout that was delivered to his door by state health officials. Camp was initially required to stay inside the RV, he told Outside, before being allowed to stand beneath its exterior awning. Once he was symptom-free for seven days, he was released.

"I enjoy the solitude and isolation," Camp says. "It was just like an extended camping trip." An avid outdoorsman, Camp says he would have been just fine had he been told to pitch a tent and sleep on the ground.

Not everyone was so sanguine. The Morgan County Citizen reported that local officials did not know about the quarantine zone until they saw the news on social media. One local circulated a petition demanding that the quarantine zone be closed so as not to expose the surrounding community to the virus. State officials emphasized the small size of the quarantine area—one acre amid a park of more than 5,800. The rest of the park remains open and is safe to visit. (Currently, there are seven RVs on-site, and one patient has arrived since Camp's release.)

Amid an epidemic that demands six feet of distance from fellow humans, what role should parks play? While Illinois has shuttered its entire park system and many states have closed campgrounds and lodges, some parks are promoting themselves as the perfect place for social distancing. Brandon Burris, the director of Louisiana State Parks, says that his agency's mission—"to provide the people of the state of Louisiana opportunities to recreate in the outdoors, a place for them to go and forget about what's going on," as Burris paraphrased it—is more important now than it was ten days ago. "We've got tons of elbow room," he says.

Eighteen of Louisiana's 21 parks remain open, including to campers. The other three, like Hard Labor Creek, have been designated as "overflow isolation facilities"—a polite term for quarantine zones. Two of the parks, one in central Louisiana and another in the northwestern corner of the state, near Shreveport, are currently unoccupied. But at Bayou Segnette State Park, a strip of wetlands and RV sites 20 minutes from downtown New Orleans—a city that's a hot spot for the virus—ten patients infected with COVID-19 are staying in cabins that float atop the park's namesake waterway (this count was as of Wednesday, according to a press conference held by governor John Bel Edwards that day).

Nearly all of Bayou Segnette's 16 cabins and 98 RV sites were occupied by vacationers when employees began to knock on doors before sunrise on March 14 to notify everyone of the need to evacuate. Despite a line of more than 50 trailers waiting to discharge waste at the dump station, the park was cleared by midday. Burris says that most campers understood the need, though not everyone was happy to leave. (The parks department has offered full refunds, among other compensatory options.) The first patients arrived the next morning.

According to the the Louisiana Department of Children and Family Services, which is managing the site, the isolation area at Bayou Segnette is intended for those who are awaiting test results for COVID-19 and cannot be sent home—either because they have no home to go to or because they live alongside other individuals with high infection risks, such as in a nursing home. Patients will be released if they test negative and, if they test positive, will be held until they are cleared by a medical professional. To secure the area, Governor Edwards said, 150 National Guardsmen have been deployed to the park.



### Appendix C

Los Angeles, CA – Sheraton Fairplex hotel will house overflow coronavirus patients  
Javier Rojas, Daily Bulletin  
March 20, 2020

Starting next week, the Sheraton Fairplex Hotel will open up 244 rooms to quarantine coronavirus patients, those who show symptoms and those awaiting test results. Los Angeles County Supervisor Hilda Solis said at a news conference Friday, March 20.

In an agreement between Los Angeles County and the hotel, rooms will be available on a first-come, first-served basis but only to those patients who have authorization from a clinical provider. These temporary housing units will become available starting Monday, March 23, and will be available until May 31, with the possibility of being extended to June. The hotel itself will be closed to the public.

With the announcement, the Sheraton Fairplex, which is located on the Fairplex campus in Pomona, becomes the first hotel contracted by L.A. County to assist with the government response to the new virus called COVID-19, which can cause fever, cough and breathing problems in patients. County officials said Friday the temporary shelter is part of a larger effort to seek out supportive housing facilities for those who contract the virus and cannot quarantine at home for a variety of reasons.

“Essential services will be provided to these individuals during their stay, including food, medical care, laundry services and more,” Solis said. “I know there are many families that due to their housing environment cannot self-isolate.”

According to public health officials, the number of coronavirus cases in L.A. County increased to 292 as of Friday. Riverside County, meanwhile, reported its fourth death, the 21st in the state, since the coronavirus outbreak began.

“Fairplex is offering its unwavering support to Los Angeles County for its plan to provide regional accommodations for individuals who must be separated from their loved ones who have been medically directed to self-isolate,” LA County Fair Association President Miguel Santana said. “While this is just one element of a much broader effort at all levels of our community to help slow the spread of COVID-19, it goes to the core of what Fairplex is all about.”

With coronavirus patients being housed at Fairplex, Santana recognized that some in Pomona and nearby La Verne might question the decision.

“Sadly, some may criticize the plan as inappropriate for our neighborhood,” he said. “Nothing could be further from the truth. Indeed, it is representative of all that is good about our community.”

Pomona Mayor Tim Sandoval shared similar views at the news conference Friday, reminding the public of what the city of Pomona stands for during these tough times.

“This is about helping our neighbors, our families, our community. This is what Pomona does, this is what we’ve always done,” Sandoval said. “We will be defined by how we treated our most vulnerable neighbors. Pomona is a city with compassion.”

Meanwhile, the Fairplex Child Development Center will assist with providing support for the families of health care workers and first responders, Santana said. Currently, the Fairplex is working with Pomona Valley Hospital Medical Center to help staff with childcare needs.

The Fairplex also will provide a drive-thru food pantry in partnership with Sowing Seeds for Life, a La Verne-based nonprofit food bank. People can drive up to the parking lot off Gate 15 from 9 a.m. to 1 p.m. every first and third Wednesday of the month. The service, which is set to start April 1, will be available to all residents of L.A. County with proper ID.



### Appendix D

Connecticut – details on overflow procedure at SCSU – using residence halls for housing medical staff

Liz Teitz, Middletown Press

March 23, 2020

Connecticut State Universities have been asked to prepare facilities to house COVID-19 patients and health care professionals, as the state readies for a potential surge in new cases.

Gov. Ned Lamont's spokesman, Max Reiss, said the state is looking to prepare "surge capacity" for patients and related needs. Southern Connecticut State University has been asked to provide 80 beds, spokesman Patrick Dilger said. In a post on Twitter this weekend, SCSU's Office of Residence Life instructed students to retrieve belongings from their dormitories "before we turn over a building(s) to the state."

Central Connecticut State's Sheridan Hall is being prepared to "serve as emergency shelter for health care professionals," President Zulma Toro said in a message to students and faculty Sunday. "Sheridan Hall residents have been informed that a FEMA-certified, professional moving company will be packing their belongings, and the crates will be temporarily stored in a secure location until the pandemic ceases," she said.

Western Connecticut State University is preparing Fairfield Hall, a 108-bed residence hall on the school's Midtown campus in Danbury, spokesman Paul Steinmetz said. "It should be ready by Wednesday morning," he said.

The school has not been officially asked to make the space available, "but we expect to soon," Steinmetz said.

Overflow space is also being prepared for patients affiliated with Yale University at the school's Payne Whitney Gym, Yale Health director Dr. Paul Genecin said in an interview on the university website this weekend.

The Yale Health Center, which provides healthcare for the majority of Yale students, employees and their families, "has a limited in-patient clinic that would not be able to accommodate members of the Yale community who might become severely ill with COVID-19," he said. The space in the gym "could be activated to handle patients from the Yale community who cannot be treated at the center."

The space could be used for coronavirus patients who do not need to be admitted to a hospital, but cannot care for themselves at home, or who need a place to stay away from elderly or immune-compromised family members, Genecin said. "While this space would not be meant to serve as ICU overflow from Yale New Haven Hospital, it would offer general care — monitoring of vital signs and provision of food and hydration, for instance," he said.



### Appendix E

Former Kindred Hospital prepped to serve as an overflow healthcare facility for coronavirus patient  
Sally Mamdooh, KPRC Houston  
March 29, 2020

HOUSTON – As the number of coronavirus patients is expected to climb, Mayor Sylvester Turner is preparing facilities that can be operational if the healthcare system becomes overwhelmed.

Officials are considering the transformation of former hospitals, hotels, and other commercial buildings to serve as temporary healthcare facilities. Turner said the facilities could also be used to house the homeless and quarantined individuals during the coronavirus pandemic.

The former Kindred Hospital in northwest Houston is one of the facilities the city has earmarked for use, Turner said during a tour of the facility Sunday afternoon. The facility has 69 beds, of which 21 are ICU rooms. Kindred Hospital closed multiple locations in Texas earlier this year, KPRC 2 previously reported.

If the city reaches its full capacity of hospital beds, administrators will transport patients to the temporary hospital, Turner said. "This facility was used as a hospital. It's ready to be used," he said.

Turner added there is another hospital the city is reviewing in west Houston. "We are identifying facilities that are no longer hospitals," he said.

The Houston city council will vote Wednesday to lease two hotels for first responders, who need to be quarantined away from family members. The agreement will provide 180 beds for city-use.



### Appendix F

LA – considering using vacant college dorms and hotels for step-down, recovering patients

Brooks Kubena, The Advocate

March 24, 2020

In an urgent letter to President Donald Trump, Gov. John Bel Edwards outlined his dire concern that Louisiana will exceed its hospital capacity by April 4 if the number of the state's new coronavirus continues to soar at its current rate. As Edwards awaits a reply from the White House, the governor's office has already made preparations to answer a fundamental question: How can it help unburden its limited hospital capacity before the overflow of COVID-19 patients reaches a critical level? The state is "looking at multiple options," Edwards said in a news conference Tuesday, and an official decision is expected to be announced "in the next day or two."

A potential solution the governor's office is exploring is moving "step-down" patients — people who are COVID-19 positive but aren't in critical condition — out of the hospitals and into other isolation facilities to recover, which would free up more hospital rooms and intensive care units for patients in urgent need. Hotels and vacant college dorm rooms are among the options for Louisiana's step-down patients, and, within the past week, the governor's office has been in contact with hotel managers and school officials to discuss availability. Hotels appear to be the state's most viable option. School officials have said there are several logistical issues surrounding making dorm rooms effective healthcare units, and most institutions are still mainly focused on transitioning their academic coursework and research projects to online platforms.

Conversely, a housing initiative by a national hotel association has produced a substantial list of hotels that are willing to partner with state governments to provide healthcare units. The American Hotel & Lodging Association announced Tuesday that its "Hotels For Hope" initiative has identified over 6,500 hotels nationwide. Almost 200 hotels in Louisiana joined the initiative as of Monday night, AHLA spokeswoman Maura Morton said, a number she said is expected to grow in the coming days. The governor's office said the state has 10,164 beds available, about 46% of its total, but has not released numbers on how many extra beds it needs. Ben Blackwell, the president of the Louisiana Hotel & Lodging Association, declined comment on how many rooms and beds that hotels within the initiative could provide.

A study by the Harvard Global Health Institute predicted that, under a worst-case scenario, Louisiana could find itself in need of more than 24,000 additional beds, a shortage that would require it to nearly quadruple its current capacity. Louisiana's plans to unburden its hospital capacities, Edwards said, is "not altogether different" from the plans in New York state, which has the most reported cases of coronavirus in the country. The city of Chicago has also partnered with five local hotels, according to The Chicago Tribune, and is expected to have more than 1,000 rooms available for mildly ill patients. One hotel, according to the report, will cost Chicago about \$1 million per month.

Partnerships with Louisiana hotels would include similar negotiations. Edwards also said Tuesday that wherever the state decides to place its step-down patients, they would have to staff doctors, nurses and healthcare professionals. That, too, would require negotiation. "We don't have an answer on either of those requests yet," Edwards said. "But there are different things we can do via contract and otherwise to get the staffing that we need." College dorm rooms still remain an available option. Officials from the University of Louisiana System and Tulane University said the governor's office contacted the schools regarding the possibility of using vacated dorm rooms for the treatment, recovery or isolation of COVID-19 patients. Officials from the LSU and Southern University systems said they were not officially asked by the governor's office to provide availability options. Tulane has "expressed its willingness," school spokesman Michael Strecker said, and UL System spokeswoman Cami Geisman said that, as of Monday, "we were told for now they are not planning to use our facilities but keeping the option open should they need (to) shift over time."

"If we have spaces that are not being utilized because students are returning home," UL System President Jim Henderson said, "and they can be used to help reduce that impact, then we're proud to partner with the health care industry in solving this issue." Across the UL System's nine campuses, the state's largest university system, Henderson said they would have about "15,000 to 20,000" available beds to offer the state. Those would possibly be suitable for housing recovering step-down patients, he said. Henderson said there are still 25% to 30% of students remaining on the system's campuses, including international students, and it would be typical for the schools to move those students together, if indeed COVID-19 patients would be housed in campus dorms.



### Appendix G

Coronavirus Patients, People Who Are Homeless To Move Into Hotel Rooms During Outbreak

Published on Mar 23, 2020 12:33PM

[Kelly Bauer](#) @BauerJournalism

CHICAGO — Some Chicagoans with mild coronavirus symptoms and those who are homeless will be provided with hotel rooms during the outbreak, Mayor Lori Lightfoot announced Monday. The city plans to rent thousands of hotel rooms as part of the first-of-its-kind program, which is in partnership with five hotels, Lightfoot said. People who have mild cases of the virus and need to self-isolate will be able to stay in a room, alleviating the burden on hospitals, and people who are homeless will be able to temporarily move in to prevent spread of the virus. Health care workers who are treating COVID-19 patients will also be able to access the rooms if they are worried about exposing their families to the virus. The city will likely be able to house 1,000 people by Tuesday and 2,000 people in the hotel rooms by the end of the week, Lightfoot said.

Dr. Allison Arwady, Chicago Department of Public Health commissioner, said the rooms will serve a variety of people who need safe housing at this time. “These housing options may be used first to temporarily house people who are waiting for test results but who can’t return home because of their living situation,” Arwady said. “They may be used to quarantine high-risk healthy people. And they may be used to isolate people with ... COVID-19 but who have a mild illness and who can’t be home because of their living situation. “We don’t want to have to admit them and use a hospital bed just because there isn’t somewhere safe for them to stay.”

The city will pay about \$175 per night upfront for the rooms, which will include three meals, according to the Tribune. The program will benefit hospitals — which officials fear could become overwhelmed as coronavirus cases surge — and hotels, which are struggling amid the outbreak. Hotel workers will not come in direct contact with quarantined individuals, Lightfoot said. Public health officials will be in place to deliver any needed medical care, and Arwady said more volunteers and workers will be recruited and trained if needed as the program expands. The union workers and management at Hotel 166 even came to an agreement, ending a strike so the hotel would be able to open its rooms up as part of the city’s program. Karen Kent, president of the Unite Here Local 1 union, said workers wanted to contribute and told her, “It’s the right thing to do.”

There have been 1,049 confirmed cases of coronavirus in Illinois so far, with 490 of those in Chicago. People with mild cases of coronavirus have been told to self-isolate at home and, if they have roommates or families, to stay in one room to prevent spread of the virus to housemates. Thus far, people experiencing homelessness have had few options: They were urged to seek shelter under Gov. JB Pritzker’s stay at home order, but many of the city’s shelters are already full or are having to turn people away because they have to reduce capacity for social distancing, according to the Tribune.

Over the weekend, the YMCA partnered with the city to bring in 400 beds to the Y’s Chicago locations so people who are homeless can stay there, as well. “Goes without saying, folks: We are all in this together and we are leaving no one behind,” Lightfoot said. Lisa Morrison Butler, head of the Department of Family and Support Services, said the city has been canvassing Chicago and identifying people who are homeless and who are at a higher risk of serious symptoms of COVID-19. They’re trying to gauge how open some of those people would be to moving to shelters. The department staff has given information and sanitization supplies to people living in encampments, as well. Pritzker said his administration has been working with local officials around the state to determine how to best help populations of people who are homeless. They are looking into creating facilities where people can temporarily live to prevent the spread of the virus and to help people who do become ill. An estimated 5,290 homeless people lived in Chicago in 2019, according to the city, with the majority of those people living in shelters.



### Appendix H

#### [Coronavirus: Santa Clara County could see 2,500 to 12,000 cases by May 1](#)

By Marisa Kendall

UPDATED: March 24, 2020 at 9:19 a.m.

San Francisco supervisors are working on making as many as 8,500 hotel rooms available this week to homeless residents, healthcare workers and first-responders who have nowhere to isolate during the coronavirus pandemic.

There are more than 5,000 people living without shelter on the city's streets, leading to a "very urgent crisis" as officials struggle to keep the unhoused safe from COVID-19. Gov. Gavin Newsom has ordered residents to shelter in place to prevent the spread of the disease but for weeks experts have worried about what that means for those who have no home to shelter in. "Those people are unable to abide by the rules and procedures to keep themselves safe and healthy, and that puts everybody at risk," Supervisor Matt Haney said Monday during a video briefing.

San Francisco officials sent requests for help to local hotels, and received responses from more than 30 hotels offering up about 8,500 empty rooms. Supervisors are in the process of working out deals with those hotels, and figuring out which rooms will be usable and which won't. Even 8,500 rooms won't be enough, supervisors warned, and if they don't get more offers, they may start forcing hotels to hand over rooms. "We have an ability to commandeer hotel rooms if we must under the governor's emergency order," Supervisor Hillary Ronen said. "We hope that we don't have to."

San Francisco officials couldn't estimate Monday how much it might cost to rent thousands of rooms for coronavirus quarantines, but they said state and likely federal money will be available to help. Newsom recently [pushed plans](#) to [convert hotel rooms across the state into housing](#) for the homeless during the pandemic.

The governor last week said the state had [secured 393 rooms in two hotels in Oakland to house homeless residents](#), and then handed control of the initiative over to local counties to implement. Alameda County officials were meeting Monday afternoon to plan. "We're working as fast as we can, as diligently as we can," Sgt. Tya Modeste with the Alameda County Sheriff's Office said. "And as soon as we have that information that we can put out to the public, we will." Santa Clara County officials also are working on a plan to use hotel rooms as temporary housing for the homeless.

Because the state-mandated shutdown has put the brakes on the region's tourist economy, [San Francisco's hotels are only about 5% full](#), Haney said. That means the city has between 30,000 and 40,000 vacant hotel rooms. Under the supervisors' plan, [those rooms would be used to house first-responders and healthcare workers who need a place to quarantine away from their families](#). They also would house people living on the streets or in homeless shelters that are too crowded to practice safe social distancing. Among the city's homeless residents, only those who have tested positive for COVID-19, have been exposed to someone who tested positive, or who are at a heightened risk of dying from the disease because they are 65 and older or have underlying medical conditions would qualify for the housing. "We should for once in our lives do the right thing," Ronen said. "If there's housing available, get people into those units who don't have housing."

Supervisors could not offer specifics Monday on several key aspects of the program — including how long residents would be able to stay in the hotel rooms, what the rules of the program will be, and how services will be provided to the residents. "There are clearly a lot of logistical things that need to be worked out, and these things need to happen very quickly," Haney said. "The status quo right now is completely unacceptable." San Francisco Mayor London Breed addressed the hotel program separately during another live-streamed media conference, saying "We are grateful to so many of the hotels that have really stepped up to the plate to help support San Franciscans."



### Appendix I

#### The United States Needs a ‘Smart Quarantine’

Evidence from around the world shows that stay-at-home orders take us only so far.

By Harvey V. Fineberg, Jim Yong Kim and Jordan Shlain

April 7, 2020

The response of the United States to the coronavirus pandemic has been haphazard, a patchwork of rules applied inconsistently. Some states lack stay-at-home mandates, and many that have mandates got started less than a week ago. We’re suffering under a jumble of half measures that are likely to drag on for months and that fail to solve the problem. It doesn’t have to be this way. Evidence from around the world shows that stay-at-home orders are likely to take us only so far. There is a proven public health approach to pandemics that has worked in the past against Ebola and other diseases, and has already worked well against Covid-19 in countries like China, South Korea and Singapore. (See, for example, the analysis of nearly 26,000 Covid-19 cases in Wuhan, China, conducted by the biostatistician Xihong Lin and colleagues.)

Four key measures, on top of treating the ill and maintaining physical distancing, must be in place not just to slow the rise of Covid-19 cases, but also to bend the curve downward. These are: test widely, isolate the infected, trace the contacts of those infected and quarantine appropriately.

Of all these measures, the one that will require the greatest adaptation on the part of the American public is isolation and quarantine. Where this has been most successful it has required separate designated facilities to accommodate and monitor those isolated with mild illness and those subject to quarantine. We call this approach “smart isolation and quarantine” or “smart quarantine.” The United States needs to adopt smart quarantine as soon as possible. It will require us to endure new and difficult challenges. But the long-term benefits — fewer infections and deaths, a quicker return to work and “normalcy” — will far outweigh the short-term hardships. There are three main challenges to building a smart quarantine system in the United States. First, we must vastly increase our capacity for testing and tracing contacts.

Second, we must create — and at times mandate — humane quarantine processes. With considerable success, China, South Korea and Singapore have tested far more of their populations and concurrently mandated tiered isolation and quarantine.

Third, American families will be asked to endure separations that are more difficult than what many have currently experienced. Family units are the hotbed of viral spread, and doing the right thing for your family simultaneously does the right thing for the community. If we inspire, inform and mobilize the public, we can accomplish the needed separations mainly voluntarily and always in a way that respects civil liberties to the highest degree possible while protecting the public’s health (and the nation’s economy). In a smart quarantine, anyone in a family who is not well — and if you’re sheltering in place, whomever you are with is considered “family” — must get tested and be separated from the family until results return. While awaiting results, the separated family member can move into temporary accommodations overseen by medical professionals and be tested.

Those that test negative remain in quarantine in their accommodations, and if they test negative again at 14 days, they can return home, where they must continue to shelter in place. Those that test positive leave their temporary accommodations and enter a more formal Covid-19 recovery facility. Most of these people will recover and will be sent home in about two weeks after testing negative at least twice. People who get worse will be sent to an acute care facility.

In a tiered system like this, only those that need critical care would be sent to regular hospitals and intensive care units. This would allow us to avoid many of the serious shortages — I.C.U. beds, ventilators, personal protective equipment, health care workers — that we’ve seen in places like Italy and New York City. Currently, most people in the United States with Covid-19 are not offered care until their condition is critical, which is often too late. A smart quarantine, by contrast, allows people to receive medical care in a professional facility as soon as they feel ill. Because severe cases are identified and treated earlier, fewer people die.

Beating the coronavirus will take great effort and require deep sacrifice and rapid mobilization — and doing so properly requires a smart quarantine. Any other approach exacts a price none of us wants to pay.



## Appendix J

Analysis of 25,000 Lab-Confirmed COVID-19 Cases in Wuhan

Xihong Lin

### Message 1: Lockdown with traffic ban and home-quarantine helped but was not enough. Why?

- Family transmission is common
- Infected cases might infect family members and close contacts who could infect others in the community
- It was challenging for infected cases to seek for medical care due to traffic ban
- It was an honor system difficult to enforce. Some cases might still go out, grocery shopping, resulting in infecting others
- Traffic ban, mitigation (social distancing) and home quarantine helped reduce  $R_0$  from 3.88 to 1.25, but was not good enough

### Message #2: Centralized isolation worked! Why?

- Infected patients, suspected cases and close contacts were less likely to infect others (reduce transmission)
- Patients received medical care immediately
- Mild cases were treated. This reduced the chance for progressing to be severe cases
- Made case and close contact management and their medical care access easier
- If a patient progressed to become a severe case in a mobile cabin hospital, s/he was immediately transferred to an ICU
- Reduced the burden on ICU and health care system
- Avoided suspected cases and close contacts from infecting family members and other community members

### Message #3: A good proportion are community cases so Testing, Testing, Testing!

- We estimated using the SEIR model that about 60% of infected cases were un-ascertained
- They are often asymptomatic community cases who could infect others
- This means increasing testing capacity for early diagnosis is critically important
- Current issue in US: Low testing capacity (Need an intermediate multi-pronged strategy)

### Message 4: A multi-pronged approach is needed

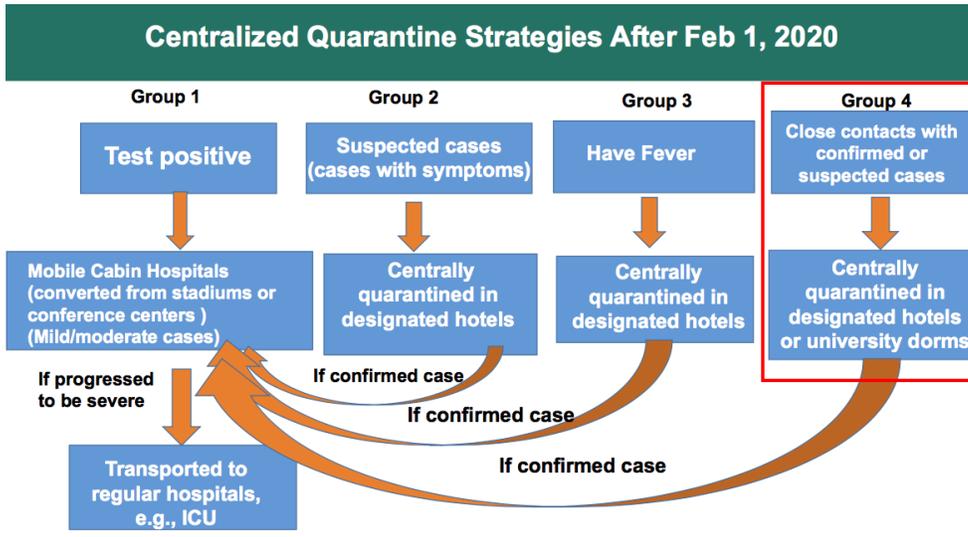
- Large scale screening using symptoms (with/without testing kits)
- Increase testing capacity
- Mitigation (social distancing) and home quarantine
- Centralized quarantine for confirmed and suspected cases, symptomatic cases and close contacts (asymptomatic)

### Message #5: Protect the four vulnerable groups

- Healthcare workers are at a much higher risk of being infected
- Elderly people are at a much higher risk of being infected
- Family members and close contacts of confirmed and suspected cases and close contacts are at a higher risk of being infected
- Children's infection risk is much lower than adults, but the risk increased with time periods

### Message #6: Early Diagnosis and Early Treatment

- Early diagnosis and early treatment will help prevent cases from progressing to become severe cases who have a much higher risk of death, like patients with acute respiratory distress syndrome (ARDS)
- Especially for elderly people and healthcare workers



Additional measures for other people during the centralized isolation period in Wuhan

- Continue home-quarantine and home-isolation
- Continue social distancing
- Provide transportation for groups 1-4 to go to hospitals or designated hotels
- Control frequencies of going out, e.g., grocery shopping, for each household, and arrange grocery delivery
- Healthcare workers who treat patients stay in hotels or other designated facilities to avoid them from infecting family members and communities, if they are infected

Healthcare workers in contact with cases and exposed subjects are fully protected by PPEs and included

- Full gear: protective suit, medical goggle, cap, face shield, mask and gloves when seeing suspected and confirmed cases
- Transmission can be through eyelashes and hair
- Developed a stringent protection protocol
- Trained healthcare workers how to follow the protection protocol
- Suspected cases with symptoms are seen in designated clinics instead of ER or PCP offices
- COVID-19 hospital level prevention and control management protocol
- Patient management protocol
- Cleaning and disinfection protocol