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**April 1, 2020**

**Addendum 1 to letter dated March 22, 2020:**

The catastrophic consequences of the current COVID-19 pandemic obeys to two major factors: (a) the transmissibility of this infection and (b) the severity of the disease in human populations. As this is a rapidly spreading pandemic, I would like to provide this addendum outlining advances in understanding the impact of the pandemic globally and specifically in the U.S. It is pivotal to incorporate these new facts into the pandemic response and the increasing vulnerability of incarcerated persons. The current outbreak of the novel coronavirus (SARS-Co-2) at Cook County jail highlights the ease of transmission of COVID-19 behind walls of prisons, jails, and juvenile detention centers. There is sufficient experience with this pandemic demonstrating that congested living conditions facilitate the spread of this infection.

**Increasing Number of COVID-19 Cases and Deaths in the U.S.**

Every U.S. state is dealing with COVID-19 cases and the number of deaths continue to pile up. Since March 16, 2020, the epidemiologic curve demonstrates a logarithmic increase in the number of cases with many major epicenters of transmission as it has occurred in the Pacific Northwest, New York, New Jersey, Florida, California, and Louisiana. As of today, there are approximately 170,000 cases and 3,200 deaths demonstrating that community-based transmission clearly continues to occur<sup>i</sup>.

**False Negative Rate in COVID-19 Testing**

There is currently an enormous emphasis on testing symptomatic individuals for COVID-19 (despite knowing that most transmission during this pandemic occurs among undetected infection including many infected and shedding the virus but not having any symptoms). This is appropriate, but there is a lack of attention to the sensitivity and specificity of these tests, which is variable based on the type of test itself (private lab, university, WHO, etc.). Sensitivity of the RT-PCR tests is estimated to be anywhere from ~70-85% <sup>ii</sup>. As an example, this means that out of 100 people who do have COVID-19, anywhere from 15 to 30 people will have a negative (or normal) test. Reliance on the testing results alone will therefore miss many infected and contagious patients.

## **R<sub>0</sub> is Higher in Colorado than the National Rate**

National data suggests the R<sub>0</sub> (“R-naught”), or number of people each infected person will also infect, of COVID-19 to be 2.3. Data from Colorado shows the state R<sub>0</sub> to be higher, at 3-4<sup>iii</sup>. This means that for every individual in the state that is infected with COVID-19, they will infect 3-4 other people. This R<sub>0</sub> is responsible for the exponential rise of infection both in Colorado and nationally.

There is reason to believe that the R<sub>0</sub> within a jail, prison, community corrections, or juvenile detention center will be higher than in the general community given the congregate nature of these facilities and inability to maintain social distancing and hygiene protocols. A recent study of COVID-19 on a cruise ship (which provided private rooms and bathrooms, delivered meals, and less congregation than a carceral setting) modeled an R<sub>0</sub> of 14.8, without isolation and quarantine measures.<sup>iv</sup>

## **Ongoing Concerns Regarding Hospital Capacity**

There are ongoing concerns about the medical system’s ability to manage the expected surge of COVID-19 patients in the general community. As of March 27, 2020, Denver Health had 54 intensive care unit (ICU) beds, with the capacity to expand to over 150 ICU beds. It is reported that Denver Health already has over 50 patients with COVID-19 in its acute care ward and its ICU, with about a dozen individuals already on ventilators<sup>v</sup>. As of March 30, 2020, the UCHealth ICU at the Anschutz campus has 72 patients with COVID-19, 37 of whom are critically ill and 33 of whom are on ventilators. This is more than double the number of patients typically in UCHealth’s ICU<sup>vi</sup>. An outbreak of COVID-19 in a jail, prison, community corrections, or juvenile detention facility would be catastrophic and further burden hospitals already likely to be overwhelmed and under-resourced.

## **Younger People Seriously Affected by COVID-19**

CDPHE data through March 29, 2020, indicates that over one-third of cases are people under the age of 40 and over one-half of cases are people under the age of 50<sup>vii</sup>. According to the CDC, in the United States, about 38% of coronavirus patients sick enough to be hospitalized were ages 20 to 54<sup>viii</sup>. As of March 30, 2020, UCHealth reported that many of the people in its ICU are in their 40s and 50s, and the youngest is 19 years old. Many of these patients have no serious underlying health conditions<sup>ix</sup>. On March 30, 2020, Colorado reported its first two (2) deaths of people in their 40s from COVID-19<sup>x</sup>.

## **Release is the Best Mechanism for Risk Minimization**

As COVID-19 spreads, it cannot be assumed that because individuals in jails, prisons, and juvenile detention centers are likely already infected, it would be a better public health strategy to keep them in these facilities rather than release them into the community. First, for the reasons previously discussed, COVID-19 will spread faster in a carceral facility than if individuals were able to isolate or recuperate in a more private or residential setting. Second, any increase in incarcerated individuals with COVID-19 also increases the concern that a large number of staff will become infected. A study of COVID-19 healthcare workers in Italy found that 20% of responding healthcare workers became infected<sup>xi</sup>. During the SARS outbreak, 21% of worldwide cases were among healthcare workers<sup>xii</sup>. Third, attempts to prevent the spread of COVID-19 in a jail or prison setting through “lockdowns”, or extreme isolation of all incarcerated individuals, raises other public health concerns, including exacerbation of mental illness. Restrictions on movement or a reduction in opportunities for interaction with visitors or recreation, for example, can be expected to have a deleterious effect on individuals’ mental and physical well-being. Additionally, incarcerated individuals may fail to report COVID-19 symptoms for fear of being further isolated or confined.

**For these reasons, it continues to be my professional opinion that the PROMPT RELEASE of individuals with medical conditions at risk of severe disease and death due to coronavirus infection, and prompt reduction in incarcerated populations overall, is a high impact public health priority to reduce the devastation of the COVID-19 outbreak.**

Sincerely,

A handwritten signature in black ink, appearing to read "Franco Paredes".

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<sup>i</sup> <https://coronavirus.jhu.edu/map.html> [accessed March 31, 2020]

<sup>ii</sup> <https://www.washingtonpost.com/science/2020/03/26/negative-coronavirus-test-result-doesnt-always-mean-you-arent-infected/>

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- <sup>iii</sup> <https://drive.google.com/file/d/1HyMnIikxmjoR8mpCD7OwXMMVwYUSuzxp/view> [accessed March 30, 2020]
- <sup>iv</sup> J. Rocklöv et al., "COVID-19 outbreak on the Diamond Princess cruise ship: estimating the epidemic potential and effectiveness of public health countermeasures," *Journal of Travel Medicine* (accepted manuscript published online Feb. 28, 2020), available at <https://academic.oup.com/jtm/advance-article/doi/10.1093/jtm/taaa030/5766334>.
- <sup>v</sup> <https://www.cpr.org/2020/03/27/denver-healths-lead-coronavirus-doctor-wants-your-help-to-slow-the-pandemic/> [accessed March 30, 2020]
- <sup>vi</sup> <https://www.thedenverchannel.com/news/coronavirus/its-real-and-its-scary-uchealth-doctor-describes-covid-19-effects-inside-hospitals-on-patients> [accessed March 30, 2020]
- <sup>vii</sup> <https://covid19.colorado.gov/case-data> [accessed March 30, 2020]
- <sup>viii</sup> <https://www.cdc.gov/mmwr/volumes/69/wr/mm6912e2.htm> [accessed March 30, 2020]
- <sup>ix</sup> <https://www.thedenverchannel.com/news/coronavirus/its-real-and-its-scary-uchealth-doctor-describes-covid-19-effects-inside-hospitals-on-patients> [accessed March 30, 2020]
- <sup>x</sup> <https://www.denverpost.com/2020/03/30/colorado-coronavirus-death-under-40/> [accessed March 31, 2020]
- <sup>xi</sup> Editorial, "COVID-19: protecting health-care workers," *The Lancet* (Mar. 21, 2020), available at [https://www.thelancet.com/journals/lancet/article/PIIS0140-6736\(20\)30644-9/fulltext](https://www.thelancet.com/journals/lancet/article/PIIS0140-6736(20)30644-9/fulltext) ("Protecting health-care workers").
- <sup>xii</sup> David Koh, "Occupational health aspects of emerging infections - sars outbreak affecting healthcare workers," 75 *Occupational & Environmental Medicine* Suppl 2, A14 (2018) available at [https://oem.bmjjournals.com/content/75/Suppl\\_2/A14.1](https://oem.bmjjournals.com/content/75/Suppl_2/A14.1).