UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF MAINE

JOSEPH A. DENBOW and SEAN R. RAGSDALE, *on their own and on behalf of a class of similarly situated persons,* *Petitioners,* v. RANDALL A. LIBERTY, Commissioner of Maine Department of Corrections *in his official capacity*, MAINE DEPARTMENT OF CORRECTIONS, *Respondents*	Case No. _____

DECLARATION OF ROY GIBSON PARRISH, MD

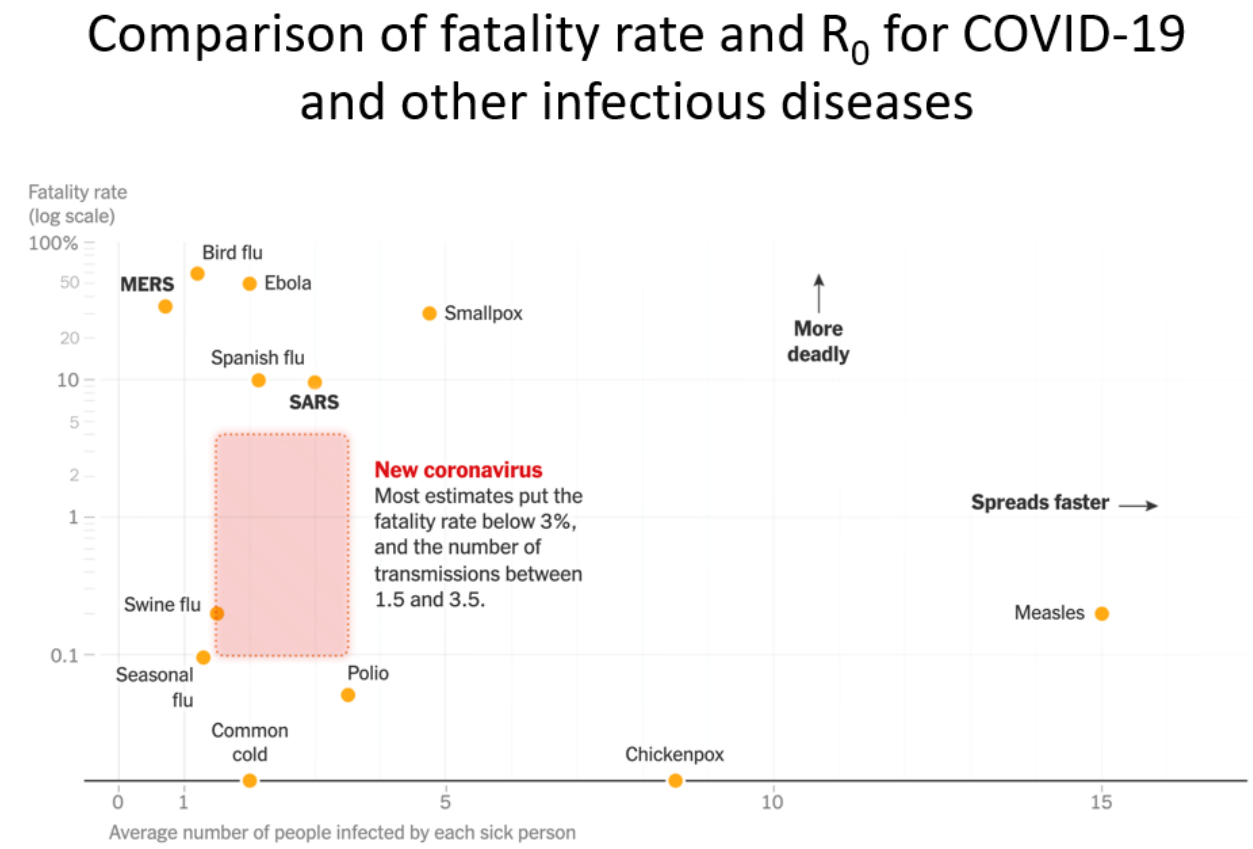
I, Roy Gibson Parrish, declare as follows:

1. I am a medical doctor with 35 years of experience as an epidemiologist. From 1982 through 2002, I served as a medical epidemiologist at the U.S. Centers for Disease Control and Prevention, including as the Acting Director of the Division of Public Health Surveillance and Informatics. Since leaving the CDC, I have worked as an independent consultant in population health and population health information systems, continuing to publish and make presentations around the country. From 2003 to 2011, I served as an Adjunct Associate Professor of Community and Family Medicine at Dartmouth Medical School, and from 2013 to the present, I have served on the Adjunct Faculty at the University of New Hampshire. I also currently teach classes at the Maine Medical Center. Attached as Exhibit A is a copy of my curriculum vitae.

COVID-19 Is a Highly Transmissible and Potentially Deadly Virus

2. COVID-19 is highly contagious and potentially deadly infection caused by the novel coronavirus SARS-COV-2. The following graph shows estimates of the virus's reproduction

number (*i.e.*, the average number of people who will contract a contagious disease from one person with that disease) and its fatality rate, based on existing knowledge about this novel virus. A higher contact rate between an infectious person and susceptible persons will contribute to a higher reproduction number—a factor that contributes to the rapid spread of the virus in closed, congregate settings like nursing homes, prisons, and jails.



Source: New York Times. How Bad Will the Coronavirus Outbreak Get? Here Are 6 Key Factors. By Knvul Sheikh, Derek Watkins, Jin Wu and Mika Gröndahl. Updated Feb. 7, 2020. https://www.nytimes.com/interactive/2020/world/asia/china-coronavirus-contain.html

3. According to the World Health Organization, as of May 12, 2020, there were more than four million confirmed cases worldwide, with more than 280,000 deaths.[1] The United

[1] Situation Report, World Health Organization (May 12, 2020), https://www.who.int/docs/default-source/coronaviruse/situation-reports/20200512-covid-19-sitrep-113.pdf?sfvrsn=feac3b6d_2.

States now has the highest number of reported cases in the world, with approximately 1,364,061 total cases, and 82,246 total deaths as of May 13, 2020.[2] In Maine, there were 1,515 confirmed cases and 66 deaths, as of May 13, 2020, though case numbers "are likely being undercounted."[3]

4. COVID-19 is a serious disease, which clinically can range from no or mild symptoms to respiratory failure and death. Symptoms can include cough, shortness of breath or difficulty breathing, fever, muscle pain, headache, sore throat, and new loss of taste or smell.[4]

5. Complications of the disease include pneumonia, respiratory failure, acute respiratory distress syndrome (ARDS), acute cardiac injury, multiple organ failure, and death.[5] Of the patients who experience pneumonia, some develop a dangerous condition known as ARDS, which causes damage to the walls of the air sacs in the lungs.[6] COVID-19 can severely damage the lung tissue, requiring an extensive period of rehabilitation and in some cases a permanent loss of respiratory capacity. Pneumonia is also associated with

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[2] Cases in the US, U.S. Centers for Disease Control and Prevention (May 12, 2020), available at https://www.cdc.gov/coronavirus/2019-ncov/cases-updates/cases-in-us.html.

[3] Novel Coronavirus 2019 (COVID-19), Maine Center for Disease Control and Prevention, https://www.maine.gov/dhhs/mecdc/infectious-disease/epi/airborne/coronavirus.shtml; Steve Craig, Maine CDC reports 33 new coronavirus cases, 1 more death, Portland Press Herald (May 3, 2020), https://www.pressherald.com/2020/05/03/maine-cdc-reports-33-new-cases-one-death/.

[4] Symptoms of COVID-19, U.S. Centers for Disease Control and Prevention (last visited May 4, 2020), https://www.cdc.gov/coronavirus/2019-ncov/symptoms-testing/symptoms.html.

[5] Zhao, et al., *A comparative study on the clinical features of COVID-19 pneumonia to other pneumonias* (2020), https://bit.ly/3b5QhRp; Fei Zhou, et al., *Clinical Course and Risk Factors for Mortality of Adult Inpatients With COVID-19 in Wuhan, China: A Retrospective Cohort Study*, Lancet (Mar. 28, 2020), available at https://www.thelancet.com/pdfs/journals/lancet/PIIS0140-6736(20)30566-3.pdf.

[6] https://health.clevelandclinic.org/heres-the-damage-coronavirus-covid-19-can-do-to-your-lungs/.

cardiac complications, "including new or worsening heart failure, new or worsening arrhythmia, or myocardial infarction."[7] There is also emerging evidence that the virus can trigger an over-response by the immune system in infected people, which can result in widespread damage to other organs,[8] including permanent injury to the kidneys (leading to dialysis dependence), liver, or neurologic injury.

6. COVID-19 is highly contagious and can spread "very easily and sustainably between people."[9] "The virus is thought to spread mainly from person-to-person" between people who are "in close contact with one another."[10] The virus can travel "[t]hrough respiratory droplets produced when an infected person coughs, sneezes or talks," even by people who are not showing symptoms.[11] It is also "possible that a person can get COVID-19 by touching a surface or object that has the virus on it and then touching their own mouth, nose, or possibly their eyes."[12] "COVID-19 can live for hours or days on a surface, depending on factors such as sun light and humidity."[13]

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[7] Riccardo Inciardi, Cardiac Involvement in a Patient with Coronavirus Disease 2019, JAMA Cardiology (Mar. 27, 2020), https://jamanetwork.com/journals/jamacardiology/fullarticle/2763843; Fei Zhou, Clinical course and risk factors for mortality of adult inpatients with COVID-19 in Wuhan, China: a retrospective cohort study, The Lancet (Mar. 9, 2020) https://www.thelancet.com/pdfs/journals/lancet/PIIS0140-6736(20)30566-3.pdf.

[8] John B. Moore and Carl H. June, *Cytokine release syndrome in severe COVID-19*, Science (May 1, 2020), https://science.sciencemag.org/content/368/6490/473.

[9] https://www.cdc.gov/coronavirus/2019-ncov/prevent-getting-sick/how-covid-spreads.html.

[10] https://www.cdc.gov/coronavirus/2019-ncov/prevent-getting-sick/how-covid-spreads.html.

[11] *Id.*

[12] https://www.cdc.gov/coronavirus/2019-ncov/prevent-getting-sick/how-covid-spreads.html.

[13] https://www.cdc.gov/coronavirus/2019-ncov/prevent-getting-sick/social-distancing.html.

Older People and People with Underlying Medical Conditions Are At Particularly High Risk

7. As of March 11, 2020, the World Health Organization (WHO) identified individuals at highest risk to include "older people" and "those with underlying medical conditions."[14] "The risk of severe disease gradually increases with age starting from around 40 years."

8. According to the CDC, people at higher risk for severe illness from COVID-19 include older people and "[p]eople of all ages with underlying medical conditions, particularly if not well controlled," including:

    a. People with chronic lung disease (including chronic obstructive pulmonary disease) or moderate to severe asthma
    b. People who have serious heart conditions
    c. People who are immunocompromised
        i. Conditions that can cause a person to be immunocompromised include cancer treatment, smoking, bone marrow or organ transplantation, immune deficiencies, poorly controlled HIV or AIDS, and prolonged use of corticosteroids and other immune weakening medications
    d. People with severe obesity (body mass index [BMI] of 40 or higher)
    e. People with diabetes
    f. People with chronic kidney disease undergoing dialysis
    g. People with liver disease.[15]

9. Early reports estimate that the mortality rate for those with cardiovascular disease was 13.2%, 9.2% for diabetes, 8.4% for hypertension, 8.0% for chronic respiratory disease, and 7.6% for cancer.[16]

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[14] *See* Situation Report, World Health Organization (March 11, 2020), available at https://www.who.int/docs/default-source/coronaviruse/situation-reports/20200311-sitrep-51-covid-19.pdf?sfvrsn=1ba62e57_10 (accessed May 4, 2020).

[15] People Who Are At Higher Risk, Centers for Disease Control and Prevention (last visited May 13, 2020), https://www.cdc.gov/coronavirus/2019-ncov/need-extra-precautions/people-at-higher-risk.html

[16] *Report of the WHO-China Joint Mission on Coronavirus Disease 2019 (COVID-19)*, World Health Organization (Feb. 28, 2020), page 12, at https://cutt.ly/KtD3ALr ("While patients who

COVID-19 Poses Extreme Risks in Closed Congregate Settings like Maine's Prisons

10. DOC facilities are closed congregate settings in which COVID-19 is likely to spread rapidly once it enters a facility, despite attempts at infection control within each facility.[17] By their very nature, prisons are at high risk for the spread of infectious disease.[18] As of April 21, 2020, "among 37 jurisdictions reporting, 32 (86%) reported at least one confirmed COVID-19 case among incarcerated or detained persons or staff members, across 420 correctional and detention facilities."[19] Even for those facilities that had not yet reported any confirmed cases of COVID-19, it is likely that at least some were already experiencing undetected asymptomatic or presymptomatic transmission.

11. It is well-documented that COVID-19 spreads rapidly in other closed congregate settings, like homeless shelters, nursing homes, and cruise ships, even with certain hygiene protections in place.[20] The chart below demonstrates the spread of the virus on the Diamond Princess cruise ship:

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reported no comorbid conditions had a CFR of 1.4%, patients with comorbid conditions had much higher rates: "13.2% for those with cardiovascular disease, 9.2% for diabetes, 8.4% for hypertension, 8.0% for chronic respiratory disease, and 7.6% for cancer").

[17] Matthew J. Akiyama, et al., *Flattening the Curve for Incarcerated Populations — Covid-19 in Jails and Prisons* (Apr. 2, 2020), https://www.nejm.org/doi/full/10.1056/NEJMp2005687.

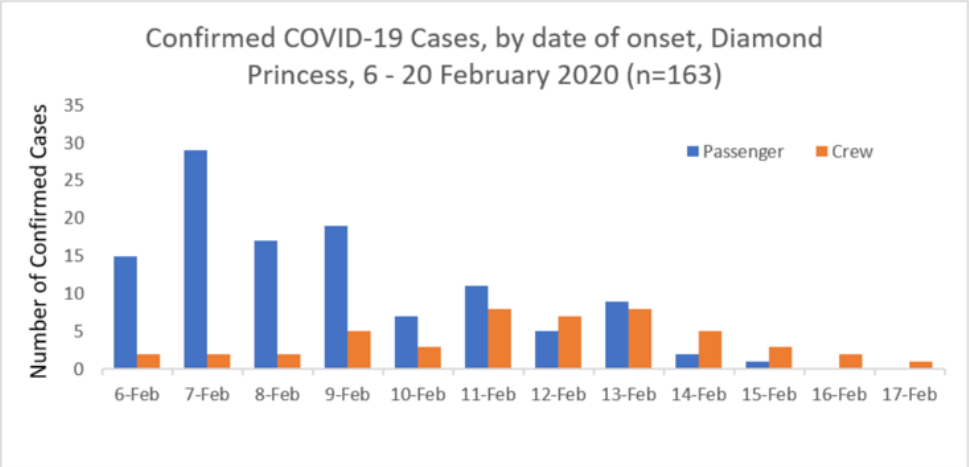
[18] Megan Wallace, *COVID-19 in Correctional and Detention Facilities – United States, February-April 2020*, U.S. Centers for Disease Control and Prevention (May 6, 2020), https://www.cdc.gov/mmwr/volumes/69/wr/mm6919e1.htm?s_cid=mm6919e1_w.

[19] *Id.*

[20] *See, e.g.*, Leah F. Moriarty, *et al.*, *Public Health Responses to COVID-19 Outbreaks on Cruise Ships – Worldwide, February-March 2020* (Mar. 27, 2020), https://www.cdc.gov/mmwr/volumes/69/wr/mm6912e3.htm (discussing the outbreak of COVID-19 on the Diamond Princess cruise ship); Pengcheng Xu, et al., *Transmission routes of Covid-19 virus in the Diamond Princess Cruise ship* (Apr. 9, 2020), https://www.medrxiv.org/content/10.1101/2020.04.09.20059113v1; Temet M. McMichael, *et al. COVID-19 in a Long-Term Care Facility – King County Washington, Feb. 27-Mar. 9, 2020* (Mar. 27, 2020), https://www.cdc.gov/mmwr/volumes/69/wr/mm6912e1.htm.

The Diamond Princess

Figure 1. Number of confirmed COVID-19 cases* with reported onset dates, by onset date, aboard Diamond Princess, 6 – 20 February 2020 (n=163)



* *The number of cases (n = 163) was based on the cases with available onset date reported.*

Field Briefing: Diamond Princess COVID-19 Cases, 20 Feb Update. Japan. National Institute of Infectious Diseases. PUBLISHED: 21 FEBRUARY 2020. Available at: https://www.niid.go.jp/niid/en/2019-ncov-e/9407-covid-dp-fe-01.html

12. As demonstrated by past outbreaks of infectious disease, the prison setting presents serious risks of the rapid spread of COVID-19 within facilities.[21] In the Maine Department of Corrections specifically, a seasonal flu epidemic sickened a large number of inmates and staff in 2011, even killing one prisoner.[22] The risk is that an outbreak of COVID-19 in the same facilities could be even deadlier.

[21] Akiyama, *supra* n. 36 (stating "Highly transmissible novel respiratory pathogens pose a new challenge for incarcerated populations because of the ease with which they spread in congregate settings. Perhaps most relevant to the Covid-19 pandemic, the 2009 H1N1 influenza pandemic exposed the failure to include jails in planning efforts.").

[22] *Influenza Outbreaks at Two Correctional Facilities – Maine, March 2011*, Centers for Disease Control and Prevention (Apr. 6, 2012), https://www.cdc.gov/mmwr/preview/mmwrhtml/mm6113a3.htm.

13. The high rates of chronic disease among prisoners means that any such outbreak could be particularly serious and potentially deadly. "Half of all incarcerated persons have at least one chronic disease, and according to the U.S. Department of Justice, 81,600 are over the age of 60, factors that increase the risk of poor outcomes of infection."[23] "Populations involved with the criminal justice system have an increased prevalence of infectious diseases such as HIV and hepatitis C virus (HCV) infections and tuberculosis."[24] "Disparities in social determinants of health affecting groups that are disproportionately likely to be incarcerated — racial minorities, persons who are unstably housed, persons with substance use disorders or mental illness — lead to greater concentrations of these illnesses in incarcerated populations."[25]

14. "Social distancing is extremely challenging" in prison settings.[26] The Maine Department of Corrections has acknowledges that "[a] correctional facility, by nature, is challenged by the practice of physical distancing." [27] Even considering some of the precautions to limit physical contact with members of the community, "infected persons — including staff members — will continue to enter correctional settings," and can introduce the disease in the prison setting.[28]

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[23] Akiyama, *supra* n. 36 (citing Maruschak LM, Berzofsky M, Unangst J. *Medical problems of state and federal prisoners and jail inmates*, 2011–12. Washington, DC: U.S. Department of Justice, Bureau of Justice Statistics. February 2015 (https://www.bjs.gov/content/pub/pdf/mpsfpji1112.pdf).

[24] Akiyama, *supra*, n. 36.

[25] *Id.*

[26] Akiyama, supra, n. 36.

[27] State of Maine Department of Corrections PRESS RELEASE, March 25, 2020, available at https://www.maine.gov/corrections/home/Press%20Release.%20DOC%20response%20to%20GOV%20EO%20(003).pdf (last accessed May 4, 2020).

[28] *Id.*

15. In light of these risks, a recent article explained that "three levels of preparedness need to be addressed: the virus should be delayed as much as possible from entering correctional settings; if it is already in circulation, it should be controlled; and jails and prisons should prepare to deal with a high burden of disease."[29] Public health experts have emphasized that a key part of this preparation must include "'decarcerating,' or releasing, as many people as possible, focusing on those who are least likely to commit additional crimes, but also on the elderly and infirm."[30]

Physical Distancing Is Crucial to Prevent Spread of the Virus

16. There is no vaccine to prevent COVID-19, nor is there any known cure. An initial multicenter clinical trial suggests that remdesivir may shorten the time to clinical improvement in severely ill COVID-19 patients, but this finding requires confirmation in larger studies.[31] The focus thus remains on mitigation and prevention. "The best way to prevent illness is to avoid being exposed to the virus."[32] To prevent new infections, the CDC strongly recommends thorough and frequent handwashing, cleaning surfaces with

[29] *Id.*

[30] *Id.*

[31] Wang Y, Zhang D, Du G, Du R, Zhao J, Jin Y, et al. Remdesivir in adults with severe COVID-19: a randomised, double-blind, placebo-controlled, multicentre trial. Lancet, Published:April 29, 2020 DOI:https://doi.org/10.1016/S0140-6736(20)31022-9. Available at: https://www.thelancet.com/journals/lancet/article/PIIS0140-6736(20)31022-9/fulltext.

[32] Protect Yourself, Coronavirus Disease 2019 (COVID-19), U.S. Centers for Disease Control and Prevention (last visited May 4, 2020), https://www.cdc.gov/coronavirus/2019-ncov/prevent-getting-sick/prevention.html.

EPA-approved disinfectants, keeping at least six feet of space between people, and avoiding group settings.[33]

17. "Limiting face-to-face contact with others is the best way to reduce the spread of coronavirus disease 2019 (COVID-19)."[34] "To practice social or physical distancing," the CDC instructs that people "[s]tay at least 6 feet . . . from other people, [d]o not gather in groups," and "[s]tay out of crowded places and avoid mass gatherings."[35] **"**Social distancing is recommended for all ages to slow the spread of the virus, protect the health care system, and help protect vulnerable older adults."[36]

18. To practice physical distancing, the CDC recommends (among other things) "avoid[ing] large and small gatherings in private places and public spaces, such a friend's house, parks, restaurants, shops, or any other place," as well as "avoid[ing] using any kind of public transportation, ridesharing, or taxis."[37]

19. "Social distancing is especially important for people who are at higher risk of getting very sick."[38]

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[33] Protect Yourself, Coronavirus Disease 2019 (COVID-19), U.S. Centers for Disease Control and Prevention (last visited May 4, 2020), https://www.cdc.gov/coronavirus/2019-ncov/prevent-getting-sick/prevention.html.

[34] Social Distancing, U.S. Centers for Disease Control and Prevention (last visited May 11, 2020), https://www.cdc.gov/coronavirus/2019-ncov/prevent-getting-sick/social-distancing.html.

[35] *Id.*

[36] CDC COVID-19 Response Team, *Severe Outcomes Among Patients with Coronavirus Disease 2019 (COVID-19) – United States, February 12-March 16, 2020*, U.S. Centers for Disease Control and Prevention (Mar. 27, 2020), https://www.cdc.gov/mmwr/volumes/69/wr/mm6912e2.htm.

[37] Social Distancing, U.S. Centers for Disease Control and Prevention (last visited May 11, 2020), https://www.cdc.gov/coronavirus/2019-ncov/prevent-getting-sick/social-distancing.html.

[38] Social Distancing, U.S. Centers for Disease Control and Prevention (last visited May 11, 2020), https://www.cdc.gov/coronavirus/2019-ncov/prevent-getting-sick/social-distancing.html.

Testing and Asymptomatic Transmission

20. The need for physical distancing is particularly high because, in the absence of widespread testing, the virus could spread rapidly among asymptomatic carriers before any outbreak is detected. Symptoms of COVID-19 may appear "2-14 days after exposure to the virus."[39] As the CDC warns, "[s]ince people can spread the virus before they know they are sick, it is important to stay away from others when possible, even if you have no symptoms."[40] "Recent studies indicate that people who are infected but do not have symptoms likely also play a role in the spread of COVID-19."[41] Indeed, "[a] key factor in the transmissibility of Covid-19 is the high level of SARS-CoV-2 shedding in the upper respiratory tract, even among presymptomatic patients."[42]

21. For example, a study about COVID-19 in a skilled nursing facility in Washington State revealed "[r]apid and widespread transmission of SARS-CoV-2," with "[m]ore than half of residents with positive test results [being] asymptomatic at the time of testing and most likely contribut[ing] to transmission."[43] Only twenty-three days after the first resident of

[39] Symptoms, U.S. Centers for Disease Control and Prevention (last visited May 4, 2020), https://www.cdc.gov/coronavirus/2019-ncov/symptoms-testing/symptoms.html.

[40] Social Distancing, U.S. Centers for Disease Control and Prevention (May 12, 2020) https://www.cdc.gov/coronavirus/2019-ncov/prevent-getting-sick/social-distancing.html.

[41] *Id.*; *see also* Melissa Arons, et al., *Presymptomatic SARS-CoV-2 Infections and Transmission in a Skilled Nursing Facility*, New England Journal of Medicine (Apr. 24, 2020), https://www.nejm.org/doi/full/10.1056/NEJMoa2008457.

[42] Monica Ghandi, et al., *Asymptomatic Transmission, the Achilles' Heel of Current Strategies to Control Covid-19* (Apr. 24, 2020), https://www.nejm.org/doi/full/10.1056/NEJMe2009758 (discussing *see also* Melissa Arons, et al., *Presymptomatic SARS-CoV-2 Infections and Transmission in a Skilled Nursing Facility*, New England Journal of Medicine (Apr. 24, 2020), https://www.nejm.org/doi/full/10.1056/NEJMoa2008457).

[43] Melissa Arons, *Presymptomatic SARS-CoV-2 Infections and Transmission in a Skilled Nursing Facility* (Apr. 24, 2020), https://www.nejm.org/doi/full/10.1056/NEJMoa2008457.

the nursing home tested positive, this facility "had a 64% prevalence of COVID-19 among residents . . . *despite early adoption of infection-control measures*."[44] Accordingly, the study concluded that "[i]nfection-control strategies focused solely on symptomatic residents were not sufficient to prevent transmission after SARS-CoV-2 introduction into this facility."[45]

22. Similarly, another study was conducted of a homeless shelter in Boston, in which "[t]he congregate nature and hygienic challenges of shelter life create the potential for rapid transmission of SARS-CoV-2 in this vulnerable population."[46] Widespread testing in this facility revealed 36% positive tests (147 out of 408 people tested), with the vast majority of people having few or no symptoms of COVID-19 at the time they tested positive.[47] This study likewise concluded that "COVID-19 can be widely transmitted in a homeless shelter setting, *even when infection control vigilance is high*."[48] Study findings suggest that universal testing may be better than "a symptom triggered approach . . . for identifying and mitigating COVID-19 among people experiencing homelessness."[49]

23. Widespread testing in prison facilities shows even higher rates of positive tests. For example, after widespread testing, 73% of inmates at an Ohio prison recently tested

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[44] *Id.* (emphasis added).

[45] *Id.*

[46] Travis P. Baggett, et al., *COVID-19 outbreak at a large homeless shelter in Boston: Implications for universal testing*, https://www.medrxiv.org/content/10.1101/2020.04.12.20059618v1.

[47] *Id.*

[48] *Id.* (emphasis added).

[49] *Id.*

positive for coronavirus.[50] As reported, "[n]o other state has reported as many cases of COVID-19 behind bars as Ohio, in large part because no other state has tested as many inmates as Ohio."[51]

Actions by Maine Department of Corrections

24. **Physical Distancing:** The CDC guidance on the COVID-19 response in prisons and jails is to "[i]mplement social distancing."[52] As the CDC explains, "[a]lthough social distancing is challenging to practice in correctional and detention environments, it is a cornerstone of reducing transmission of respiratory diseases such as COVID-19."[53] Especially for medically vulnerable people like those in the CDC high-risk group, it is medically necessary that they are able to physically distance, stay away from large groups, and remain six feet away from others at all times. Based on Petitioners' declarations provided to me, it appears that these measures are not possible under current conditions in Maine DOC facilities.

25. **Hygiene:** Based on Petitioners' declarations, DOC does not provide alcohol-based hand sanitizer, as the CDC recommends.[54] Unlike hand sanitizer with more than 60% alcohol, the CDC has not found that hand sanitizer with less alcohol (or no alcohol) is effective to

[50] Bill Chappell, 73% Of Inmates At An Ohio Prison Test Positive For Coronavirus, NPR (Apr. 20, 2020), https://www.npr.org/sections/coronavirus-live-updates/2020/04/20/838943211/73-of-inmates-at-an-ohio-prison-test-positive-for-coronavirus.

[51] *Id.*

[52]COVID-19 Guidance for Correctional & Detention Facilitie, U.S. Centers for Disease Control and Prevention (May 11, 2020), https://www.cdc.gov/coronavirus/2019-ncov/community/correction-detention/guidance-correctional-detention.html.

[53] *Id.*

[54] Hand Hygiene, U.S. Centers for Disease Control and Prevention (last accessed May 11, 2020), https://www.cdc.gov/coronavirus/2019-ncov/hcp/hand-hygiene.html.

reduce the number of pathogens (including the SARS-CoV-2 virus) that may be present on the hands.[55]

26. **Masks**: The most important fact to remember about masks is that, although they may offer *some* protection for the wearer, the primary benefit is to reduce the likelihood that a person already infected with COVID-19 will not unknowingly pass COVID-19 on to others.[56] Even for this benefit, "[m]ultiple layers of fabric are better than only one," because "[m]ore layers means less chance that viral particles will be able to pass through."[57] Masks are no substitute for necessary preventive measures like physical distancing.

27. **Testing:** Given the Department of Corrections' practice of testing only symptomatic prisoners, the fact that there are no current positive tests of COVID-19 of prisoners in the facilities does not mean that the facilities are safe. The prevalence of asymptomatic transmission of COVID-19 means that there may already be prisoners or prison staff in the various facilities who are asymptomatic carriers of COVID-19 and are spreading it, undetected, throughout the facilities. An approach to testing that does not account for

[55] The CDC has clarified that it "does not have a recommended alternative to hand rub products with greater than 60% ethanol or 70% isopropanol as active ingredients. Benzalkonium chloride, along with both ethanol and isopropanol, is deemed eligible by FDA external icon for use in the formulation of healthcare personnel hand rubs. However, available evidence indicates benzalkonium chloride has less reliable activity against certain bacteria and viruses than either of the alcohols." *Id.*

[56] Catherine Roberts, *How to Choose and Wear a Mask During the Coronavirus Pandemic*, Consumer Reports (Apr. 24, 2020), https://www.consumerreports.org/coronavirus/how-to-choose-and-wear-a-mask-during-the-coronavirus-pandemic/?EXTKEY=YSOCIAL_PAIDPROMO_FB.

[57] *Id.*

asymptomatic or pre-symptomatic spread of the virus cannot show the full picture of the outbreak.

28. The current plan for a phased reopening of the economy could present additional risks. A study from the 1918 influenza pandemic suggests that premature reopening could increase the spread of infection in the community into the prison as well.[58] If anything, the phased reopening of the economy places prisoners at greater risk of infection than before.

29. Department of Corrections has engaged in "pre-planning with local hospitals" to prepare for a potential outbreak.[59] The high proportion of medically vulnerable individuals in the prison means that, in the event of an outbreak in prison, a disproportionate number of these individuals could require hospital-level care, which would not only be expensive and consume scarce medical resources, but also could expose medical staff and the greater community to additional risk.

Improved Preventive Measures are Needed for At-Risk and Other Individuals

30. Preventive measures can have a protective effect on the population as a whole, as well as being clinically necessary for an individual patient. For example, "[v]accines work on both an individual basis, by preventing or attenuating clinical disease in a person exposed

[58] Howard Markel, MD, PhD., *Nonpharmaceutical Interventions Implemented by US Cities During the 1918-1919 Influenza Pandemic*, JAMA (Aug. 8, 2007), https://jamanetwork.com/journals/jama/fullarticle/208354.

[59] Statement from Randall A. Liberty, Commissioner Department of Corrections, March 25, 2020, available at https://www.maine.gov/corrections/home/3.27.20%20Statement%20from%20Commisioner%20Liberty.pdf (last accessed May 4, 2020).

to the pathogen, and also on a population basis, by affecting herd immunity."[60] When it comes to COVID-19, physical distancing is critical to protect the community as a whole from widespread transmission of the virus. Additionally, the same preventive measures are important for medically vulnerable individuals at particular risk of serious illness or death from COVID-19.

31. This interplay between public health and individual clinical need is the focus of clinical epidemiology. "Clinical epidemiology is the application of epidemiological principles and methods to the practice of clinical medicine."[61] "Because epidemiology deals with populations and clinical medicine deals with individuals, it has been suggested that clinical epidemiology is a contradiction in terms. However, clinical epidemiology is simply concerned with a defined patient population rather than the usual community-based population."[62]

32. Two of the central concerns in clinical epidemiology include (1) "effectiveness of treatment" and (2) "prevention in clinical practice."[63] As to the first, "[s]pecific treatments need be shown to do more good than harm among patients who actually use them: this is called efficacy."[64] However, as discussed above, there is no effective

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[60] R. Bonita, et al., BASIC EPIDEMIOLOGY at 119, World Health Organization (2d ed) (2006) available at https://apps.who.int/iris/bitstream/handle/10665/43541/9241547073_eng.pdf?sequence=1.

[61] R. Bonita, et al., BASIC EPIDEMIOLOGY at 133, World Health Organization (2d ed) (2006) available at https://apps.who.int/iris/bitstream/handle/10665/43541/9241547073_eng.pdf?sequence=1.

[62] *Id.*

[63] *Id.*

[64] R. Bonita, et al., BASIC EPIDEMIOLOGY at 139, World Health Organization (2d ed) (2006) available at https://apps.who.int/iris/bitstream/handle/10665/43541/9241547073_eng.pdf?sequence=1.

treatment for COVID-19. That makes the second element—prevention—all the more clinically important.

33. Prevention of disease is a cornerstone of clinical practice and public health. This is no less true in the midst of a deadly pandemic. There are different levels of prevention. Primary prevention is designed "to limit the incidence of disease by controlling specific causes and risk factors."[65] Secondary prevention aims to reduce the more serious consequences of disease through early diagnosis and treatment."[66] "Tertiary prevention is aimed at reducing the progress or complications of established disease," and often overlaps with treatment of chronic disease.[67]

34. In the case of COVID-19, primary prevention through adequate and continuous physical distancing, use of masks, and good hand hygiene, early diagnosis through testing of symptomatic and asymptomatic individuals, and isolation of infected persons with quarantine of their contacts are critical to containing COVID-19, especially in light of the risk of asymptomatic transmission of the virus. That said, the Department of Corrections has not been able to provide adequate physical distancing of inmates and staff (as described in Petitioners' declarations provided to me) and has tested only a small percentage of the total population (24 out of 1,938),[68] focusing only on symptomatic

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[65] R. Bonita, et al., BASIC EPIDEMIOLOGY at 103, World Health Organization (2d ed) (2006) available at https://apps.who.int/iris/bitstream/handle/10665/43541/9241547073_eng.pdf?sequence=1.

[66] R. Bonita, et al., BASIC EPIDEMIOLOGY at 109, World Health Organization (2d ed) (2006) available at https://apps.who.int/iris/bitstream/handle/10665/43541/9241547073_eng.pdf?sequence=1.

[67] *Id.*

[68] Daily Dashboard, Maine Dep't of Corrections (May 11, 2020), https://www.maine.gov/corrections/home/MDOC%20COVID19%20Web%20Dashboard%205-11-2020.pdf.

cases.[69] These measures are insufficient in light of what would likely be a high rate of COVID-19 transmission in a closed congregate prison setting—meaning that asymptomatic and pre-symptomatic cases could transmit disease widely and trigger an outbreak of COVID-19 even before the first positive case was detected.

35. The absence of adequate primary prevention and testing in DOC facilities, plus the absence of any treatment or vaccine for COVID-19, makes enhanced measures of primary prevention of paramount importance. To protect medically vulnerable individuals—as well as other individuals and staff—it is necessary to be able to engage in adequate physical distancing at all times. When physical distancing is not possible in one setting, people should be moved out of that setting to the greatest extent possible. For example, physical distancing is generally not possible in K-12 schools, so state and local governments across the country have reasonably decided to close schools and to provide education remotely. In other risky settings such as prisons, all available options should be considered for transferring people (especially those who are medically vulnerable to serious illness or death) to another setting in which they can safely perform adequate physical distancing.

36. To the extent the Department of Corrections is failing to ensure physical distancing (as described in Petitioners' declarations provided to me), they are failing to provide necessary measures to prevent COVID-19, especially for the most medically vulnerable prisoners. It is inappropriate to take a wait-and-see approach to COVID-19. There is no

[69] Megan Gray, *Maine prisons pressured to release more inmates, and information, during pandemic*, Portland Press Herald (May 3, 2020), https://www.pressherald.com/2020/05/03/maine-prisons-pressured-to-release-more-inmates-and-more-information-during-pandemic/ (stating that "[n]o tests were necessary for COVID-19 as no clients or staff became symptomatic as a result of exposure" to an employee who tested positive).

effective medical treatment for the virus itself and available interventions—including oxygen support and ventilators—are expensive and scarce. Medically vulnerable individuals are the most likely to need these types of intensive care. Failing to provide adequate preventive care for medically vulnerable prisoners could lead to serious illness and death, increased spread of the disease in the prison and the greater community, and greater burdens on scarce medical resources.

37. Pursuant to 28 U.S.C. § 1746, I declare under penalty of perjury that the foregoing is true and correct.

Executed this 14th of May, 2020

/s/ R. Gibson Parrish

R. Gibson Parrish, M.D.