

IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF MARYLAND

JEROME DUVALL, *et al.*,

*

Plaintiffs,

*

v.

* Civil Action No. ELH-94-2541

LAWRENCE HOGAN, *et al.*,

*

Defendants.

*

SUPPLEMENTAL DECLARATION OF CHRIS BEYRER, MD, MPH

I, Chris Beyrer, M.D., M.P.H., declare as follows:

1. I am a professor of Epidemiology, International Health, and Medicine at the Johns Hopkins Bloomberg School of Public Health, where I regularly teach courses in the epidemiology of infectious diseases. This current semester, I am teaching the epidemiology course on emerging infections at Hopkins. I am a member of the National Academy of Medicine, a former President of the International AIDS Society, and a past winner of the Lowell E. Bellin Award for Excellence in Preventive Medicine and Community Health. I have been active in infectious diseases Epidemiology since completing my training in Preventive Medicine and Public Health at Johns Hopkins in 1992. Over the course of my career, I have at various times studied and published on the spread of infectious diseases within prisons. My curriculum vitae has previously been provided to the Court. Doc. 645-8.
2. I make this Declaration to supplement and update my previous Declaration in this matter, dated April 8, 2020. Doc. 645-7.
3. I am currently actively at work on the COVID-19 pandemic in the United States. Among other activities I am the Director of the Center for Public Health and Human Rights at Johns Hopkins, which is active in disease prevention and health promotion among vulnerable

populations, including prisoners and detainees, in the U.S., Africa, Asia, and Latin America.

4. Maryland was one of the first U.S. states to report COVID-19 cases, reporting its first case on March 3, 2020.¹ On March 5, 2020, Governor Hogan declared a State of Emergency because of the threat to public health presented by the COVID-19 pandemic.² On March 16, 2020, the Governor announced an executive order that included an order of social distancing for all Maryland residents.³ On March 30, 2020, the Governor issued a “shelter in place” order to all Maryland residents.⁴ On April 3, 2020, the Governor stated, “We now have widespread, community transmission. This virus is everywhere and it is a threat to nearly everyone.”⁵
5. As of May 15, 2020, Maryland has confirmed and reported 36,986 cases of coronavirus statewide, with 1,496 current hospitalizations and 1,792 deaths resulting from the virus.⁶ These numbers have soared exponentially since the first 3 confirmed cases in Maryland on March 3, 2020, and the number of cases is doubling approximately every four days.
6. According to the latest analysis from Institute of Health Metrics and Evaluation, Maryland recently reached its peak count of daily COVID-19 deaths on approximately May 12, 2020.⁷ On this date alone, Maryland had 58 COVID-19 related deaths.⁸ Maryland is

¹ <https://www.wbaltv.com/article/timeline-coronavirus-in-maryland/31394971>

² *Id.*

³ *Id.*

⁴ *Id.*

⁵ <https://www.baltimoresun.com/coronavirus/bs-md-hogan-friday-updates-20200403-zrsvgdh335hnhn43frusflccxy-story.html>

⁶ <https://coronavirus.maryland.gov>

⁷ <https://covid19.healthdata.org/projections>

⁸ *Id.*

projected to have a shortage of ICU beds available for coronavirus patients until at least June 24, 2020.⁹

7. As of May 11, 2020, Maryland has confirmed and reported 290 cases of coronavirus in its prisons in 19 different facilities.¹⁰ This number includes 200 corrections officers, 13 non-uniformed staff, and 77 inmates. Five inmates have died from COVID-19. The predominance of cases among officers and civilian staff was also seen at the start of the Wuhan prison outbreaks and on Rikers Island in New York. There was a total of 3 reported cases statewide on March 30. On March 31, an anonymous corrections officer at Jessup Correctional Institution stated, “My fear is that it’s already spread through the prison, and it’s just going to continue to spread like wildfire. And it’s going to be a disaster.”¹¹

The nature of COVID-19

8. The SARS-nCoV-2 virus, and the human infection it causes, COVID-19 disease, is a global pandemic and has been termed a global health emergency by the World Health Organization. Cases first began appearing sometime between December 1, 2019 and December 31, 2019 in Hubei Province, China. Most of the initial cases were associated with a wet seafood market in Wuhan City.
9. On January 7, 2020, the virus was isolated and identified. The virus was analyzed and discovered to be a coronavirus closely related to the SARS coronavirus which caused the 2002-2003 SARS epidemic.

⁹ *Id.*

¹⁰ Office of Communications and Outreach, Department of Public Safety and Corrections, *Maryland Department of Public Safety and Correctional Services COVID-19 Semiweekly Update – May 11, 2020*, <https://htv-prod-media.s3.amazonaws.com/files/mon-05-11-2020-1589225435.pdf>

¹¹ <https://baltimore.cbslocal.com/2020/03/31/correctional-officer-fears-more-coronavirus-cases-in-maryland-prisons/>

10. On March 11, 2020, the World Health Organization (WHO) announced that the outbreak of COVID-19 is a pandemic.¹² On March 13, President Trump declared a national emergency.¹³
11. As of May 14, 2020, the Centers for Disease Control and Prevention (CDC) has confirmed 1,384,930 cases of COVID-19 in the United States, and 83,947 people in the United States have died of the disease.¹⁴ The CDC projects that over 200 million people in the United States could be infected with COVID-19 over the course of the pandemic without effective public health intervention, with as many as 200,000 to 1.7 million projected deaths under a worst case scenario.¹⁵
12. COVID-19 is a serious disease. There is no vaccine or known cure. The overall case fatality rate has been estimated to range from 0.3 to 3.5% in most countries, but over 14% in Italy. This is 5-35 times the fatality associated with influenza infection. COVID-19 is characterized by a flu-like illness. Overall, approximately 1 in 5 cases will have severe disease requiring medical intervention and support.
13. Once contracted, COVID-19 can cause severe damage to lung tissue, including a permanent loss of respiratory capacity, and it can damage tissues in other vital organs, such as the heart, central nervous system, and liver.¹⁶

¹² <https://www.who.int/emergencies/diseases/novel-coronavirus-2019/events-as-they-happen>

¹³ <https://www.whitehouse.gov/presidential-actions/proclamation-declaring-national-emergency-concerning-novel-coronavirus-disease-covid-19-outbreak/>

¹⁴ <https://www.cdc.gov/coronavirus/2019-ncov/cases-updates/cases-in-us.html#2019coronavirus-summary>

¹⁵ <https://www.nytimes.com/2020/03/13/us/coronavirus-deaths-estimate.html>

¹⁶ Centers for Disease Control, *Interim Clinical Guidance for Management of Patients with Confirmed Coronavirus Disease (COVID-19)*, <https://cutt.ly/etRPVRI>

14. The case fatality rate can be significantly higher depending on the presence of certain demographic and health factors. The case fatality rate is higher in men, and varies significantly with advancing age, rising after age 50. It can be as high as 13% of cases among those with underlying cardio-vascular disease.
15. Among patients who have more serious disease, some 30% will progress to Acute Respiratory Distress Syndrome (ARDS) which has a 30% mortality rate overall, higher in those with other health conditions. Some 13% of these patients will require mechanical ventilation, which is why intensive care beds and ventilators have been in insufficient supply in the United States, Italy, Iran, and in parts of China.
16. COVID-19 can severely damage lung tissue, which requires an extensive period of rehabilitation, and in some cases, cause permanent loss of breathing capacity. COVID-19 may also target the heart, causing a medical condition called myocarditis, or inflammation of the heart muscle. Myocarditis can reduce the heart's ability to pump.
17. People over the age of fifty face a greater risk of serious illness or death from COVID-19. According to the World Health Organization February 29, 2020 preliminary report, individuals age 50-59 had an overall mortality rate of 1.3%; 60-69-year-olds had an overall 3.6% mortality rate, and those 70-79 years old had an 8% mortality rate.¹⁷
18. People of any age who suffer from certain underlying medical conditions, including lung disease, heart disease, chronic liver or kidney disease (including hepatitis and dialysis patients), diabetes, epilepsy, hypertension, compromised immune systems (such as from cancer, HIV, or autoimmune disease), blood disorders (including sickle cell disease),

¹⁷Age, Sex, Existing Conditions of COVID-19 Cases and Deaths Chart, <https://www.worldometers.info/coronavirus/coronavirus-age-sex-demographics/> (data analysis based on WHO China Joint Mission Report, *supra*).

inherited metabolic disorders, stroke, developmental delay, and asthma, also have an elevated risk. The World Health Organization February 29, 2020 report estimated 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.

19. COVID-19 is widespread. Since it first appeared in Hubei Province, China, in late 2019, outbreaks have subsequently occurred in more than 209 countries and on all populated continents. Heavily affected countries include Italy, Spain, Iran, South Korea, and the U.S., which is now the world's most affected country. As of May 20, 2020, there have been approximately 4.93 million confirmed human cases globally, 324,000 known deaths, and some 1.71 million persons have recovered from the infection. The pandemic has been termed a global health emergency by the WHO. It is not contained and cases are growing exponentially.
20. COVID-19 is now known to be fully adapted to human-to-human spread. This is almost certainly a new human infection. This means that there is no pre-existing or "herd" immunity, allowing for very rapid chains of transmission once the virus is circulating in communities.
21. The U.S. CDC estimates that the reproduction rate of the virus (referred to as the R_0) is 2.4-3.8, meaning that each newly infected person is estimated to infect on average 3 additional persons. In enclosed environments, the R_0 can be even higher. For example, on a cruise ship where a COVID-19 outbreak occurred, it was estimated to be approximately 11. This is highly infectious and only the influenza pandemic of 1918 (which killed between 17 and 50 million people worldwide) is thought to have higher infectivity. This again is likely a

function of all human populations not having pre-existing immunity and currently being highly susceptible.

22. The attack rate, the proportion of people exposed who contract the disease, is also high, estimated at 20-30% depending on community conditions, but may be as high as 80% in some settings and populations, including in closed settings such as nursing homes, ships, and detention facilities. The incubation period is thought to be 2-14 days, which is why isolation is generally limited to 14 days. It is important to note that infected people can be contagious during the incubation period, even before they manifest any symptoms.
23. The best way to slow and prevent spread of the virus is through “social distancing.” Social distancing involves avoiding human contact, and staying at least six feet away from other people. Even vigilant efforts to improve personal hygiene will not be enough to slow the spread of COVID-19. Consequently, every American institution—from schools¹⁸ to places of worship,¹⁹ from businesses²⁰ to legislatures²¹ —have either dramatically reduced the number of people in close quarters, or closed entirely.

The risks of COVID-19 in detention facilities

24. People in congregate environments, which are places where people live, eat, and sleep in close proximity, face increased danger of contracting COVID-19, as already evidenced by the rapid spread of the virus in cruise ships and nursing homes. On May 13, 2020, Maryland

¹⁸ <https://www.cdc.gov/coronavirus/2019-ncov/community/schools-childcare/guidance-for-schools.html>

¹⁹ <https://www.cdc.gov/coronavirus/2019-ncov/community/organizations/guidance-community-faith-organizations.html>

²⁰ <https://www.cdc.gov/coronavirus/2019-ncov/community/guidance-business-response.html>

²¹ <https://cutt.ly/4tRPQne.a>

reported the presence of COVID-19 in 212 of its nursing homes.²² This includes more than 126 cases among residents and staff at Pleasant View Nursing Home.²³

25. Detention centers are congregate environments. COVID-19 poses a serious risk to inmates and workers in detention facilities. Detention facilities, including jails, prisons, and other closed settings, have long been known to be associated with high transmission probabilities for infectious diseases, including tuberculosis, multi-drug resistant tuberculosis, MRSA (methicillin resistant staph aureus), and viral hepatitis.
26. Infections that are transmitted through droplets, like influenza and SARS-nCoV-2 virus, are particularly difficult to control in detention facilities, as 6-foot distancing and proper decontamination of surfaces is virtually impossible. For example, several deaths were reported in the U.S. in immigration detention facilities associated with ARDS following influenza A, including a 16-year old male immigrant child who died of untreated ARDS in custody in May 2019.
27. There are a number of features of detention facilities that can heighten risks for exposure, acquisition, transmission, and clinical complications of these infectious diseases. These include physical/mechanical risks such as overcrowding, population density in close confinement, insufficient ventilation, shared toilet, shower, and eating environments, and limits on hygiene and personal protective equipment such as masks and gloves in some facilities. In addition to these factors, I understand:

²² <https://www.baltimoresun.com/coronavirus/bs-md-nursing-home-deaths-20200513-4o4lmuemgjfmbac2bv7rir5lze-story.html>

²³ <https://www.baltimoresun.com/coronavirus/bs-md-coronavirus-cluster-response-20200401-vbdynzsd5zaebdrsokao2gxthu-story.html>

- a. It is virtually impossible for people who are confined in prisons, jails, and detention centers to engage in the necessary social distancing required to mitigate the risk of transmission, particularly at typical population levels that involve dorm, pod and double-cell housing.
 - b. Hot water, soap, and paper towels are often in limited supply. Limits on soap (copays are common) and hand sanitizer, since it can contain alcohol, are also risks for spread.
 - c. Incarcerated people, rather than professional cleaners, are responsible for cleaning the facilities and often are not given appropriate supplies.
 - d. Correctional facilities frequently have insufficient medical care for the population even outside times of crisis.
28. Additionally, the high rate of turnover and population mixing of staff and detainees increases likelihoods of exposure. Reported outbreaks of COVID-19 in multiple detention facilities in China are associated with introduction into facilities by staff. Similarly, for the outbreak at Rikers Island in New York City, the majority of early cases were among prison staff, not inmates. The early evidence from Maryland also suggests it is following this trend – early and current reports from the Department of Public Safety and Correctional Services indicate over two thirds of COVID-19 cases are among staff.²⁴
29. The evidence concerning COVID-19 indicates that once it enters a detention center, it spreads significantly faster inside the detention center than outside. In the United States,

²⁴ Office of Communications and Outreach, Department of Public Safety and Corrections, *Maryland Department of Public Safety and Correctional Services COVID-19 Semiweekly Update – May 11, 2020*, <https://htv-prod-media.s3.amazonaws.com/files/mon-05-11-2020-1589225435.pdf>

this is demonstrated by dramatic outbreaks in the Cook County jail,²⁵ Rikers Island in New York City, and at a federal prison in Lompoc, California, where nearly 70% of inmates have tested positive for COVID-19.²⁶

30. I have been informed that as of May 18, the Baltimore City Detention Center (BCDC) has had eight inmates, seven staff, and eight vendor employees test positive for COVID-19. In light of these infections, and based upon our knowledge of the virus's propagation in prisons and jails, we can expect COVID-19 to spread rapidly among inmates and staff at BCDC, and from there into the community, unless immediate steps are taken to make social distancing possible.

31. In addition to the nature of the prison environment, prison and jail populations are also at additional risk, due to high rates of chronic health conditions and aging and chronically ill populations who may be vulnerable to more severe illnesses after infection, and to death from COVID-19 disease. A study of those incarcerated who are over the age of 55 in the Texas prison system showed that two thirds have at least one comorbid condition such as hypertension, asthma, ischemic heart disease, COPD, and cerebrovascular disease. Furthermore, 40% of all incarcerated persons have at least one chronic illness.

The risks of community spread from detention facilities

32. The history of severe epidemics indicates that once an epidemic is in a prison, it is likely to spread back into the community.

²⁵ Sam Kelly, *134 inmates at Cook County Jail confirmed positive for COVID-19*, CHICAGO SUN-TIMES (Mar. 30, 2020). <https://cutt.ly/6tYTqi5>.

²⁶ Richard Winton. *70% of inmates test positive for Coronavirus at Lompoc federal prison* (May 9, 2020). *Los Angeles Times*. <https://www.latimes.com/california/story/2020-05-09/coronavirus-cases-lompoc-federal-prison-inmates>

33. For example, severe epidemics of Tuberculosis in prisons in Central Asia and Eastern Europe were demonstrated to increase *community* rates of Tuberculosis in multiple states in that region. This is the case for several reasons. First, correctional officers and other staff go back to their communities every day. Because individuals can be infected with and spread COVID-19 without or before they manifest symptoms, screening may not detect when a staff member has become infected. In other words, the possibility of asymptomatic transmission means that monitoring fever of staff or detainees is inadequate for identifying all who may be infected and preventing transmission. While I understand that the DPSCS has stated it is conducting temperature checks and administering a screening questionnaire, I do not believe such screening is sufficient to prevent spread of COVID-19 back into the community since it is now known that asymptomatic persons with normal temperatures can be infected with COVID-19 and infectious for others.
34. Second, detention facilities typically lack the necessary medical facilities to isolate or treat persons infected with COVID-19. As discussed above, COVID-19 can cause serious medical conditions, including Acute Respiratory Distress Syndrome (ARDS), other types of severe lung tissue damage, diminished breathing capacity, and heart conditions including myocarditis. These are serious medical conditions that require hospitalization. To the extent incarcerated persons develop any of these conditions, they will need to be hospitalized, placing a toll on community hospitals. As stated above, Maryland is already projected to have a shortage of ICU hospital beds available for coronavirus patients until at least June 24, 2020.

35. Given these factors, it is a near certainty that a COVID-19 outbreak cannot and will not be contained within a prison's walls. Rather, it will reemerge back into the community. This in turn will undermine the efforts Maryland has made to date to reduce spread of the virus.

Conclusion and Recommendations

36. Given the experience in China as well as the literature on infectious diseases in jail, additional outbreaks of COVID-19 among the U.S. jail and prison populations are highly likely. Releasing as many inmates as possible is important to protect the health of inmates, the health of correctional facility staff, the health of health care workers at jails and other detention facilities, and the health of the community as a whole. Detainees can be safely released into the community from facilities where COVID-19 has been documented, given that they have an appropriate place ready to accept them and where they can shelter in place in safe self-isolation for fourteen days post release. This would be the same situation as currently recommended for anyone with a documented exposure to a known case. Indeed, at this writing COVID-19 Task Force leader Dr. Fauci is currently in self-isolation due to an exposure to a staff member at the White House.

37. Despite the significant restrictions Governor Hogan has ordered, state and local correctional officials have not provided assurances that correctional facilities in Maryland have implemented or can implement key recommendation to prevent spread of COVID-19 in correctional facilities, or from correctional facilities to the community. In particular, these officials have not indicated that Maryland correctional facilities have implemented or plan to implement the measures necessary to achieve social distancing, screening, medical isolation or quarantine, or enhanced hygienic practices that have been deemed essential to prevent the spread of coronavirus.

38. While every effort should be made to reduce exposure in detention facilities, this may be extremely difficult to achieve and sustain. It is therefore an urgent priority in this time of public health emergency to reduce the number of persons in detention as quickly as possible.

I declare under penalty of perjury that the foregoing is true and correct.

Executed this 20th day of May, 2020.

A handwritten signature in dark ink, appearing to read "Chris Beyrer". The signature is fluid and cursive, with a long horizontal stroke extending to the right.

Chris Beyrer, M.D., M.P.H.

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