

COVID-19 and the Uncovering of Health Care Disparities in the United States, United Kingdom and Canada: Call to Action

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The coronavirus disease 2019 (COVID-19) pandemic created a crisis that disproportionately affected populations already disadvantaged with respect to access to health care systems and adequate medical care and treatments. Understanding how and where health care disparities are most widespread is an important starting point for exploring opportunities to mitigate such disparities, especially within our patient population with liver disease. In a webinar in LiverLearning, we discussed the impact of the pandemic on the United States, United Kingdom and Canada, highlighting the disproportionate effects on infection rates and death for certain ethnic minorities, those socioeconomically disadvantaged and living in higher density areas, and those working in health care and other essential jobs. We set forth a “call to action” for members of the American Association for the Study of Liver Diseases and the larger community of providers of liver disease care to generate viable solutions to improve access to care and vaccination rates of our patients against COVID-19, and in general help reduce health care disparities and improve the health of disadvantaged populations within their communities. Solutions will likely involve personalized interventions and messaging for communities that honor local leaders and embrace the diverse needs and different cultural sensitivities of our unique patient populations. (*Hepatology Communications* 2021;5:1791-1800).

Severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) and its associated coronavirus disease 2019 (COVID-19) infection continues to profoundly affect our daily lives, and this crisis disproportionately affected and continues to affect populations who are already disadvantaged with respect to access to health care systems and adequate medical care and treatments. Understanding how and where health care disparities are most widespread is an important starting

point for exploring opportunities to mitigate such disparities. In this paper, we aim to highlight several important areas of discussion on this topic and establish a “call to action” for members of the American Association for the Study of Liver Diseases (AASLD) and the larger community of providers for patients with liver disease to generate viable solutions to improve access, reduce health care disparities, and improve the health of disadvantaged populations within our communities.

Abbreviations: AASLD, American Association for the Study of Liver Diseases; BAME, Black, Asian (including Indian, Pakistani and Bangladeshi origin) and minority ethnic; COVID-19, coronavirus disease 2019; NHS, National Health Services; SARS-CoV-2, severe acute respiratory syndrome coronavirus 2.

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Increased COVID-19 risk has been attributed to several factors, including socioeconomics, housing, lifestyle, innate susceptibility, racial and gender discrimination, nutritional, environmental, cultural factors, and lack of access to health care in accessing health care. On September 10, 2020, a webinar sponsored by the AASLD Task Force on COVID-19 to discuss health care disparities highlighted by the pandemic took place.⁽¹⁾ Invited to participate were expert members from the United States, Canada, and the United Kingdom. The choice to highlight these countries in particular was due to our ability to access publicly available data for discussion and comparison, and our interest in determining whether differences in health care delivery in these countries led to similar or different outcomes. Our discussions focused on health care disparities, and in particular the disproportionate impact of COVID-19 on some communities. While considering viable solutions, we recognized the need for improving our understanding of the social determinants of health and well-being in the context of geographic, economic, and cultural differences across our diverse communities. Future solutions will require active conversations and engagement of a diverse community of stakeholders and providers to generate innovative solutions that are relevant to the constituent populations in which these solutions are deployed.

United States

Initial discussion in the webinar focused on data from the Centers for Disease Control (CDC) showing that the number of cases, hospitalizations, and

deaths due to COVID-19 are increased significantly in the Black/African American, Hispanic/Latinx, and American Indian/Alaskan native populations compared with White, non-Hispanic persons.^(2,3) The observed disparity among racial and ethnic minorities is likely in part due to lower socioeconomic status and differences in access to flexible resources (e.g., knowledge, money, and power) as a result of structural racism. The negative economic impact and the rapid onset of a recession that followed the start of the COVID-19 pandemic was heightened in populations already at or below the poverty level and with fewer flexible resources before this crisis.⁽⁴⁾ Residential and occupational factors also heightened the impact of COVID-19 risk in the Black/Latinx populations.^(5,6) Residential segregation among Black and Latinx populations contributed to the disproportionate burden of COVID-19 due to higher population density within households and neighborhoods.⁽⁷⁾ Black and Latinx populations also represent a disproportionate percentage of front-line service industry, production, and transportation workers with limited employment rights and protection and increased exposure to COVID-19, due to their working conditions and inability to work from home. As an example, Black and Latinx communities in New York City already had lower resourced health care facilities with fewer specialists and higher mortality rates.⁽⁸⁾ In addition, a higher percentage of individuals were in lower-wage jobs without health care benefits.⁽⁹⁾ COVID-19 intensified the disparities within already disadvantaged populations. Consequential problems have included delays in diagnosis, decreased health care access, in part due to limited health insurance coverage in Black

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and Latinx communities, delay or lack of treatment, and increased exposure to SARS-CoV-2. Therefore, solutions must address each of these issues to effectively negate the disproportionate impact of this pandemic and other future crises.

The direct impact of COVID-19 on patients with chronic liver disease and comorbid conditions is now well recognized. Early studies suggested that patients with cirrhosis had a statistically significant increased risk of death at 30 days when compared to hospitalized patients without cirrhosis (18% vs. 34%, $P = 0.035$).⁽¹⁰⁾ A later study done by Marjot et al. looked at overall survival, comparing those with chronic liver diseases to those with cirrhosis, and demonstrated that the risk of death increased with the increased burden of liver disease, with worse outcomes in those with Child Pugh class C cirrhosis.⁽¹¹⁾ Although the risk of death in those with cirrhosis is higher than the general population, COVID-19 poses an additional risk for those with end-stage liver disease (ESLD). Liver transplantation remains the mainstay for long-term survival in patients with ESLD. Data analysis demonstrated a strong temporal association with the increase in the number of COVID-19 cases and dramatic decrease in the number of solid organ transplants, with a 90.6% reduction in France and a 51.1% decrease in the United States early in the pandemic.⁽¹²⁾ Although there is acute risk for those hospitalized with COVID-19 and chronic disease, these data suggest that the lack of access to care and the aversion to seeking care for both acute and chronic diseases have further compounded the health of those with liver disease. As people sheltered in place, many made the decision not to seek care for things other than COVID-19-related illness, due to fear of contracting COVID-19 in the health care setting. The study by Mannucci et al. demonstrated that in the early pandemic there was an excess rate of death not accounted for by COVID-19, which likely represents an increase in death rates because people decided not to seek care due to fear of infection and well as decrease access to care during the height of the pandemic.⁽¹³⁾ A recent simulation suggests that due to decrease hepatitis C virus (HCV) programming and treatment of HCV during the pandemic, we can expect an increase in incident viral diagnoses, viremic cases, hepatocellular carcinoma, and liver-related deaths.⁽¹⁴⁾ The data suggest that efforts must be made to improve education, access, and care

delivery in the management of chronic liver diseases and other chronic medical conditions. At the same time, national authorities need to calibrate very carefully lockdown measures, redeployment of health care staff, suspension of health services, and risk communication around COVID-19, to balance the need to control the pandemic with the need to maintain all other essential health services. Careful monitoring of all-cause mortality and identifying suitable proxy indicators to assess the unintended opportunity costs and adverse effects on the delivery of other health services is essential to that process. During this time, if special attention is not given to these issues, we stand to lose significant ground in addressing disparate health outcomes in our most vulnerable populations.

United Kingdom

In the United Kingdom, even with the provision of universal health care by the National Health Services (NHS), there has been a concerning disproportionate impact of COVID-19 on Black, Asian (including Indian, Pakistani, and Bangladeshi origin) and minority ethnic (BAME) groups.⁽¹⁵⁾ Black and Asian patients are overrepresented among the group of critically ill patients with COVID-19 receiving advanced respiratory support. The transmission of COVID-19 in the United Kingdom has been higher in relatively larger households,⁽¹⁶⁾ and moreover, the risk of death from COVID-19 has been higher in south Asian women aged 65 years or older in multigenerational households than in south Asian men, suggesting a relationship with gender. Existing evidence has been translated into strong recommendations from the major UK community organizations, including prioritizing testing for ethnic minority workers and their households, ethnicity data to record all contact points along the health care systems, and implementation of culturally and linguistically competent outreach campaigns through multiple channels (e.g., local government, community and faith groups, as well as voluntary and third sector organizations).⁽¹⁷⁾ The UK national lockdown rules, policies, and communications did not sufficiently reflect the increased risk faced by ethnic minority groups and others unequally affected. The Ministry of Housing, Communities and Local Government announced in October 2020 a welcomed community champions program, supported

with £25 million of funding to partner with local government authorities to reach groups at risk.⁽¹⁸⁾ It is hoped that this campaign will communicate and implement actions more effectively with minority groups and those with social, housing, and occupational disadvantages.

Within these ethnic minority groups, health care workers have also been disproportionately affected, accounting for approximately 63% of staff deaths.^(19,20) For patients in the United Kingdom, the NHS has a common electronic record; therefore, epidemiologic data could be determined for those with COVID-19-positive tests. In hospitals in England and Wales, from March 1, 2020, to April 1, 2020, data for mortality also included ethnicity data for the first time. A standardized mortality ratio (SMR) was calculated that accounted for age and region, showing some BAME subgroups had up to an approximate 9-fold increase in SMR compared with White Irish and British people, with males and females equally affected. Although data from ethnic disparities in COVID-19 hospitalizations and mortality have been reported, there has been relatively little understanding of how these inequalities in outcome are being driven.

The UK Biobank is an important prospective cohort study of 448,664 individuals aged 40-69 years that was operational between 2006 and 2010, when information on ethnic background and potential explanatory factors were first captured.⁽²⁰⁾ Following an analytical sample of 248,820 women as enrolled patients during the pandemic from this study, linked to a national mortality registry, there were 354 deaths attributed to COVID-19 between March 5, 2020, and September 17, 2020. After adjusting for age and gender relative to White participants, Black study members experienced about 7 times the risk of COVID-19 mortality (odds ratio; 95% confidence interval [CI]: 7.25; 4.65-11.33); the risk doubled among South Asian (Pakistani, Indian, and Bangladeshi heritage) study participants (1.98; 1.02-3.84). Adjusting for baseline comorbidities, factors such as socioeconomic circumstances and lifestyle explained 53% of the differential in risk for South Asians (1.37; 0.68-2.77) and 27% in Black study members (4.28; 2.67-6.86). These studies suggest that residual risk in UK ethnic minority groups for COVID-19 deaths may be explained by factors such as racial discrimination and employment rights.

Efforts to reduce these disparities in the United Kingdom have included programs to ensure linguistically and culturally appropriate health care communication and engagement. In addition, programs to reduce household overcrowding and poor housing accommodation have been launched to decrease occupational risk for exposing household members to infection. The United Kingdom also identified significant barriers of care for migrant populations, and as result removed all NHS charges for COVID-19-related care. However, many secondary care charges remain in place for certain categories of migrants, and NHS hospital trusts are still required to assess all patients for eligibility for free treatment. A coalition of organizations including the Faculty of Public Health have called on the government to suspend these additional charges for migrants during the pandemic.^(21,22) Attention to long-term health conditions as well as emergent care is recognized as important to improve the health of these populations and improving access for vulnerable groups like these protects the wider population as well. Additional protections to safeguard children have been made by providing continued education for children and ensuring adequate income protection for low-paid, nonsalaried workers, so that they follow national isolation and “stay at home” recommendations as part of the UK pandemic lockdown ruling.⁽²³⁾ Finally, data sharing between the NHS and the local home office was put in place to encourage real-time programming and sharing of best practices.

Canada

In Canada, the health care system has faced different challenges, including how to continue to provide care to a large number of sparsely populated regions with fewer resources located far away from a major medical center. Furthermore, although Canada has a universal single-payer system, there are private and public options for care and differences in costs for items such as prescription drugs, long-term and mental health care, and other health services. These social determinants have been associated with health care disparity among different socioeconomic groups and across race and ethnicity, specifically the “First Nation” (indigenous) population. A report from the Canadian Institutes of Health Information reported

that 69% of all deaths due to COVID-19 occurred in long-term care and retirement homes, compared with the international average of 41%.⁽²⁴⁾ Similar to other countries, COVID-19 had disproportionately affected seniors, low-income earners, new Canadians, visible minorities especially with language barriers (Black, Arab or mid-Eastern, Latin American, South Asian, Indo Caribbean, or Southeast Asians). In particular, persons at risk included those working in “blue-collar” essential occupations and those unable to work from home (i.e., especially confined working conditions, long-term-care homes, meat-packing plants, service industry).⁽²⁵⁻²⁷⁾ In larger urban centers with denser population housing, and less affluent neighborhoods with less access to outdoor space (i.e., Toronto, Montreal, and Calgary), there has been an overrepresentation of COVID-19 cases.⁽²⁸⁾ These neighborhoods tend to have more essential and low-income workers, who lack paid sick leave.⁽²⁹⁾ The implementation of strict travel restrictions in Eastern Canadian provinces (i.e., the Atlantic bubble) and isolated Northern Regions (i.e., Yukon, Nunavut, and North West Territories) was successful in mitigating the spread of SARS-CoV-2 and COVID-19 to less densely populated regions. A proactive, preventive “COVID-zero” response versus reactive yo-yo strategy of partial opening and lockdown may have greater long-term economic benefits. Additional factors associated with health care disparities arising from COVID-19 in Canada include lower socioeconomic status, lack of guaranteed sick-leave benefits, remote areas without telecommunication/telehealth access, and poor technical literacy. Overall, the pandemic is believed to have set back Canada’s socioeconomic progress, amplifying existing inequities by increasing negative health behaviors, personal debt, and stigma. Populations including those who are homeless, institutionalized, and elderly or suffer from mental and physical disabilities, single parents, and women and children fleeing violence are especially vulnerable. COVID-19 has underscored inequities and will continue to impact long-term care for liver disease in these populations. Early in the pandemic, Canadians reported high trust in public health authorities and turned to them for credible advice during the pandemic, usually adhering to public health recommendations (i.e., physical distancing and masking). It was hoped that the Canadian experience with the

SARS pandemic in 2003 and subsequent mitigating interventions would improve the response to COVID-19.⁽³⁰⁾ A recent report from the Auditor General (AG) of Canada highlighted significant failures in implementation of these recommendations. The AG report stated that the Public Health Agency of Canada was not ready for the pandemic and did not appreciate the threat, with failures in early warning, surveillance, risk assessments, border controls, information technology infrastructure, and data sharing across health jurisdictions. Programs such as the Canada Emergency Wage Subsidy and the Canada Emergency Response Benefit were implemented but were criticized for lacking effective controls to validate eligibility. These programs have led to introduction of parliamentary Bill C-273 to develop a strategy for a universal basic income following the pandemic.⁽³¹⁾

Vaccination Against COVID-19

UNITED STATES

With distribution policy for vaccines in the United States being determined at the state level, about half of all states considered adjustments to their plans based on the CDC social vulnerability index to help counter the earlier disparities in case rates and mortality for COVID-19 in vulnerable populations. Despite this, disparity became evident in early rounds of vaccination against COVID-19, with lower numbers of Black and Latinx individuals receiving vaccines as compared with White individuals. Several reasons accounted for this. Vaccine hesitancy was initially high in Black and Latinx individuals. Further reasons for this disparity were due in part to where centers for distribution of vaccine were set up, and differences in accessibility of these sites and the ability to sign up for appointments to receive the vaccine using online platforms.

Several measures were devised to counter this early trend toward disparity. To break down the barriers to vaccine hesitancy, there were efforts by public officials, including President Biden and Vice President Harris, to receive their vaccinations publicly. Other community leaders did the same. While vaccine hesitancy

was an issue earlier in the pandemic, it became clear that vaccine equity was becoming a major barrier as more vaccines were made available. Many people were unable to engage in the technology to register for vaccination, and vaccination sites were not equitably distributed in those communities with the highest morbidity and mortality from COVID-19. Given the recognition for the need to distribute vaccine to those areas hardest hit by the pandemic, adjustments were made to include centers for vaccination in those areas. Venues that could accommodate large numbers of individuals such as convention centers, sporting arenas, and ballparks were used as vaccination sites, increasing the numbers of daily administrations. Further efforts included community efforts at getting the word out and aiding those who had difficulties with using technology to book appointments. In Baltimore, mobile units were set up to go into neighborhoods to increase awareness of the need to be vaccinated. Other cities and towns set up telephone hotlines to help people book their vaccinations. In New Haven, Connecticut, a door-to-door campaign in one minority community was conducted, and individuals were aided in signing up for vaccination and assisted in getting to available vaccination sites. These represent just some of the efforts at the national and grassroots levels that are turning the tide in favor of breaking down barriers to vaccination.

An important measure discussed publicly in the United States was the early lack of a robust data collection of ethnicity for who was receiving the vaccinations. In many municipalities this was recognized and corrected, but the timeliness, completeness, and accuracy of data collected by states is variable, and there needs to be a federal mandate that defines the expected level of data collection and reporting to assure accountability as we go forward.

UNITED KINGDOM

In comparison to other developed nations, willingness to receive the COVID-19 vaccine in the United Kingdom is relatively lower and therefore concerning. Primary care data analyzed by QResearch indicate that for multiple vaccines, Black African and Black Caribbean groups are significantly less likely to be vaccinated (50%) compared with their White counterparts (70%).⁽³²⁾ Recent UK Household Longitudinal study data, while demonstrating overall high levels of

willingness (82%) to take the COVID-19 vaccine,⁽³³⁾ show significantly marked differences in vaccine uptake by ethnicity. In this study, vaccine hesitancy was significantly higher in women (21.0% vs. 14.7%), younger age groups (26.5% in age 16-24 years vs. 4.5% in 75+ years), and those with lower education levels (18.6% no qualifications vs. 13.2% degree qualified). Specifically, there was higher vaccine hesitancy in Black (71.8%) and Pakistani/Bangladeshi (42.3%) ethnic groups. Furthermore, the odds ratios for vaccine hesitancy were 13.42 (95% CI: 6.86-26.24) in Black and 2.54 (95% CI: 1.19-5.44) in Pakistani/Bangladeshi groups (compared with White British/Irish) and 3.54 (95% CI: 2.06-6.09) for people without qualifications versus those with a university degree.

A multipronged approach through coordinated efforts of physicians, policymakers, health departments, and vaccine manufacturers at the community and national level to make pivotal changes will be essential to improving vital COVID-19 vaccination goals in the United Kingdom. Addressing vaccine hesitancy in the ethnic minority communities is a great challenge within this population. What is further alarming is that 14% of participants in the recent important survey study by Paul et al. expressed unwillingness, and a further 22% of participants were undecided regarding the vaccine.⁽³⁴⁾ The authors present their findings on the prevalence of negative vaccination attitudes and the lack of willingness to receive the COVID-19 vaccine among sociodemographic subgroups in the United Kingdom. The study used data from a large survey that collected online information on general vaccination attitudes with the intention of receiving the COVID-19 vaccine from 32,361 adult participants in the United Kingdom. Furthermore, 16% of the participants expressed a high level of mistrust, with at least one of the four attributes of vaccine hesitancy including safety, preference of natural immunity, commercial exploitation, and general mistrust of vaccine. In response to these challenges, a number of vaccination centers are being established across the United Kingdom, including mass vaccination centers directly supported by NHS England and those that are led by primary care practices and pharmacies. Of particular note, faith centers (e.g., mosques, temples, synagogues and churches) have also been encouraged to further engage with BAME communities in ways that will help to improve vaccine uptake.^(35,36)

CANADA

In Canada, the vaccine rollout has been slow compared with most other developed countries, with variants of concern circulating widely and outpacing vaccine distribution in some regions.⁽³⁷⁾ Shortages in vaccine and personal protective equipment due to Canada's reliance on international supply chains highlighted the need for investment in domestic manufacturing capacity for future pandemics. Vaccine deliveries are accelerating, and it is projected that there will be enough for everyone eligible by September 2021.⁽³⁸⁾ By April 2021, only about 2% were fully vaccinated and about 24% had received one dose. The vaccines are slowly making an impact, with fewer cases in the elderly (>80 age group) and long-term-care homes. Unfortunately, most of the vulnerable, community-dwelling people remain unvaccinated, leading to growth in COVID-19 infections and hospitalizations especially in younger, service-industry workers. To combat vaccine hesitancy, public health officials also relied on so-called "influencers," although social media posts of former prime ministers lining up with the general public at vaccine distribution centers were decidedly more low-key events.⁽³⁹⁾ A statistics Canada report found high vaccine hesitancy rates especially in Black Canadians with Latinx, Arab, and Métis people are also relatively unwilling compared with the general population, attributed to systemic racism and ongoing racial health care inequalities.⁽⁴⁰⁾ It is noteworthy that vaccine acceptance was not much lower in indigenous people, appearing to confirm research that there is no link between colonialism and vaccine hesitancy.⁽⁴¹⁾ Public health outreach efforts included having indigenous elders set an example of getting vaccinated to encourage those who are reluctant and up pop-up clinics in larger centers where indigenous people live.⁽⁴²⁾ A recent survey by the Angus Reid Institute showed that vaccine hesitancy rates are dropping with more people willing to be vaccinated.⁽⁴³⁾

CALL TO ACTION

Our ability to address the heightened disparities in care due to the COVID-19 pandemic depends largely on our ability and willingness to address social determinants of health, including the structural racism that already exists in our societies. We must address the widening gaps in socioeconomic status between racial

groups, disparities by gender, how neighborhood services are provided and delivered in cities and in rural areas, and the social safety net that must exist to permit individuals to continue caring for themselves and their families. For those in migrant and undocumented populations, care must be delivered free of threat of imprisonment or deportation and be extended to cover comorbid chronic conditions. We must understand the history of mistrust in the health care system and with that understanding continue to positively engage our minority communities and work with community stakeholders to create solutions (Table 1). Since the broadcast of the AASLD COVID-19 and health disparities webinar, the success of COVID-19 vaccine clinical trials and subsequent distribution of the vaccine in the United States, United Kingdom, and Canada has generated a focus on optimizing the success of national vaccine distribution plans. Vaccine hesitancy remains one of the top 10 public health threats according to the World Health Organization,⁽⁴⁴⁾ and recent publications have reviewed some aspects of this phenomenon in the United States.^(45,46) Empowering communities to make the right decisions to protect themselves, delivering health information in a culturally sensitive, respectful manner, and education using different languages and communication channels will help counteract misinformation.⁽⁴⁷⁾ Primary care and family practitioners also have an important role to play in addressing vaccine hesitancy and public health measures to prevent disease transmission. In addition, as specialists in care, we must also take the time to address our patients' concerns and answer questions they may have regarding vaccine safety and explain the risk-benefit for those hesitant to be vaccinated. As we continue to roll out vaccinations and new treatments, it is clear that our community partners are critical in creating successful messaging and delivery of services for our communities and lobbying our local and national governments to extend access and coverage.

Another central goal to our call to action is the recruitment of individuals from at-risk populations into clinical trials complemented by the requisite social sciences research, so that populations studied are representative of all in the community. Solutions will therefore not necessarily be uniform, but rather tailored to community needs. By recognizing this, we can make initial steps toward implementing meaningful policies that maximize impact. However, alongside this it is imperative that health

TABLE 1. CALL TO ACTIONS IN THE COVID-19 RESPONSE—A MULTIPRONGED APPROACH FROM AIM TO IMPLEMENTATION

Aim	Action
Establish trust and confidence in vaccine safety and efficacy	Address historical issues of unethical health research that has negatively affected ethnic minority communities
Lower perceived risk, access barriers and inconvenience, socio-demographic context	Promote endorsement by trusted “influencers” and community leaders
Mitigate any decline in adherence related to vaccine rollout	<ul style="list-style-type: none"> • Develop culturally tailored messaging that is coproduced and targeted • Monitor vaccine status, vaccine-related beliefs, and behaviors parallel to existing monitoring of adherence • Develop rapid alerts to allow timely intervention if adherence starts to fall • Plan interventions in advance of needs
Personalize interventions to the diverse needs of different population groups	<ul style="list-style-type: none"> • Focus on community engagement and multilingual, non-stigmatizing communication • Address faith and cultural concerns • Involve key decision-makers within the ethnic minority groups (e.g., community leaders, faith leaders) • Engage primary physician providers in education and vaccine delivery
Encourage involvement of trusted sources (e.g., local health professionals and community champions, such as in the United Kingdom)	Include addressing vaccine hesitancy and vaccine equity to support trust, equitable access, and vaccine engagement.
Monitor and prospectively evaluate systems to inform the interventions	Access real-time data on uptake of vaccination so interventions can be iteratively adapted
Encourage platforms for ongoing teaching and education	Focus communication and behaviors related to vaccines, behaviors, and non-pharmaceutical interventions (e.g., mandatory use of face mask, social distancing, and careful hand hygiene)
Integrate health care delivery	Development of a nationwide digital health capability with universal pharmaceutical supply and access to urgent care essential in the context of a public health emergency

Note: Barriers to vaccine uptake among minority ethnic groups must be understood and addressed within the national COVID-19 vaccination programs of the United States, United Kingdom, and Canada. There is significant risk that vaccine uptake for COVID-19 will be lower among minority ethnic groups, primarily related to trust in vaccine safety and efficacy. Interventions need to be tailored to the differing needs of different ethnic groups.

care providers advocate for those who have suffered and are still suffering the most during this pandemic. This call to action challenges each of us to contribute in a meaningful way to the larger discussion of how we can reduce health care disparities, mitigate their exacerbation by this pandemic, and build back more equal societies.

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