Expert Recommendations for US and Global Preparedness for COVID-19

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The novel coronavirus outbreak that emerged in late 2019 has infected tens of thousands in China, community transmission is feared in other countries, and containment looks increasingly unlikely. **The world is woefully unready for a scenario in which China-like conditions emerge in multiple other countries. The US, in particular, should not assume it is immune to a major domestic outbreak.** While the prevention and control measures in numerous countries may delay the outbreak's spread, they are unlikely to prevent it. Efforts are underway to develop medical countermeasures, but these are unlikely to be ready for widespread use for at least one to two years; meanwhile, the virus has shown in China that it can grow from introduction to a sizable outbreak in just weeks.

There is an urgent but closing window to prepare for large-scale spread of the disease in the US and elsewhere. This paper recommends actions to address pressing gaps in US and global preparedness in the event that COVID-19 cannot be contained and sustained human-to-human transmission occurs beyond China. These recommendations are critical both for this outbreak and for future epidemic threats. The paper draws on consultations over the past two weeks involving experts from the Center for Global Development, the Georgetown Center for Global Health Science and Security, the Nuclear Threat Initiative|Bio, the University of Nebraska Medical Center's College of Public Health, and In-Q-Tel/B.Next.

RECOMMENDATIONS FOR ACTION

- **Develop policy guidance for mitigating outbreaks when the normal health system becomes overwhelmed.** The US government should outline contingency plans for mitigating mass-scale domestic transmission of the virus and for providing mass-scale isolation and treatment. As the US updates its national pandemic planning, it should also develop clear mechanisms for distributed care, including home diagnosis and isolation, and clear guidance and options to local authorities for social distancing measures. Federal and state health authorities should review the crisis thresholds at which these measures would be triggered. In the interim, federal officials should provide regularly updated guidance on best practices for social distancing measures. The US National Academies of Medicine could also convene medical technology companies to recommend investments to improve home isolation and care during a major epidemic or pandemic.

- **Scale up support to frontline health workers. In any novel outbreak, frontline health workers**

bear the greatest risks. In China, reports portray shocking levels of infections among health facility staff, as workers struggle to maintain services amid a growing wave of cases. A comparably sized outbreak in the US might play out similarly; the US health system has limited surge capacity and inadequate support for outbreak readiness. In the immediate term, urgent measures must be taken to ready frontline health workers to safely manage a surge in cases. This must include training and guidance on screening, case management, and infection prevention protocols. It must also address crisis care guidance for health facilities on managing limitations on bed availability and critical supplies. Importantly, this guidance and support should focus not only on hospitals, but also on smaller clinics and urgent care centers where people with COVID-19 symptoms may initially present. The government should also act to address the financial burden that a surge in cases would also pose, as health systems would be forced to increase staffing, hours, personnel risk mitigation, and other measures outside normal budgeted services.

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- **Pursue additional manufacturing capability and reinforce the existing supply chain for Personal Protective Equipment (PPE) and other critical medical supplies.** The US should urgently review its PPE supply chain—for domestic and international use—to determine availability of basic PPE during a respiratory epidemic of COVID-19. The US should urgently develop and publicly communicate plans for PPE distribution within the US and globally. It should also develop options for addressing PPE shortfalls, including scaling up PPE manufacturing, and parameters for reuse in crisis conditions. At a global level, the World Health Organization (WHO) should lead and publish a review of vulnerabilities in the global supply of PPE and explore urgent new mechanisms for global sharing and distribution of limited PPE stores. These analyses should also include other critical medical supplies and equipment that could face shortfalls in a pandemic scenario.

- **Communicate regularly to the public through trusted experts.** Fear, panic, and mis/disinformation will exacerbate preparedness gaps and cost lives. The US should continue to communicate outbreak information to the American public through scientifically credible communicators. The recent practice of communicating through knowledgeable senior HHS, CDC, and NIH officials has been positive and should be maintained. These officials should regularly update the public on planning for COVID-19 spread in the US and globally.

- **Increase and sustain domestic and global preparedness investments.** US pandemic preparedness planning at a federal level waxes and wanes in the absence of a crisis. With the expiration of the 2015 Ebola funding for hospital preparedness, the US must create a more sustainable financing model for hospital epidemic preparedness, as well as preparedness within broader health systems and among urgent care facilities and walk-in clinics. Importantly, the approach used on Ebola—designating a small number of highly capable reference facilities—would be insufficient to meet needs of a more widespread domestic outbreak of COVID-19. Guidance and mechanisms for supplying surge capacity in crisis situations also remains a gap. Funding to enhance public health preparedness for major outbreaks is also inadequate, and needs sustained ongoing support. Meanwhile, at state and local levels, the executive branch should support governors and mayors to develop and exercise preparedness plans for COVID-19 and other emerging pandemic risks.

- **Address urgent vulnerabilities in the developing world.** A virus that can strain a health system like China's will pose enormous challenges to health systems in poor and underdeveloped countries. As Ebola outbreaks have demonstrated, infection prevention is weak, and frontline health workers in the developing world are at particular risk. The US should partner with other donors, philanthropies, and the WHO to reinforce pandemic preparedness and infection prevention and control readiness in the developing world, both urgently for the current outbreak and through longer-term health security investments.

- **Support coordinated international action.** The COVID-19 outbreak is rapidly becoming an international coordination challenge. While the WHO declaration of a Public Health Emergency of International Concern was intended to align international engagement and investments, it has not prevented countries from imposing sweeping travel restrictions despite WHO advice to the contrary. The political and diplomatic challenges around this outbreak will only become more fraught in the weeks ahead. The UN Secretary-General and the WHO Director-General should jointly convene a special UN Security Council meeting to harmonize international action on the outbreak, and consider setting up a standing coordination and leadership platform for high-consequence biological events, such as those with the potential to overwhelm national governments, within the Office of the UN Secretary-General.

- **Support research and innovative technologies.** As with any emerging disease, a tremendous amount of knowledge must be generated to understand the nature of the virus; develop, test, and manufacture medical countermeasures; and determine the evolving epidemiology, best practices for clinical care, and the impact on populations, economies, and security. Likewise, technological innovations hold the potential to support the response to COVID-19 and future major pandemics. Technologies like digital health platforms, rapid point of care diagnostics, and population-level data tools are achievable and could prove important to the response. The US should support collaborative research and innovation, integrating professionals from academia, the private sector, and government to develop and validate knowledge to mitigate the outbreak. This should include pursuit of regulatory, logistic, and broad platform and manufacturing innovation to accelerate bringing solutions into timely use.

- **Amplify diagnostic capacity.** Diagnostic capacity for COVID-19 in the US remains limited, with samples going to centralized CDC and state public health labs and at times taking several days to convey results. These turnaround times burden frontline hospitals that must isolate patients for extended periods while awaiting results. Volumes remain limited even with CDC distribution of its emergency use authorized test kits. Efforts are needed to scale up testing capacity, including through accelerating investments in rapid point-of-care testing.

- **Develop new partnerships to distribute and dispense medical countermeasures for COVID-19 now, before they come online.** Last-mile dispensing of medical countermeasures has not been solved in the US. While there has been progress in major cities, the US should urgently assess its plans, staffing, and partnerships with the private sector for administering and dispensing medical countermeasures for COVID-19 once they come online. These plans should account for a variety of circumstances, including vaccine hesitancy; hard-to-reach communities; protection of healthcare workers and others administering, delivering, or dispensing medical countermeasures; and other disruptions that could impede medical countermeasure delivery, dispensing, or administration.

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