

The 3 Steps Needed to End the COVID-19 Pandemic: Bold Public Health Leadership, Rapid Innovations, and Courageous Political Will

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Table of Contents

Original Manuscript.....	4
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The 3 Steps Needed to End the COVID-19 Pandemic: Bold Public Health Leadership, Rapid Innovations, and Courageous Political Will

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Abstract

The world is experiencing the expansive spread of the virus SARS-CoV-2 in a global pandemic that is placing strains on healthcare, economic and social systems. Commitment to implementing proven public health strategies will require bold public health leadership and courageous acts by politicians. Developing new innovative communication, mitigation and healthcare approaches, particularly in the era of social media is also clearly warranted. We believe that the best public health evidence must inform activities in three priority areas to stop this pandemic: 1) coordinated and consistent stay-at-home orders across multiple jurisdictions, including potential nation-wide mandates; 2) rapid scale-up of SARS-CoV-2 testing; and 3) improving healthcare capacity to respond. The editorial outlines those areas, the rationale behind them, and the call for innovation and the engagement of bold public health leadership to empower courageous political action to reduce the number of people who will die during this pandemic.

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Title: The 3 Steps Needed to End the COVID-19 Pandemic Require Bold Public Health Leadership, Rapid Innovations, and Courageous Political Will

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ABSTRACT

The world is experiencing the expansive spread of the virus SARS-CoV-2 in a global pandemic that is placing strains on healthcare, economic and social systems. Commitment to implementing proven public health strategies will require bold public health leadership and courageous acts by politicians. Developing new innovative communication, mitigation and healthcare approaches, particularly in the era of social media is also clearly warranted. We believe that the best public health evidence must inform activities in three priority areas to stop this pandemic: 1) coordinated and consistent stay-at-home orders across multiple jurisdictions, including potential nation-wide mandates; 2) rapid scale-up of SARS-CoV-2 testing; and 3) improving healthcare capacity to respond. The editorial outlines those areas, the rationale behind them, and the call for innovation and the engagement of bold public health leadership to empower courageous political action to reduce the number of people who will die during this pandemic.

KEYWORDS: COVID-19; coronavirus; SARS-CoV-2

INTRODUCTION

The world is experiencing the expansive spread of the virus SARS-CoV-2 in a global pandemic that was first reported on 31 December 2019¹ in Wuhan, China. What began as cases of pneumonia with unknown etiology was identified as a novel coronavirus on 7 January 2020. COVID-19, the illness that comes from SARS-CoV-2, was named a pandemic by WHO on 11 March 2020.^[1] By that time, it had ravaged much of China. The epidemic is accelerating; the time from the first reported case to the first 100,000 cases was 67 days. It took 11 days for the second 100,000 cases, 4 days for the third 100,000 and 3 days for the fourth 100,000. As of 31 March 2020, there are 858,669 cases and 42,151 deaths in the world attributed directly to COVID-19 (188,530 cases and 3,889 deaths in the US, a 50.3% and 68.5% increase, respectively, in 2 days). We should remember that one month ago, on 1 March, there were only 30 cases in the US.^[2] Every region of the globe is currently impacted by COVID-19.^[3]

The enormous strain this pandemic is placing on healthcare systems across the world is palpable. From testing capacity to supply chains for personal protective equipment (PPE), specimen collection swabs, and supplies and equipment, including ventilators, for those requiring hospital care. New approaches are needed to scale up testing for COVID-19 disease, to reduce needs for PPE and specimen collection swabs, and to allow testing for SARS-CoV2 outside of healthcare facilities.

New cases of COVID-19 infection and casualties continue to multiply and mixed messages abound. As the public health world has urgently recommended COVID-19 prevention measures, they are being questioned as being too vast, hard to follow, invasive to our lifestyle, and damaging to the economy. Public health experts have either been side-lined in the COVID-19 response decisions or have found themselves at odds with much of the information being presented by political

leadership. In the United States, the country currently with the largest number of COVID-19 cases, President Trump extended the initial 15-day of national slow down and called for social distancing until 30 April 2020 in an attempt to reduce the spread of the virus.[4, 5] States like California, Illinois and New York have implemented state-wide “stay-at-home” ordinances while other states have implemented less restrictive measures or no state-wide measures at all.[6-8] Determining the proper scale and timing of these measures is critical to controlling the spread of COVID-19 and the numbers of lives lost. We believe that the best public health evidence must inform activities in three priority areas to stop this pandemic: 1) coordinated and consistent stay-at-home orders across multiple jurisdictions, including potential nation-wide mandates; 2) rapid scale-up of SARS-CoV-2 testing; and 3) improving healthcare capacity to respond.

COORDINATED STAY-AT-HOME ORDERS

There is public health consensus that limiting the number of contacts between persons can slow COVID-19 transmission in a community and give time for healthcare to respond. The most substantial of these approaches is a government order to stay at home except for food and medical needs. While there are now multiple theoretical and practical models about how stay-at-home orders and travel restrictions could slow COVID-19 transmission, it is clear from all of them that consistency in implementation and communication is key. These policies will only be effective if they are implemented in a coordinated manner across large geographic regions where people commonly move, but there remain multiple examples of these public health interventions not being uniformly implemented. For instance, our city (Atlanta, GA, USA) quickly implemented several local variations of stay-at-home recommendations from the multiple city and county levels that comprise our metropolitan area, yet the state-wide recommendation was only implemented several weeks later. This meant that people who are told not to come to work in one Atlanta county had no such

order where they lived and continued to congregate in public places. This patchwork response is not unique to the US and illustrates an underlying lack of understanding about how to use these public health measures to slow transmission of infectious diseases.

This inconsistency in implementing public health measures has also created substantial amounts of public confusion and fodder for social media conspiracy theories, hyper-partisanship and distrust of experts. COVID-19 is the first true global pandemic of the social media era, offering new opportunities for rapid distribution of accurate public health information to millions of people. Unfortunately, these critical public health communications about actions to take to protect oneself from COVID-19 are not easy to differentiate from inaccurate or even dangerously wrong information. Having correct information that is well reasoned and delivered through consistent messaging are all pillars of behavior change, including changing people's transmission-related behaviors in response to COVID-19.[9] Social media is now one of the most predominant ways that people get information, public health must find better ways to communicate about mitigation plans through these forums.

RAPID SCALE-UP OF TESTING

Decisions about COVID-19 mitigation policies must be informed by the best epidemiologic information, which requires rapid scale-up of COVID-19 testing. This will require rapid development of new diagnostic tests, laboratory capacity, testing supply chains, and healthcare personnel to collect the specimens. Novel testing strategies under development, including the use of rapid diagnostic tests, serological tests and self-collected specimens, will improve our ability to screen large number of people quickly and give us new understanding of the extent of exposure, disease and recovery. This information will be vital to epidemiologic modeling to support information-driven decision making on the appropriate timing and scope of the response. There are also a rapidly

growing number of examples of innovative approaches to implementing COVID-19 testing, including some examples of successful large-scale screening programs like drive-up testing in South Korea where thousands of tests were delivered each day.[10]

Changing the course of COVID-19 disease in heavily impacted countries, such as the US, will require a massive scale-up of testing compared to what has been conducted to date. For instance, in the US the rate of total COVID-19 testing up to this point is just under 3,000 tests per 1 million people, or 964,865 overall since 10 January 2020.[11] That has been an admittedly dismal response to testing with a focus mainly on those most severely ill. This rate of testing does not meet the needs of the healthcare sector response much less the needs to better understand COVID-19 epidemiology in a way that will make control measure most effective. We should be to testing at least 1 million US residents every week (0.3% of the population) during this phase of the pandemic. Additionally, there is a need for shorter time from test to results to better guide care and isolation decisions and we must find new ways of reaching more people with testing without overburdening our already taxed healthcare systems.

IMPROVE CAPACITY OF HEALTHCARE

The control of movement and scale-up of COVID-19 testing will only be successful in truncating the COVID-19 pandemic and reducing lives lost if there is an immediate commitment of resources to improve the capacity of the healthcare sector to respond. Reports from multiple countries already impacted by COVID-19 predict that healthcare capacity will be rapidly exceeded as transmission grows under the current predictions of COVID-19 transmission. The ability of the healthcare sector to respond will certainly require coordination of efforts to increase capacity of hospital beds, ventilators, protective equipment, and the clinicians who use them.

Protecting the health and safety of health care workers is vital to the health of each of us and to the workings of our healthcare system. There needs to be a high level of commitment to the safety of healthcare professionals by providing them with the tools to prevent nosocomial COVID-19 infections. While this implicitly means making sure all health care workers have appropriate PPEs, this can also come in the form of telemedicine and other virtual care trends such as chatbots that capitalize on advances in technology to provide care for patients outside of a hospital setting until such time hospitalization is needed. This form of care protects our health care workforce and maximizes the scope of care that can be provided with less impact on the hospital setting.

CONCLUSION

Our global public health response to COVID-19 will only be successful if we rapidly generate the best data to inform decisions from our political leaders regarding resources and policies to slow transmission and improve our response. This is an unprecedented global public health crisis that will require not only strong political commitment and courage, but also innovation on a capacity and timing scale that was inconceivable 3 months ago. What we do right now, and how quickly we do it, will directly change how long COVID-19 is with us and how many people will die. It is critical that science-based information guide our public health strategies and that leaders listen to our best information.

Much of public health is about making changes to better human life but without much announcement. It is impossible to determine the number of lives saved from epidemiologic research, yet it is unquestionable that our discipline has saved millions of lives, through the implementation of interventions and preventative programs. Our training to understand and use

data to protect our communities has not been needed more. It is also our responsibility to use our skills wisely, and in a steadfast way that does not bend to the whim of politics, but instead affirms what we know, loudly if needed, and names what we still need to determine as quickly and accurately as possible to protect our world.

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