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COVID-19 Crisis Creates Opportunities for Community-Centered Population Health

Community Health Workers at the Center

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Abstract: Dealing with the COVID-19 coronavirus requires a coordinated transnational effort. We propose a 2-stage state-led effort that utilizes community health workers (CHWs). We spell out what is beginning to occur in states to control and suppress COVID-19. In the second stage, we suggest working with these CHWs as a key element in the next evolution of our health care system: community-centered population health. **Key words:** *community, community health workers, COVID-19, population health, state leadership*

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DEALING WITH the COVID-19 coronavirus requires a coordinated transnational effort. As of early April, it has become apparent that the more medicalized and decentralized the society, the more widespread the virus. Still, the catastrophe is worldwide and exploding in the United States as we write these words attempting to draw meaning from it (Nacoti et al., 2020).

The virus has exposed glaring weaknesses that cannot be unseen. The US health care system's embrace of patient-centered care is being tested. This has been the best that our US system has to offer, placing patients at the center of a clinical care team in a medical setting. By downplaying the importance of social and other structural determinants of health, including racial and ethnic inequities, we have worsened our current crisis. We have guaranteed that its burdens will be unequally borne by the most vulnerable among us, who, in turn, will ultimately impact the health of the whole community. By underfunding public health capacity for so long, and by downplaying early warning signs that pointed to the

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impending crisis, we have worsened the effects of the virus on us all and on our economy. Most tragically, we have lost sight of the individual at the center of care and, by extension, humanity as a whole. Patients come into care settings isolated from their family and caregivers, with some attended in hospital settings via telemedicine to ensure virus isolation. The patient often ends up alone, the sad epitome of individualism, and, in the absence of curative approaches, with only palliative care.

This outbreak is an intensive care and a public health challenge, as well as a humanitarian crisis. As Dr Jim Yong Kim, former president of the World Bank and former director of Partners in Health, puts it, "While governments around the world have been announcing massive, unprecedented stimulus packages to keep their economies from collapsing during the pandemic—efforts that are absolutely critical—what we are facing, fundamentally, is a public health crisis" (Partners in Health, 2020a).

In respect to the US health care system, we need to begin now to focus on a future system that embraces:

a. A community-centered, population-based health (CCPH) care (defined later);
b. Pandemic solutions for the entire population; and
c. A long-term plan for the next pandemic, as discussed in the recent Institute of Medicine report. (Hick et al., 2020)

We need a new paradigm, one that moves from a *patient-centered* care system to a *community-centered* health and social care ecosystem. Unlike much of the current US medical care system, the community sector has lacked funding and development. Strong and consistent sources of support are needed to make this sector viable and keep it flourishing. After the passage of the Affordable Care Act (ACA) in 2010, Halfon et al. (2014) published an article, titled "Applying a 3.0 Transformation Framework to Guide Large-Scale Health System Reform." Over that decade, no such fundamental transformation took place. This article is intended to marshal the gaps and exposed shortcomings revealed by the COVID-19 coronavirus pandemic crisis and to integrate insights about upstream investments that have been made since the ACA to describe an aspirational but ultimately achievable concentration on population health. We believe this framework will not only better protect against future pandemics but also better serve individuals by centering on preserving and improving health in ways that address both health and social needs through focusing on serving people in the communities where they live.

In the near term, as there is no current and will be no coherent federal response to the COVID-19 pandemic, state and other local leaders have been implementing and will continue to implement different types of community-based efforts to control and suppress this pandemic. What will happen to all these initiatives, employing many people with varied backgrounds, once the initial crisis passes? We suggest that these initiatives should evolve into a new health system, with community health workers (CHWs) at its center. The remainder of this article fleshes out the framework and the key unifying role that CHWs should play that would tie the different state/local initiatives dealing with this pandemic together into a focus on a CCPH system.

A CCPH system with CHWs at its center will be resilient and robust enough to move us down the road toward recovery from COVID-19, and it can help prevent future pandemics, all within an evolving CCPH system. The remainder of this article specifies the following:

A. Short-term control and suppression pandemic solutions leading to CCPH;
   1. The joint state of Massachusetts and Partners in Health program,
   2. The state of Washington initiatives, and
   3. A national response policy proposal; and
B. Middle-term development of the CCPH workforce team.

In a separate companion article, "The Politics of Community-Centered Population Health" (Goldfield et al., 2020), we will examine political considerations necessary for evolving CCPH from the existing health care delivery patchwork.

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SHORT-TERM CONTROL AND SUPPRESSION PANDEMIC SOLUTIONS LEADING TO CCPH

Nonpharmaceutical interventions (NPIs) remain central for the management of COVID-19 because there are no licensed vaccines or coronavirus antivirals. States have taken the lead on this effort (Heyman & Shindo, 2020). A good example of NPIs can be seen in the approach, as described later, taken by the state of Massachusetts in a public-private partnership between the state of Massachusetts and Partners in Health (Partners in Health, 2020b) In addition, the state of Washington has partially implemented and is continuing to develop innovative uses of emergency response systems (EMSs) often linked to local fire departments (Washington State Department of Health, 2020). Other states are planning to follow suit. CHWs should and in some cases are assuming leadership roles, though not in a systematic manner.

Several critical components are needed in the short term. Foremost is a strong public health presence that is community focused. Having a number of capabilities is essential in order to accomplish what we know works early in an epidemic—testing, contact tracing, and isolation. CHWs represent the glue for such a strong community-focused public health presence. We propose a roadmap for moving a CCPH system forward, with CHWs playing an active leadership and partnership role at every turn:

First, *close monitoring of changes in epidemiology and of the effectiveness of public health strategies and their social acceptance.* This stage of control of the pandemic (which does not deal with the elimination of the virus) will be a long haul, as it involves not just immediate control but also long-term suppression. Along with some of the subsequent steps, this is exactly what, in theory, the April 3, 2020, announcement of the state of Massachusetts-led effort will accomplish.

Second, *continued evolution of enhanced communication strategies that provide general populations and vulnerable populations most at risk with actionable information for self-protection, including identification of symptoms and clear guidance for those seeking treatment.* As they are closest to the communities they are serving, CHW leadership and CHWs and other frontline staff will adapt these evolving communication strategies to best serve their local particular communities. CHWs have been part of a team of first responders for years; COVID-19 has helped people think differently about the term "first responders."

Third, *continued intensive source control, entailing the isolation of patients and persons testing positive for COVID-19, contact tracing and health monitoring, strict health facility infection prevention and control, and use of other active public health control interventions with continued active surveillance and containment activities at all other sites, with regular reporting to the World Health Organization (WHO) and sharing of data.* CHWs will need to work with other specialized members of the community-based health care team in coordination with the hospital systems.

Keeping as many people as possible at home, via social distancing, is a critical component. From a concrete point of view, the Massachusetts Department of Public Health recommendations are key:

> Scale up specially trained paramedics supported by physician telemedicine consultations, a 24/7 nurse call center, and remote laboratory and biometric monitoring can provide evaluation, testing, and clinical management and intervention for all aspects of care in the quarantine period for certain individuals with presumptive or confirmed Covid-19 infection. (Robert et al., 2020)

CHWs need to lead and be the focal point of this team, as they are best positioned to, for example, connect up and, as appropriate, work with paramedics in order to keep as many people at home as possible.

In addition, because a key COVID-19 complication is respiratory problems, another recommendation is to

> Modify and remotely support certain consumer continuous positive airway pressure (CPAP) devices and oxygen concentrators to support less-ill

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persons, thereby freeing up ICU beds. We are confident that with telemedicine and simple monitoring of blood oxygen saturation using widely available and low-cost consumer devices, many patients requiring supplemental oxygen can be safely cared for in their own homes. (Robert et al., 2020)

Fourth, *success in preventing and overcoming the challenges posed by the pandemic are dependent on intensified active surveillance, led and implemented by CHWs.* This model should be followed for possible infections in all countries using the WHO-recommended surveillance case definition.

Fifth, *with widespread community transmission established and anticipated, the transition by the United States to include mitigation activities, especially if contact tracing becomes ineffective or overwhelming and an inefficient use of resources.* Examples of mitigation activities include social distancing, canceling public gatherings, school closure, remote working, home isolation, observation of the health of symptomatic individuals supported by telephone or online health consultation, and provision of essential life support such as oxygen supplies and mechanical ventilators, in both clinical and care settings. CHW leadership and action can be a key to the success of these endeavors among many communities including those often left behind.

Sixth, *serological tests that can estimate current and previous infections in general populations need to be developed and then deployed*. CHWs can play an active role here in reaching marginalized populations to ensure that they have access to testing services and any actionable results are reported to those impacted in a timely way with culturally appropriate messaging and needed support for action.

Seventh, *preparation to ensure the resilience of health systems in all countries.* Such preparation is already carried out for seasonal influenza, anticipating severe infections and the course of the disease in older people and other populations identified to be at risk of severe disease. State, national, and international agencies are needed to coordinate in a positive care coordination and supported referral feedback loop with CHWs and CHW-led local, state, and regional organizations.

Finally, *continued research and evaluation is important to understand the source of the outbreak and its impacts*. Collecting the evidence necessary for the prevention of future coronavirus outbreaks should begin with studies of animals and animal handlers in markets. As called for by Dr Camara Jones, disaggregation of COVD-19 data to identify differential impacts of the virus on varied populations will be important (Jones, 2020). CHWs can play a critical role in supporting this surveillance and assessment effort building on their core skills in the area of individual and community assessment and in partnering in research and evaluation (see c3project.org, 2020). Evaluation of mitigation processes and system developments will also be key to learn from and improve future response capacity.

Case examples of population health response to the pandemic: The joint state of Massachusetts and Partners in Health program; the state of Washington EMS/Fire Department Initiative

The responses implemented in the state of Washington and under development in Massachusetts exemplify the effort that needs to be replicated throughout the world. The state of Washington has a well-coordinated public health approach to COVID-19 with consistent leadership from the Governor and has implemented standard case identification, tracing, and isolation. In addition, the public EMS, part of local fire departments, has complemented this effort. Initially, the EMS leadership focused on testing and assisting in the management of first responder COVID contact. The initial goal was to ensure healthy people could return to work as soon as possible. That system included specified testing stations and a system to follow positives. This was put together rapidly partly because these same fire departments have developed community-focused case management systems for vulnerable people, people with behavioral health problems, and those with opiate use. They are currently working with their communities

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to develop better case management in more communities including rural areas and are developing systems focused on expanding their testing and tracing to the general population complementing the work of the public health workers. They offer another model of CCPH and could potentially be partnered with CHWs to extend their reach more fully, allowing them to focus at practicing at the top of their scope.

In the Massachusetts partnership, the state has planned for, in tandem with 3 other partners, the training and deploying of hundreds of contact tracers (CTCs), responsible for calling people who have been in close contact with confirmed COVID-19 patients. The CTCs' work, combined with the state's response initiatives, will provide support to people in quarantine in order to contain the spread of COVID-19. CHWs will take on many of these roles, but other individuals with other types of backgrounds will certainly be engaged as well.

The Massachusetts Community Tracing Collaborative is a partnership of 4 groups:

- MA COVID-19 Command Center: Provides overall direction and coordination;
- Commonwealth Health Insurance Connector Authority: Working with Accenture/Salesforce to enable a virtual support center and connectivity;
- Massachusetts Department of Public Health: Maintains data, guides, and processes; and
- Partners in Health: Hires and manages the workforce and contributes technical expertise from tuberculosis, HIV, cholera, and Ebola virus epidemics and decades of community-based interventions, many that include CHWs.

Finally, Scott Gottlieb, Mark McLellan (2 health policy makers who have served under Republican administrations), and colleagues recently proposed a massive federal program that essentially outlines a federally funded national COVID-19 surveillance system (Gottlieb et al., 2020; McClellan et al., 2020). In the current political climate in Washington, such efforts will not be easy to enact.

MIDDLE-TERM DEVELOPMENT OF THE CCPH WORKFORCE TEAM

The key element of the CCPH system consists of a team that includes, at its center, frontline community-centered experts who will be empowered to:

a. Implement neighborhood and home-centered care that includes case finding;
b. Reinforce health care treatment plans; and
c. Advance health promotion and preventive services.

That frontline professional is the CHW. A nationally recognized definition adopted by the American Public Health Association (APHA) CHW section describe the CHW as a:

> Frontline public health worker who is a trusted member of and/or has an unusually close understanding of the community served. This trusting relationship enables the worker to serve as a liaison/link/intermediary between health/social services and the community to facilitate access to services and improve the quality and cultural competence of service delivery. A community health worker also builds individual and community capacity by increasing health knowledge and self-sufficiency through a range of activities such as outreach, community education, informal counseling, social support and advocacy. (APHA, 2020)

To build this new CCPH system, we must create policy mechanisms to support it. Initial policy proposals include the following:

a. Support integration of CHWs through resources allocated to start and strengthen CHW services, including resources for capacity building and service implementation to ensure CHW-led workforce development.
b. Develop communications and connections between the CHWs, public health agencies, health care providers, behavioral health care, and social service providers, such as housing, food sources, and transportation.
c. Identify required skills for the CHW professional central to this reconfigured system. CHW core roles and competencies (c3project.org, 2020) must be developed.

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Aspects of lay-led Chronic and Infectious Disease Self-Management may be a critical added skill for CHWs (Self-Management Resource Center, 2020).

d. Encourage the development of state CHW standards through supporting CHW-driven professional guidelines and credentialing processes, including certification, as guided by the National Association of CHWs, established in 2019.
e. Promote a strategy of statewide pilots of CCPC that build on a number of successful and promising examples (such as the program instituted by Massachusetts). This will require congressional and Centers for Medicaid & Medicare Services action to support demonstrations of such programs that are from and for communities. States and their governors can lead by addressing issues that are specific to their communities and add to the national dialogue.
f. And, finally, remain mindful of longer-term population health strategies that will strengthen long-term health and social system resiliency and sustainability as immediate pandemic reactions are fashioned and long-term pandemic amelioration (not just viral suppression) strategies are developed.

Components of a CHW-led population health approach

Two overall types of skills are called for in a CHW-led population health approach. The first set of skills would be provided by CHWs. As they form the center of the population health approach, they should be familiar with the community. CHWs will be supported, at the center of the system (see the Table for list of roles), by professionals trained in specialized care, who offer the second set of skills. Specialized care will consist of care that is appropriate for a pandemic (crucially, respiratory support) and is geared to the fact that much specialized care is increasingly delivered in the home (including, eg, infections needing intravenous antibiotics). Adequate, appropriate, and accessible mental health services are needed for both specialized care and pandemic response. The CHWs will require appropriate training to assess when and what type of specialized care to draw on for home visits and community gatherings.

Table. Integrated Community Health Workers to Support

1. Ongoing monitoring of changes in epidemiology and impact of mitigation activities
2. Continued evolution of communication strategies
3. Continued intensive source control including isolation
4. Intensified active surveillance
5. Timely application of mitigation activities such as social distancing, remote working, and home isolation
6. Development and deployment of serological testing
7. Preparation to ensure the resilience of health systems in all communities and countries
8. Ongoing research and evaluation on the outbreak and on responses systems processes

CONCLUSIONS

What happens to the hundreds of Massachusetts-based CTCs whom Partners in Health has hired after the immediate pandemic is controlled and suppressed? What about the state of Washington EMS professionals who have expanded their professional expertise to include intimate knowledge of the communities that they work in? What if the federal program involving the US Public Health Service that Gottlieb et al. (2020) recommend comes to pass? Are these federal employees temporary or permanent? The authors of this article posit that such efforts should represent the next step in the evolution of our health system. Massachusetts, Washington, and other states could become laboratories highlighting both the challenges and opportunities that emerge from the work that is being implemented as we write to fight this pandemic. This could follow the

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pattern set by Massachusetts as the first state to enact what eventually became the ACA. However, such an eventuality cannot happen unless political considerations are addressed and interest groups become involved and at least a portion of them sign off so that CCPH can begin. If CCPH is to become a reality and not just another aspirational document, we need to begin now to shape the outlines of this approach as specified in this article and to start the political work necessary for its implementation. If the development of the CHW workforce is at the core of this as we have proposed, then CHW leadership will need to be fully at the center of any planning activities impacting their workforce and the communities they serve. The next politically oriented companion article details the opportunities and challenges to CCPH development and implementation.

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