COMMENTARY

COVID-19 policy measures—Advocating for the inclusion of the social determinants of health in modelling and decision making

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1 | INTRODUCTION

As the COVID-19 pandemic evolves, mathematical modelling of the spread of disease has informed containment policies throughout jurisdictions across the world, including Canada.[1-5] As models are being used to guide unprecedented public health interventions, it is critical to surface explicitly what they tell us and, importantly, what they do not.[6] Our objective is not to critique the Public Health models that forecast epidemiological events nor to criticize governments or policy-makers who are working to protect the public under exceptional circumstances. We are aware that all attempts to model complex phenomena have strengths and limitations. We recognize that these models are tools for planning and policy making, that they are dynamic, and that they are constructed via the selection and exclusion of specific assumptions that are informed and altered contextually.[6,7] However, if these models are to be useful for making policy decisions of unprecedented magnitude, we need to have critical conversations about the forms of evidence that they do not include, and the potential unintended consequences of such exclusions. We need to strive to supplement the sources of information available for effective decision making, or improve the models themselves to ensure health gains—COVID-19-related and otherwise—are maximized for all both in the short and in the long-term.

For example, the Ontario model released on April 3, 2020 forecasted COVID-19 mortality depending on the degree of restrictions imposed by policies of containment, with stronger interventions needed to reduce mortality. The stark depiction of the potential to save thousands of lives

from COVID-19 presented a compelling medical, moral, social, political and, it could be argued, economic rationale.[8] The model was described as 'sobering', strengthening consensus to rally against COVID-19 and to support the current policy directions, in particular the policies aimed at physical distancing to avert further community spread of the virus. To be sure, non-medical interventions, such as social or physical distancing recommendation and quarantines have been found effective in reducing the short and the long-term health impacts of epidemics by allowing health and social systems to prepare and deploy effective sustainable measures.[9-11] However, those measures often carry negative social, economic, and political consequences when sustained over long periods of time.[10] The singular focus on 'flattening the curve'—instead of managing risk—as an endpoint, may make both policy-makers and the public blind to the differential negative health effects of such policies on the entire population. Scholars and policy-makers need to make sure that these interventions do not produce new forms of health inequities, and potentially deepen health inequities amongst segments of the population that are already vulnerable, such as Indigenous, racially marginalized, and/or economically disadvantaged populations.

1.1 | Contributions from a SDH approach to Covid-19 policy interventions

As is well-documented in the field of Public Health, the poor and socially vulnerable disproportionally suffer the burden of disease in

any society (ie, co-morbidities).[12-16] The potential for disproportionate mortality, morbidity, and socio-economic costs (eg, job losses, accumulated family debt, intimate partner violence, substance misuse, etc.) of COVID-19 control policy interventions are not included in the decision processes that Covid-19 modelling made possible.[17,18] The argument here is that the direct and indirect effects of Covid-19 on population health must be made visible when we consider public health interventions. A public health approach informed by the social determinants of health (SDH) would look at the interventions proposed to mitigate the risk of COVID-19 transmission with caution. The current models appear to consider a single problem and goal—the reduction of casualties from COVID-19. However, the structural conditions that produce health vulnerabilities are highlighted by the unprecedented disruption to economic and social life caused by current policies of containment, especially if sustained over many months.[10] The consequences of coercive enforcement of such policies could further pre-existing inequities and incur individual and population-level harms.[19] These social and health impacts should be accounted for to the extent possible in the models, their implementation, and in evaluations of resultant interventions.[20]

While current models hypothesize casualties for population groups, the negative health outcomes and potential deaths resulting from job losses, interrupted health care for hundreds of thousands of patients in Canada, and social isolation are also real and are accruing to specific, identifiable populations.[21-27] For example, current and future models would ideally reflect the capacity of interventions such as the Canada Emergency Response Benefit to buffer the health consequences (eg, loss of health benefits, job-related, stress, and lack of control) for the more than 7.3 million people to date who have lost their jobs or seen their incomes severely reduced.[28,29] The impact of job losses is particular acute for women and youth.[30] In addition, the relationship between the current and future physical isolation mandates and the documented negative health effects of confinement in low-quality, unsafe, and insecure housing need to be considered.[31] It is critical to consider the emerging reports of spikes in domestic abuse against women and children[32,33]; and the effects of Covid-related measures on the overall mental and physical health of the entire population being forced to be sedentary.[34]

In short, the potential negative health effects of current responses to Covid-19 should be included in a transparent manner in both decision-making processes and modelling exercises. The social and economic costs of the implementation of Covid-19 responses should be built into the assessment of the overall benefit of interventions to curb the casualties resulting from the virus. To address this need, urgent transdisciplinary collaboration[35] is required including the contribution of economists, health professionals, and social scientists so that a sustainable course can be mapped in response to the current crisis as societies wait for the development of a vaccine. These disciplines can help to supplement our models of avoidable mortality with an understanding of the health effects—often experienced inequitably—that educational disruptions, mass unemployment, and social isolation can cause for individuals, communities, and nations.

1.2 | Recommendations

In Canada and many other countries, the convergence of shared goals and policy directions that have emerged from the coronavirus pandemic can have beneficial results. It is reassuring that governments are embracing a 'whole-of-society, whole-of-government' approach to address a complex problem. In the fight to save lives, we must also pay attention to, account for, and mitigate unintended effects on vulnerable sub-populations and on the whole population for both the short and long-term. A comprehensive, transdisciplinary approach anchored in the foundations of public health (ie, how health is socially produced) will enable more inclusive, transparent and socially accountable future policy interventions, which integrate the SDH into modelling to show impacts on the whole population and on distinct groups within it.

Success in this endeavour requires: (a) resourcing a multi-disciplinary task force to study the effects of policy, including the unintended and differential effects of the current responses (ie, job disruptions, income subsidies, social isolation) on the entire population; (b) examining the health and socio-economic effects of these policies on marginalized communities across the country; (c) re-enforcing critical thinking and SDH content in Public Health curricula and continued education, and in health professions at large. We are indeed all in this together—it is only by working together that we will all emerge stronger than ever.

CONFLICT OF INTEREST

The authors declare that they have no conflict of interest.

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