

One crisis after another: The policies that shape our health

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The health of Canada's population cannot be managed by the health care system alone. While continuous strides are made to understand the physiological mechanisms of diseases to inform treatment options, we must understand the socioeconomic, environmental, and behavioural factors that play a pivotal role in disease epidemiology, burden, and outcomes. The reality is that roughly 25% of the population's health status can be attributed to the health care system, while physical, environment, and social determinants of health contribute up to 60%, and baseline biological factors and genetics account for the remaining 15%.¹

The World Health Organization defines public health as “the art and science of preventing disease, prolonging life and promoting health through the organized efforts of society.”² It is these “organized efforts of society” that are paramount to tackling some of the most serious health challenges we face today.³

In recent years, B.C. has become a leader in implementing evidence-based policies to address public health emergencies. One notable example is B.C.'s efforts in preventing the spread of HIV and achieving effective control of the AIDS epidemic. The B.C. Center for Excellence in HIV/AIDS (BC-CfE) was established in the early 1990s to serve all regions of the province to combat the AIDS epidemic, which was claiming a life almost every day. Since then, clinicians and researchers at the BC-CfE have developed policies and resources including rapid testing programs, improved access to treatment, and a treatment-as-prevention (TasP) strategy.⁴ This led to a dramatic decline in new HIV infections from over 800 per year in 1990s to below 250 per year in 2015.⁵⁻⁷ The success of B.C.'s public health interventions that effectively prevented HIV transmission required active engagement by government, health authorities, research scientists, community members, and health care providers.

In 2016, B.C. declared another public health emergency due to an overwhelming number of deaths associated with illicit drug use.⁸ Specifically, an additive/substitute of heroin called fentanyl was the primary agent accounting for the increase in illicit drug deaths from 5.9 per 100,000 in 2012 to 19.3 per 100,000 in 2017 in B.C.⁹ In many aspects, strategies used to control the AIDS epidemic have been translated to tackling this illicit drug emergency.¹⁰ The Province of BC established the BC Centre on Substance Use (BCCSU) in 2017 as a provincially networked organization with a mandate to develop, help implement, and evaluate evidence-based approaches to substance use and addiction. The BCCSU has become a pioneer in North America in producing research and developing guidelines that influence policy change regarding substance use disorder and the overdose crisis. The BCCSU's ongoing efforts have demonstrated that innovative harm reduction strategies such as needle exchange, supervised consumption sites, overdose prevention sites, and take-home naloxone programs are

effective in lowering the risk of overdose in people who use illicit drugs (PWUDs). While criminalization of PWUDs has been shown to be ineffective.^{10,11} Similar to those who live with HIV, the health outcomes of this marginalized population are impacted by unstable housing, violence, unsafe sex work, and multiple barriers to accessing resources.¹⁰ Despite numerous key actions by B.C. to curb the increasing number of drug-related deaths, this number continues to rise relentlessly.¹² The increasing prevalence of fentanyl and its analogues is a result of their cheap costs and ease of transportation that represent a global change in drug supplies.⁹ This poses unique challenges in preventing overdoses, and new public health interventions must adapt to this dynamic epidemic.

In this UBC Medical Journal issue, we start off with a feature article from Drs. Mark Lysyshyn and Jane Buxton, who provide insight into important innovations in harm reduction strategies in response to the fentanyl overdose emergency. Drs. Sian Tsuei and Xochitl Pastran discuss in their feature piece the need to emphasize public health in medical education. In the third feature article, Drs. David McVea and James Lu highlight the health effects of wildfires and protection strategies, in the wake of the worst-recorded wildfire season during the summer of 2017. Throughout this issue, we have included articles that examine different public health challenges and policies, and we hope to showcase the complexity in addressing these challenges.

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