supervise or monitor and ultimately intervene.[6]

Another relevant approach is the crime pattern theory. This theory posits that individuals commit crimes when processes and triggers lead to the identification of a suitable target incorporated in a crime pattern.[7] Activities are generally organized around nodes (places where, for instance, leisure and professional activities are performed). Individuals generally use the same paths to travel from one node to another. There is a spatiotemporal routinization of activities. Hence crimes are more likely to take place where activities from offenders and victims cross each other. Central to the crime pattern theory are the concepts of crime generators and crime attractors. The former are generated by high volumes of people going through nodal activity points, whereas the latter are created when victims are located at nodal activity points of individuals motivated to commit crimes. Both concepts are relevant to understand reasons that blighted vacant lands had significant decreases in shooting incidents during the Moyer et al. experiment.

At last, intervening at high-crime places might be more suitable than gun control projects for research funding. Remediating blighted vacant lands also involves place managers (i.e., people in charge of taking care of the land—e.g., mowing and removing trash). Such people have an interest in keeping the place clean and safe. They also can act as guardians. Moyer et al. also reported that some blighted lands were privately owned, which opens the door for potential regulation. Violence can be conceptualized as pollution, because blighted lands generate costs for the public taxpayers such as police interventions, hospitalizations, and loss of property value. Regulations can therefore include means (e.g., obligation to maintain private lands) and ends (e.g., fines for property owners whose lands exceed the maximum number of calls to police) to prevent gun violence.[2] Introducing regulations could incite landowner associations to participate and financially contribute to such citywide or local prevention projects. AJPH

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CONFLICTS OF INTEREST

The author has no conflicts of interest.

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Opioid Use Epidemic in Mexico: Global Solutions to a Global Problem

See also Goodman-Meza et al., p. 73.

The opioid use epidemic has been characterized by two interrelated phenomena, the abuse of opioids commonly prescribed as pain medications and the use of illicit opioids such as heroin. Until now, the epidemic has largely been viewed as a North American problem[1]; however, there is evidence that it is increasingly becoming a global problem.[2]

Mexico (defined as an upper-middle-income country by the World Bank) provides a case study of the potential for this epidemic to spread from high-income countries such as the United States and Canada to lower- and middle-income countries. As noted by Goodman-Meza et al. in their study that appears in this issue (p. 73), Mexico's transition from a country of low opioid use to high opioid use is being fueled by a convergence of several factors, including legislative changes, pressure from the global pharmaceutical industry, changing demographics and chronic disease burdens, and stress and trauma related to forced migration, drug violence, political corruption, and economic stagnation.

Mexico is by no means alone in experiencing such a convergence. Other lower- and middle-income countries are likely to experience this phenomenon as pharmaceutical companies look to develop new markets for prescription opioids and drug cartels follow in their footsteps to market illicit opioids.[3] Physicians in lower- and middle-income countries will be subjected to marketing campaigns to dispense prescriptions for opioids to patients in need of relief from pain but also in need of relief from poverty, civil conflict, forced migration, the epidemiological transition from communicable to noncommunicable diseases, and an overwhelming sense of despair. Patients will then become vulnerable to a cascade of opioid use, resulting in increased morbidity, mortality, and financial burdens likely to overwhelm the fragile social, economic, and political systems of these countries.

EXPOSURE TO US SOCIETY

Global problems such as the opioid epidemic require global solutions. Many of those solutions are alluded to by Goodman-Meza et al. Three in particular have relevance to addressing the opioid crisis in

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Reprints can be ordered at http://www.ajph.org by clicking the "Reprints" link.

This editorial was accepted October 14, 2018.

doi: 10.2105/AJPH.2018.304833

other countries facing a similar "perfect storm" of risk factors. The first solution involves responding to the cultural changes that predispose individuals to abuse of prescription medication and other opioids. The crisis in Mexico is tied to the acculturation of values, attitudes, and behaviors associated with health behavior in general and opioid use in particular. It is no coincidence that rates of opioid use are believed to be highest in communities along the US–Mexico border. As Borges et al.[4] point out, the greater the exposure to US society, the greater the risk of drug use among immigrants from Mexico.

The challenge is to build a cultural system that reduces the need and the desire to use opioids. According to diffusion of innovations theory,[5] cultural change occurs through relationships. Relationships in turn lead to exchanges of knowledge, attitudes and behaviors.[6] These exchanges are not unidirectional but lead to transformations of the participants' cultural systems. However, the setting in which such transformation occurs also demands directed efforts that regulate the manufacture and distribution of prescription and illicit opioids and address the social, economic, and political conditions that initiate and sustain misuse. The procedures that can be used by the pharmaceutical industry and drug cartels to market their products can also be used to create knowledge, attitudes, and behaviors that reduce the desire and the need for such products.

Goodman-Meza et al. recommend provider training and prescription surveillance as a first step in this process. Providers, in turn, can serve as change agents in their role as opinion leaders who can exert a powerful influence on the knowledge, attitudes, and behaviors of their patients. Patients in turn can influence the knowledge, attitudes, and behaviors of the larger community.[5]

ADAPTATION AND TRANSLATION

Second, we must improve the way that evidence-based practices and policies are translated across borders. Many evidence-based substance use treatments and prevention interventions have been implemented throughout the United States and Canada, and many more targeting opioid misuse are in development.[2] Implementation of such interventions elsewhere, however, will require some degree of adaptation to suit the cultural and organizational settings of other countries. Such adaptations or translations from research to practice will require effective partnerships and cultural exchanges[6] between Canadian and US researchers, practitioners, and policymakers and their counterparts in other countries. Successful global research–practice partnerships yield improved outcomes, improved service delivery, more cost-effective care, and innovative approaches to delivery of services.[6]

MIGRATION AND MOVEMENT

Third, as with any global health burden, efforts to control the global opioid epidemic must address the role of global travel and trade in this epidemic. Policies that regulate the production and distribution of prescription opioids and law enforcement initiatives that aim to counter the trafficking of heroin and other illicit opioids must be global in scope and scale. However, similar to infectious diseases such as Ebola and the Zika virus, opioid misuse is tied to global patterns of migration and movement.

In North America, for instance, immigrants from Mexico and other areas of Latin America are at increased risk for drug use relative to residents of these countries with no history of migration.[4] Immigrants who are deported from the United States to Mexico also constitute a high-risk group for injectable drug use owing to social isolation, unemployment, homelessness, economic marginalization, stigmatization, and exposure to violence. These factors are predictive of prescription opioid misuse in nondeported populations as well.[1] Addressing the global opioid use crisis will require focusing on high-risk migrant populations both prior to and subsequent to voluntary and involuntary migration. This will require greater efforts related to surveillance, assessment, treatment, and prevention of opioid misuse among newly arrived immigrants and refugees.

GLOBAL SOLUTIONS

All three of these strategies require communication, collaboration, and potentially compromise if they are to be effective solutions to this emerging global health crisis. These activities will be critical during the negotiations that occur between patients and providers; researchers, practitioners, and policymakers; drug manufacturers and government regulators; and possibly even law enforcement officials and criminal cartels. The opioid epidemic cannot be solved by only one of the participants in these negotiations, nor can it be solved by one country alone, especially a country that possesses few resources for effective treatment and prevention. Limited resources and greater connectedness resulting from increased travel and trade require greater communication, collaboration, and exchange of ideas. AJPH

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CONFLICTS OF INTEREST
No conflicts of interest.

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