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COMMENTARY

Big Events and Risks to Global Substance Using Populations: Unique Threats and Common Challenges

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In this commentary, we review a set of “Big Events” from around the world that have adversely impacted substance using populations by first identifying common thematic areas between them, and then describing the unique challenges faced by the diverse and vulnerable populations impacted. The Big Events reviewed are multifaceted and complex in nature, and include the recent global financial crisis, economic and trade sanctions, political transition and its impact on ethnic minorities, colonialism and indigenous communities, and ecological disasters. All have led to immense trauma, displacement, and disruption to critical healthcare services/treatment for people who use drugs, populations who are left underserved in the midst of these crises. It is our hope that through this comparative assessment, global policymakers will proactively identify Big Events and prioritize the development of interventions and policy that meet the unique and immediate needs of substance using population in order to mitigate the significant negative short- and long-term impacts on global public health.

Keywords Big Events, substance use and abuse, harm reduction, globalization, financial crisis, ecological disasters, health policy, HIV/AIDS, PWIDs

INTRODUCTION

In this special issue on “Big Events, Substance Use and Interventions: A Global Perspective” in the journal *Substance Use and Misuse*, researchers from around the globe present a set of unique economic, social, political, ecological, and historical disruptions, otherwise known as “Big Events” (or sometimes referred to as “complex emergencies”), and the challenges posed by them for a diverse group of substance using populations. The pieces also examine the impact of these events on drug treatment

interventions aimed at improving global public health and why more attention is needed to ensure patient access to substance abuse treatment in order to prevent the spread of infectious disease (e.g., HIV and Hepatitis C Virus).

The experiences reported in these studies, which focus on Greece, Hong Kong, Hungary, Iran, the United States, and the indigenous populations of North America, highlight the complex and interdependent nature of the *globalization* of health, where the spread of diseases, health behavior-related risk factors, access to healthcare services/treatment, and various social determinants of health are no longer restricted within geopolitical boundaries (Mackey & Liang, 2012; McMichael, 2013; Woodward, Drager, Beaglehole, & Lipson, 2001). Instead, major global health challenges, such as the HIV epidemic, have taught us that socioeconomic and political transitions can lead to the convergence of risk environments that exacerbate infectious disease spread and drug use, especially in the context of Big Events that can result in local, regional, and even international instability (Friedman, Rossi, & Braine, 2009; Friedman, Rossi, & Flom, 2006).

Hence, this commentary examines the unique challenges emanating from Big Events that are specific to people who use drugs and also attempts to identify common thematic areas that can inform future interventions, health policy development, and patient advocacy efforts aimed at mitigating the negative health impacts of these disruptions. We attempt to accomplish this by describing the key findings of each of the papers in this special issue, grouping them into thematic areas, and also exploring what other Big Events might warrant further study. We then conclude with a short discussion on the importance of global policymaking to first identify Big Events and then specifically prioritizing responses with specific attention to the unique challenges faced by global substance using populations.

UNIQUE CHALLENGES—COMMON THEMES

Although varied in their coverage of “Big Events,” the six studies presented in this special issue reveal some common thematic challenges faced by substance using populations over a period starting as early as 18th century colonialism up to more recent natural disasters such as Hurricane Sandy in 2012. The studies employ a variety of approaches comprising quantitative studies, analyzing pilot, national, and sub-national data on drug use; qualitative studies examining certain populations of people who use drugs; literature reviews; and ethnographic research as discussed below.

Public Health Impact of Economic Austerity and the Global Fiscal Crisis

The most predominant Big Event addressed in this special issue is the attempt to measure the impact of the recent global fiscal crisis on substance using populations. Two studies from Greece and Hungary examine how the global financial crisis, national austerity measures, and declining domestic public health expenditures have changed the socioeconomic environment for the worst among people who inject drugs (PWIDs).

Tarjan and colleagues describe the impact of the global economic crisis on Hungary as having a dual negative effect on PWIDs at the micro-level (by reducing their earnings and employment while also increasing the cost of living and rates of homelessness) and the macro-level due to cost cutting policies to public health systems that have diminished access to harm-reduction programs (such as opioid substitution treatment and syringe exchange programs (SEP)). These changes can also lead to shifts in the drug market and drug use-related behaviors, including increasing use of new psychoactive substances (NPS), which carry their own unique infectious disease transmission risks (Péterfi, Tarján, Horváth, Csesztregi, & Nyírády, 2014).

Tarjan et al. conducted an analysis of select 2011–2012 national and sub-national data to assess changes in injection patterns, associated risk factors, and access to infectious disease prevention programs for PWIDs post-fiscal crisis. Results of the study indicate that while heroin injection is declining, injection of stimulants (including cheaper, non-controlled NPS) has recently increased, along with higher prevalence of unsafe injection practices. This situation is reminiscent of the changes in drug trafficking and use that occurred after the fall of Iron Curtain in the former Soviet Union (Friedman et al., 2009, Strathdee et al., 2006), indicating that when economic Big Events occur, the drug market can subsequently undergo changes leading to shifts in PWID injection-related risk behaviors, against the backdrop of decreased access to state-funded public health programs such as SEP (Friedman et al., 2013).

Another country severely impacted by the global economic recession was Greece, which was on the verge of defaulting on its international debt obligations and at risk

of a possible exit from the Eurozone. Bailout packages from the “Troika” (i.e., European Commission, European Central Bank, and International Monetary Fund) were accompanied by harsh austerity measures that resulted in equally volatile social and political conflict (Simou & Koutsogeorgou, 2014). The health sector was not spared from severe cuts in public spending, resulting in poorer health outcomes in maternal and child health, increased prevalence of certain infectious diseases, and an increase in suicides (Antonakakis & Collins, 2014; Michas, Varytimiadi, Chasiotis, & Micha, 2014; Simou & Koutsogeorgou, 2014; Vlachadis, Vrachnis, Ktenas, Vlachadi, & Kornarou, 2014). Perhaps not coincidentally, Greece experienced an enormous outbreak of new HIV cases among PWIDs beginning in 2011 that the country continues to grapple with. Hence, Nikolopoulos and colleagues attempt to assess whether the Big Event of Greece’s economic crisis directly contributed to this spread of HIV in PWIDs (Paraskevis et al., 2013).

Nikolopoulos et al. hypothesize that PWIDs, as a vulnerable population group, given necessary critical endogenous and exogenous conditions, experienced significant economic hardship due to the Greek economic crisis, including loss of income, homelessness, and also a mixing and increase in the size of risk networks among clusters of PWIDs. All of these factors may have contributed to unsafe injection practices and higher transmission rates of HIV that may also be impacted by changes in sexual networks between PWID and non-drug using or non-injection drug user populations.

Importantly, both studies highlight that PWIDs represent particularly vulnerable populations when economic crises occur and are often disproportionately impacted compared with other individuals, which can then lead to greater drug use and infectious disease-related risk behaviors. In addition, economic Big Events can lead to both short- (higher risk among populations already at risk) and long-term consequences (growth of subpopulations at risk that can lead to sustained transmission/epidemics) compared with other events whose effect may be more time-limited.

As global markets continue to recover from the global fiscal crisis, further examination of the impact of national austerity measures and cuts to domestic public health systems needs to be pursued. Specifically, other countries significantly impacted by the global recession that also experienced political instability, such as Iceland, Italy, Latvia, Spain, and others, should also be assessed for changes in HIV prevalence among at-risk populations such as PWIDs. This should also include an examination of the current financial and political crisis in the Ukraine, where conflict with Russia and economic sanctions threaten to destabilize the entire region.

Trade, Economic Sanctions, and Access to Medicines

The impact of international trade on public health has emerged as a predominant issue among those concerned with global tobacco control, access to medicines, food

security, healthcare worker migration, and other issues (Gleeson & Friel, 2013; Mackey, Liang, & Novotny, 2013; Shaffer & Brenner, 2004; Smith, Correa, & Oh, 2009; Yagi, Mackey, Liang, & Gerlt, 2014). Within the context of growing recognition of the importance of trade policy on population-based health outcomes, Esmizade and Deilamizade present a pilot study examining how economic sanctions enacted against Iran can lead to an increase in drug use-related harms. Specifically, the study assesses the interplay of a series of historical “Big Events,” including Iran’s political history and geography that has established it as both a destination and transit country for illicit drug trafficking. The paper ends with a discussion on how heightened US economic sanctions in 2010–2011 have hampered harm-reduction efforts.

The economics, trade, and scientific sanctions regime is largely driven by the US Treasury Office of Foreign Assets Control and has crippled the Iranian economy while also negatively impacting access to essential medicines and national funding of harm-reduction programs (Cheraghali, 2013). Since 1997, the Iranian government has attempted to expand access to addiction treatment and harm-reduction services. However, economic sanctions have hampered these efforts by reducing the available supply of methadone and buprenorphine and other essential medicines (Shariatirad & Maarefvand, 2013). Another consequence of these sanctions has been significant changes in the accessibility and cost of illicit drugs, leading to changes in patterns of consumption and injection drug use behavior.

Esmizade and Deilamizade assess the potential consequences of these changes by utilizing interviews of 48 people who use drugs complemented with treatment center data. They report that people who use drugs are particularly vulnerable to the effects of economic sanctions, whereby scarce resources can lead them to switch to using cheaper and more harmful drugs and also engaging in higher-risk behaviors (including shared drug use/sharing needles), especially among those of low socioeconomic status. These findings generally align with others who have found that sanctions disproportionately impact the poor and marginalized, and that resultant economic hardship can reduce access to harm-reduction programs (Shariatirad & Maarefvand, 2013).

While limited to the case study of Iranian economic sanctions, this study exposes an understudied economic and policy risk environment for drug use and infectious disease transmission: international trade. Importantly, health interests are often not prioritized in the context of trade negotiations or economic sanctions enacted in response to political/military conflict. Hence, special attention regarding new trade arrangements (such as the Trans-Pacific Partnership Agreement and Transatlantic Trade and Investment Partnership¹) and imposi-

tion of trade sanctions in response to conflict (such as in the Ukraine crisis) needs to be more thoroughly assessed for its potential impact on essential medicines and public health financing for drug user treatment.

Political Transitions and Ethnic Minority Drug Abuse²

Another unique theme that emerged in this special collection was the potential “hidden” impact of political transition on certain ethnic minority groups and its association with transnational migration and substance use. In Tang’s study, an examination of Hong Kong’s transfer of sovereignty from the United Kingdom to the People’s Republic of China in 1997 and its possible association with increased use of heroin among children of ex-Gurkhas (Nepalese soldiers stationed in Hong Kong) is explored through ethnographic research from 59 informants (Tang, 2014).

Tang’s examination reveals certain clues as to why political transition influences drug use behavior in a specific ethnic minority group that faces distinct challenges and disruptions resulting from migration. Specifically, children of ex-Gurkhas often migrate from Nepal to Hong Kong at a young age, a process that can lead to changes/disruptions in social networks, stress of acculturation, social marginalization, and exposure to networks at a higher risk of heroin use. Although limited in its findings, the study provides an interesting preliminary examination of how macro-level changes in political environments can lead to migration policies that then influence micro-level behaviors associated with substance misuse.

While the study highlights a specific historical event of colonial political transition, it nevertheless provides us with some concepts to explore in the context of recent conflict-related international migration and its possible impact on ethnic minorities and drug use. Specifically, several countries in the Middle East continue to undergo massive disruptions following the “Arab Spring” leading to millions of refugees and internally displaced persons crossing borders to escape hostility. Countries such as Syria, Iraq, Libya, and Afghanistan have experienced significant disruption from Big Events of civil war and political violence often associated with sectarian/ethnic conflict. Hence, the impact of these events on drug use risk behavior and cross-border infectious disease transmission among ethnic minorities who experience forced migration/displacement is an area that demands immediate attention.

States and a number of Asia-Pacific countries) and TTIP is an FTA between the United States and the European Union. Countries are pushing to get these trade agreements finalized for economic reasons, but several public health stakeholders have raised serious concerns regarding how obligations in these agreements could adversely impact tobacco control efforts and access to medicines, although the potential impact on substance using populations has yet to be assessed.

²The journal’s style utilizes the category *substance abuse* as a diagnostic category. Substances are used or misused; living organisms are and can be *abused*. Editor’s note.

¹The Trans-Pacific Partnership Agreement (TPPA) and Transatlantic Trade and Investment Partnership (TTIP) are newly proposed regional free trade agreements (FTAs) that are currently in the process of negotiation. TPPA is an FTA between 12 countries (including the United

Historical Context of Impact of Big Events on Indigenous Populations and Substance Misuse

In the piece by Nutton and Fast, colonialism in North America (United States and Canada) is examined as the intergenerational transmission of historical trauma events (including forced assimilation and cultural dispossession) experienced by generations of Indigenous peoples that collectively form a Big Event that brings with it significant negative effects on health and wellbeing. The authors specifically examine this Big Event as a potential pathway for increased risk of substance use, and note that rates of past year's illicit drug and substance use disorder are higher among American Indians or Alaska Natives adults and adolescents when compared with all other racial groups in the United States (Whitbeck, Walls, & Welch, 2012).

Substance use in indigenous populations is described as a response to cultural factors related to the Big Event of colonialism, whereby use and misuse represent a form of self-medication or coping to historical stressors (forced relocation/displacement) and prolonged oppression (religious, cultural, language, etc.). In response, authors suggest that a "Big Solution" response may be necessary, including elements of "decolonizing" strategies (i.e., re-learning language, re-engaging in traditional/spiritual practices), identity resolution/formation, and culturally adapted interventions, as responses to mitigating negative health outcomes associated with substance use behaviors impacted by a legacy of colonialism.

Nutton and Fast identify how colonial policies that originated centuries ago continue to have a lasting impact on health-related disparities and risk factors associated with substance use. These challenges to the health and human rights of indigenous populations remain today, as several indigenous communities remain at the risk of displacement, discrimination, marginalization, and lack of sufficient political representation (Durie, 2003; Gracey & King, 2009). International recognition of the need to address these challenges was partially addressed with the 2007 adoption of the United Nations Declaration on the Rights of Indigenous Peoples. However, the impact of this UN declaration on national drug policies and risk factors associated with substance use among indigenous peoples requires further study.

Ecological Disasters and Alteration of Drug Environments and Behaviors

In the study by Pouget and colleagues, a specific case study of a large-scale ecological disruption in a high-income country (the United States) is examined for its impact on PWIDs. Hurricane Sandy undoubtedly qualifies as a "Big Event," and caused significant economic damage in the United States (estimated at \$65 billion) across 24 different states on the eastern seaboard (The Weather Channel, 2013). The impact was particularly felt by PWIDs in New York City, where Pouget et al. interviewed over 300 PWIDs, approximately half (49.8%) of whom were on prescribed methadone maintenance therapy (MMT) or

buprenorphine maintenance therapy (BMT), to determine the impact of the storm on injection drug use and related HIV risk behaviors. Results from the interviews are troubling, with respondents reporting significant disruptions in medical treatment and drug access (including both MMT/BMT and HIV therapy), use of informal sources to avoid withdrawal, and engaging in riskier injection practices.

One of the lessons emanating from this study is that even for countries with immense resources to respond to natural disasters (such as the United States), the needs of PWIDs as a vulnerable population group remain inadequately addressed in disaster preparedness and response measures. Specifically, the closure of substance user treatment clinics and displacement of patients from treatment access is an ongoing challenge likely to repeat itself (McClure, Mendoza, Duncan, Rotrosen, & Hansen, 2014). This is in spite of similar challenges faced by PWIDs during Hurricane Katrina in 2005 that devastated Louisiana and Mississippi and also resulted in exposure to trauma, increased HIV risk behaviors, and changes in the local drug market (Dunlap, Graves, & Benoit, 2012; Wagner et al., 2009).

Hence, it is clear that further examination of the negative impacts of ecological "Big Events" on substance user treatment services and the resultant risk of spread of infectious disease from other global disasters (such as Typhoon Haiyan (Phillippines), Cyclone Nargis (Myanmar), and the 2010 and 2008 Haiti and China Sichuan province earthquakes) is needed to further identify and more proactively respond to the immediate challenges faced by PWIDs in natural disasters. This is particularly imperative, given growing acceptance that climate change may result in increasing frequency of ecological disasters and its resultant overall adverse and long-lasting consequences for local and global health (Patz, Frumkin, Holloway, Vimont, & Haines, 2014).

DISCUSSION

The studies in this special issue provide a unique examination of the impact of Big Events on drug use behavior as well as access to treatment and harm-reduction programs in the context of the recent global financial crisis, economic and trade sanctions, political transition and its impact on ethnic minorities, colonialism and indigenous communities, and ecological disasters. Importantly, all of these Big Events have been described as having the potential to create destabilized environments that comprised different forms of risk and protective factors at the environment, community, and individual levels, possibly predisposing individuals to substance use and infectious disease-related risks (Strathdee et al., 2006). In addition, Friedman and colleagues have carefully explored the interactions between casual pathways and autonomous actions through which Big Events can create drug-related harms and infectious disease outbreaks (Friedman et al., 2006, 2009, 2013).

Regardless of the theoretical model used to explore these, it is clear that Big Events lead to immense trauma, displacement, and disruption to critical healthcare services/treatment, and that people who use drugs are among the most vulnerable and underserved in the midst of these crises. The ongoing regional conflict in the Ukraine, which included the recent annexation of Crimea by Russia and subsequent ban of opioid substitution therapy (OST) in the territory, is yet a further example that Big Events of war and political instability continue to directly impact substance user treatment and can exacerbate the spread of diseases like HIV (Kazatchkine, 2014).

Hence, new solutions and commitments are necessary at a global policymaking level that (1) proactively identify Big Events (both pre- and post-event) that have the potential to negatively impact substance use and misusing populations; (2) determine the category of Big Event (e.g., war, political, economical, ecological, historical trauma, etc.) and identify common factors/pathways that lead to higher risk drug behavior and disease transmission; (3) lead to development of drug treatment and policy interventions that are culturally appropriate and also can nimbly respond to the unique risk characteristics of the affected populations; (4) advocate for the prioritization of substance user treatment access in policymaking decisions as a means of preventing spread of infectious diseases and mitigating the long-term negative impacts of Big Events on society; and (5) extend stakeholder analysis to determine where advocacy/policymaking efforts need to be directed.

Equally important will be the generation of research and data on how to mitigate the effects of Big Events as suggested by Nikolopoulos et. al., complemented with evidence-based policymaking and implementation science principles similar to those aimed at better understanding the impact of emerging drug policy reform measures (Werb et al., 2014). This special issue takes important steps toward achieving this goal by providing a diverse and multifaceted perspective of Big Events and their impact on global substance use and misuse. Further research is clearly necessary as “Big Events” of global conflict, economic instability, ecological disasters, and those unforeseen, are magnified in an era of globalization and represent clear catalysts for high-risk drug behaviors and infectious disease epidemics.

Declaration of Interest

The authors report no conflicts of interest. The authors state with respect to author contributions that Tim K. Mackey and Steffanie Strathdee jointly conceived the study and wrote and edited the manuscript. No other individual or organizations contributed otherwise to the drafting of the manuscript. The authors alone are responsible for the content and writing of the article.

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