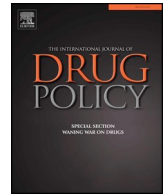




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Viewpoint

Participation of the nursing workforce to address COVID-19 among people who use alcohol, tobacco, and drugs

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The novel coronavirus disease 2019 (COVID-19) pandemic is having deleterious effects on health, economic, and political systems worldwide (Bedford et al., 2020). People who use drugs, including alcohol, tobacco, and illicit drugs, represent a vulnerable population in the pandemic (Armitage & Nellums, 2020; Volkow, 2020). Alcohol use can cause immunosuppression, limiting the body's ability to fight severe acute respiratory coronavirus 2 (SARS-CoV-2), while tobacco, methamphetamine, and opioid use may exacerbate the pulmonary effects of COVID-19 (Armitage & Nellums, 2020; Volkow, 2020). Moreover, a high proportion of people who use drugs live in shelters, homeless encampments, prisons, or other congregate facilities—conditions that increase the likelihood of SARS-CoV-2 exposure (Baggett, Keyes, Sporn, & Gaeta, 2020; Burki, 2020).

Beyond increased vulnerability to COVID-19, numerous direct health consequences of substance use exist globally. Worldwide, the number of fatal overdoses due to alcohol and illicit drug use increased by 23% between 2009 and 2017 (Global Health Data Exchange [GHDE], 2020). Tobacco use is a primary risk factor for ischemic heart disease, stroke, and chronic obstructive pulmonary disease, the three leading causes of death globally (GHDE, 2020). In addition, substance use has social and economic implications, including increased healthcare costs, reduced productivity, and financial and psychological impacts (Anderson, Chisholm & Fuhr, 2009; United Nations Office on Drugs and Crime [UNODC], 2019).

The World Health Organization (WHO) has identified universal health coverage (UHC), including for key populations such as people who use drugs, as a global health priority (WHO, 2019). Today, progress toward UHC is more urgent than ever to contain and mitigate the current COVID-19 pandemic (Armocida, Formenti, Palestra, Ussai, & Missoni, 2020; WHO, 2019).

However, people who use drugs face unique access barriers to

healthcare services, including stigma, criminalization, and poverty (Salamat, Hegarty & Patton, 2019; UNODC, 2019; UNODC, 2020). Precedents exist for disproportionate infectious disease prevalence, morbidity, and mortality among people who use drugs, including HIV, hepatitis C (HCV), and tuberculosis (UNODC, 2019). Therefore, efforts to build a comprehensive global response to COVID-19 and future infectious disease pandemics should consider people who use drugs as a key vulnerable population.

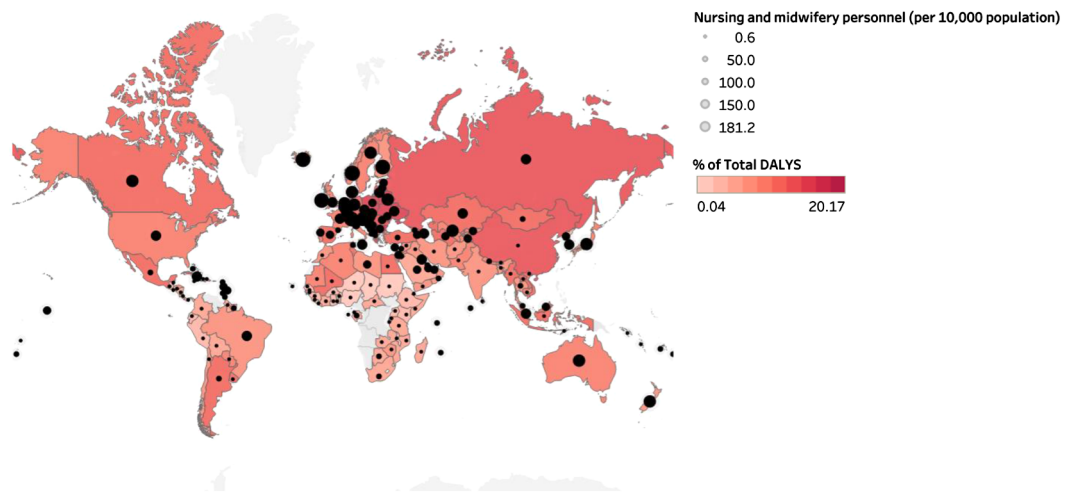
Leveraging the healthcare workforce: the importance of nurses

Nurses represent approximately 50% of the global healthcare workforce, delivering approximately 80% of routine prevention and treatment services and a large proportion of direct patient care for COVID-19 (Squires, White, & Sermeus, 2015; WHO, 2016). The global nursing workforce is projected to grow to 32.3 million nurses/midwives by 2030 (WHO, 2016). Nurses are trustworthy healthcare providers, who are qualified to provide substance use prevention and treatment-related services (UNODC-WHO, 2020). However, only a small subset of the global nursing workforce specializes in providing drug use prevention and treatment services or has the training to adequately address in primary care the unique needs of people who use drugs (Finnell, Tierney, & Mitchell, 2019; UNODC-WHO, 2020). The global nursing workforce thus represents a largely untapped resource for expanding access to both drug treatment and COVID-19 primary and urgent care among people who use drugs, a key vulnerable population in the current pandemic.

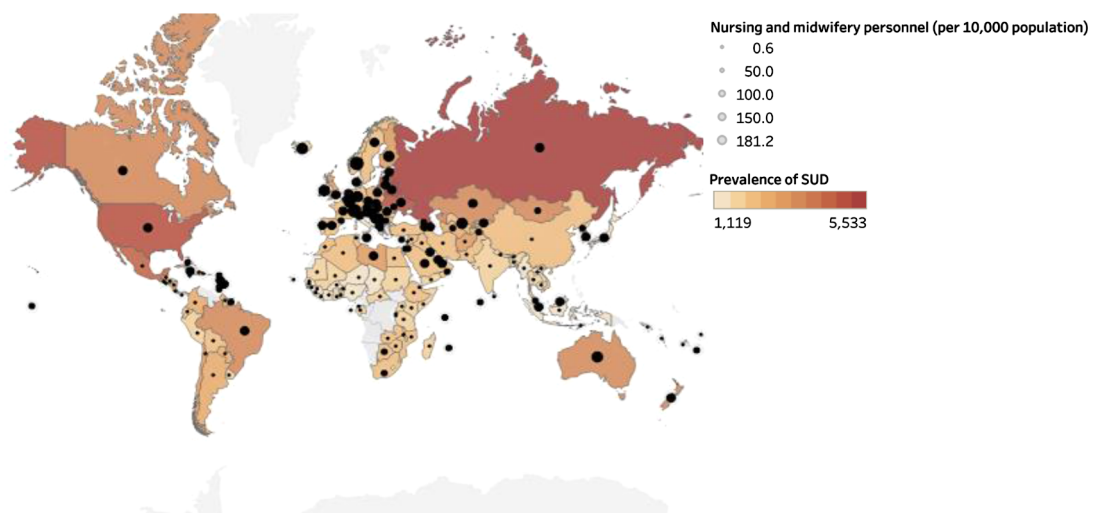
In the current *International Year of the Nurse and Midwife*, we outline recommendations regarding new directions for nursing education/practice, science/research, and policy designed to promote UHC among people who use drugs globally.

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a. Percentage of Disability-adjusted Life Years (DALYs) Attributed to Tobacco Misuse per 100,000 Population, Age-Standardized 2017 (GHDE, 2020) by Nursing and Midwife Personnel per 10,000 Population, 2013–2018 (WHO, 2020).



b. Prevalence of Substance Use Disorder (SUD) per 100,000 Population, Age-Standardized, 2017 (GHDE, 2020) by Nursing and Midwife Personnel per 10,000 Population, 2013–2018 (WHO, 2020).

Fig. 1. (a) Percentage of Disability-adjusted Life Years (DALYs) Attributed to Tobacco Misuse per 100,000 Population, Age-Standardized 2017 (GHDE, 2020) by Nursing and Midwife Personnel per 10,000 Population, 2013–2018 (WHO, 2020). (b) Prevalence of Substance Use Disorder (SUD) per 100,000 Population, Age-Standardized, 2017 (GHDE, 2020) by Nursing and Midwife Personnel per 10,000 Population, 2013–2018 (WHO, 2020).

Recommendations for education/practice

Globally, countries with the highest prevalence rates of substance use disorders and percentages of disability-adjusted life years attributed to tobacco use have relatively large proportions of nursing professionals per 10,000 people (Fig. 1) (GHDE 2020; WHO, 2020). However, nurses in these countries also tend to lack the knowledge and skills required to address the unique needs of people who use drugs in primary and urgent care (Clancy, Kelly & Loth, 2019; Finnell, Tierney, & Mitchell, 2019; Mak, Loke & Wong, 2018). Australia, Sweden, and Canada represent notable exemplars in which nurses are highly integrated into substance use management and have capacity in the provision of medication-assisted treatment (MAT), HIV/HCV care, and dosing supervision (Olding et al., 2020; Reinholdz, Fornazar, Bendsten, & Spak,

2013; Smyth, Hutchinson, & Searby, 2019).

Hence, additional investments are warranted to promote the education and training of new and existing cohorts of nurses regarding evidence-based drug use prevention and treatment in regions with the highest need. Three subdomains of nursing education/practice stand out as deserving of special attention in the context of COVID-19 primary and urgent care for people who use drugs: (1) brief screening interventions to identify substance-using patients at increased risk of severe SARS-CoV-2 infection; (2) COVID-19-related healthcare engagement as an opportunity to engage people who use drugs in harm reduction interventions; and (3) advanced practice nursing education in the delivery of primary and urgent care for people who use drugs who are at risk for or infected with SARS CoV-2.

The United Nations Office on Drugs and Crime and the WHO

recommend that registered nurses and advanced nursing practitioners implement evidence-based screening, brief intervention, and referral to treatment (SBIRT) in non-specialized healthcare settings and clinical settings with a high prevalence of substance use (2020). The implementation of evidence-based practices, such as SBIRT and motivational interviewing, reduces the likelihood of developing problems with drug use (Watson, Munro, Wilson, Kerr, & Godwin, 2010). Furthermore, early identification of COVID-19 patients at greatest risk of severe disease trajectories, such as people who use drugs, is important to minimize morbidity and mortality (Volkow, 2020). Healthcare providers outside of drug prevention and treatment specialty clinics often have limited capacity in delivering SBIRT and motivational interviewing, necessitating training a greater proportion of nurses globally in SBIRT (Finnell, Tierney, & Mitchell, 2019; Watson, Munro, Wilson, Kerr, & Godwin, 2010).

Research shows people who use drugs have lower levels of healthcare engagement than the general population (UNODC, 2019). Increased healthcare engagement during the COVID-19 pandemic presents an opportunity to engage people who use drugs in harm reduction interventions aimed at reducing the health, social, and economic impacts of substance use (Deegenhardt et al., 2019). Harm reduction approaches, such as MAT, syringe service programs, non-judgmental care provision, and contingency management, are associated with reduced substance use and overdose deaths (Deegenhardt et al., 2019; Oluwoye et al., 2019; United Nations Program on HIV/AIDS [UNAIDS], 2019). Most recently, weekly and monthly extended-release injectable buprenorphine has been identified as an efficacious, safe, and long-lasting alternative treatment in the prevention of opioid overdose deaths (Shulman, Wai, & Nunes, 2019; Tompkins, Neale & Strang, 2019). Community-based delivery of long-acting MAT to people who use drugs who are unable to routinely access healthcare systems needs to be explored further.

In addition, syringe service programs provide sterile needles to people who inject drugs to prevent the transmission of blood-borne pathogens, such as HIV or HCV (Deegenhardt et al., 2019; UNAIDS, 2019). While nurses have been meaningfully involved in developing and implementing syringe service programs, these programs and their participants are often stigmatized, leading to a lack of implementation in areas with the highest need, despite guidelines supporting their efficacy (UNAIDS, 2019; WHO, 2020).

Nurse practitioners who specialize in addiction medicine and infectious diseases play an important role in the treatment of people who use drugs who are at risk of or infected with SARS-CoV-2—including the prescription of medication, counseling, and management of symptoms (Finnell, Tierney, & Mitchell, 2019). International nursing organizations, the International Council of Nurses and the International Nurses Society on Addictions, recognize the important role of nurses, including advanced practice nurses, in the healthcare system and policy response to substance abuse globally (International Council of Nurses & the International Nurses Society on Addictions, 2019). Warranted is an increased focus on the development of, and incentivization for, a specialized nursing addiction workforce designed to expand global access to drug prevention and treatment in order to reduce negative outcomes associated with the COVID-19 pandemic.

Recommendations for science/research

Nurses have increasingly taken on new roles in healthcare research and academia (Finnell, Tierney, & Mitchell, 2019; WHO, 2017), but substance use prevention and treatment has been a largely overlooked area in nursing science. We provide a framework for global nursing research in substance use priority areas, including: (1) genetics and addiction symptom science; (2) functional wellness; (3) self, family, and community management of addiction; and (4) innovation and technology (National Institute of Nursing Research [NINR], 2017).

Symptom science involves the use of genomic technology to develop

innovative approaches to prevent and treat symptoms of chronic health conditions, such as substance use (NINR, 2017). Nurse-led involvement in addiction symptom science would enable (1) a greater understanding of the biological correlates and common mechanistic pathways of symptoms associated with substance use, addiction, and relapse and (2) the design and implementation of studies to assess the efficacy of symptom science interventions.

Most interventions aim to reduce substance use-specific morbidity and mortality. Less considered, however, have been the overall health and wellbeing, or functional wellness, of people who use drugs. Wellness is of particular concern, given that COVID-19-related disruptions may result in challenges to maintaining sobriety for individuals in recovery (Dunlop et al., 2020; Volkow, 2020). Future research should explore functional wellness as a long-term drug outcome for nurse-led health promotion programs, community-based nursing, and nurse-led clinical interventions.

In addition, one long-term goal of nursing alcohol, tobacco, and drug research is the development of individual and family capacity to maintain healthy lives and manage addiction (NINR, 2017). In research, public health, and healthcare contexts, nurses play the unique role of exploring the feasibility, acceptability, efficacy, and implementation of home-based programs and interventions. Designed to manage the day-to-day elements of life-long addiction, these interventions include medication adherence, healthy lifestyle choices, and avoidance of patient-specific stressors associated with drug use/relapse. Of particular importance is research examining the management of addiction within the unstable contexts of isolation and self-quarantine during the COVID-19 response.

Lastly, though people who use drugs tend to be considered hard-to-reach populations (Balayan et al., 2019), little attention has focused on providing drug prevention and treatment services in locations they frequent. There has also been limited research into determining the best approaches to incorporating health promotion and drug prevention and treatment in the daily lives of people who use drugs. With the increased reliance on telehealth for drug-related services due to COVID-19, research on the efficacy of technology-based approaches in assisting patients with treatment adherence and healthy lifestyle maintenance represents an important future direction for nursing science.

Recommendations for policy

At the local and national government levels, nurses can lobby for policies associated with reductions in substance use, including the creation of substance use-free spaces within communities, the implementation of syringe service programs, and the decriminalization of illicit drug use (Deegenhardt et al., 2019). Other policies may include nursing prescription privileges for MAT as well as incentivization and training for contingency management. Finally, promoting nurse-led provision of substance use services may reduce barriers to access for MAT and treatment services for people who use drugs during the COVID-19 pandemic.

Final thoughts

Individuals with co-occurring chronic conditions, such as substance use, are most affected by COVID-19 (Armitage et al., 2020; Volkow, 2020). In 2017, 2.3 billion individuals were current alcohol users, with one in five adults estimated to be heavy episodic drinkers; meanwhile, more than 1.1 billion individuals used tobacco (GHDE, 2020). In addition, one in every eighteen adults reported using at least one illicit drug in the past year, with approximately 175 million people worldwide living with problems related to drug use (GHDE, 2020).

Efforts that aim to build a comprehensive global response to COVID-19 and future infectious disease pandemics therefore need to take people who use drugs into consideration as a key vulnerable population in need of improved healthcare access. The WHO's *International Year of*

the Nurse and Midwife (Villarruel & White, 2020) is an opportunity to leverage the global nursing workforce to expand access to both substance use treatment and primary and urgent COVID-19 care among people who use drugs.

Funding source for work:

Please confirm that you have mentioned all organizations that funded your research in the Acknowledgements section of your submission, including grant numbers where appropriate.

I confirm that I have mentioned all organizations that funded my research in the Acknowledgements section of my submission, including grant numbers where appropriate.

Funding sources for the work List all funding sources for the work. If none declare "None"

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Ethical approval:

Have you obtained ethical approval for the conduct of your study?

No

Please Describe why you have chosen No

Not necessary-the paper being submitted is a viewpoint.

Declaration of Competing Interest

Dr. Vincent Guilamo-Ramos reports grants and personal fees from ViiV Healthcare, outside the submitted work; he also serves as a member of the U.S. Presidential Advisory Council on HIV/AIDS and as the Vice Chair of the Board of Directors of the Latino Commission on AIDS. Adam Benzekri, Marco Thimm-Kaiser, Dr. Marissa Abram, and Dr. Holly Hagan have nothing to disclose.

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