GUESTEDITORIAL

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Veterans' Health and Opioid Safety–Contexts, Risks, and Outreach Implications

America has been facing an epidemic of drug overdoses. Prescription opioid (PO) misuse has been a major driver of this phenomenon. According to the CDC, from 1999 to 2013 the drug poisoning death rate more than doubled from 6.1 to 13.8 people per 100,000, and the rate for drug poisoning deaths involving opioid analgesics nearly quadrupled from 1.4 to 5.1 people per 100,000.[1]

This epidemic has greatly impacted active-duty military personnel and veterans who face especially elevated risks of opioid misuse and overdose.[2-4] The army has reported that among active-duty personnel, drug toxicity deaths more than doubled between 2006 and 2011, and overdose rates are greatly elevated among VA patients compared with the civilian population.[3,5] A May 2014 VHA report indicated that 440,000 current patients were prescribed opioids, placing them at potential risk, and 55,000 veteran patients were diagnosed as having a current opioid use disorder, placing them at even greater risk.[3,6]

Military personnel and veterans who experience combat- or service-related injuries are frequently prescribed POs to manage pain.[7,8] However, POs can be misused, and routine pain management can easily lead to risky behavior through common practices such as unmonitored dose escalation and the use of POs in combination with other drugs or alcohol. Some service members and veterans engage in unsupervised, nonmedical use of POs for a range of reasons, including self-management of physical pain, anxiety, or sleep disorders.

Veterans' PO use can take place within the broader context of readjustment to civilian life and its numerous challenges, including unemployment, homelessness, social isolation, cognitive impairment (eg, traumatic brain injury [TBI]), and mental health concerns (eg, depression, posttraumatic stress disorder [PTSD]).[2,3,8,9] All of these factors can intensify the negative health consequences associated with PO misuse and can greatly increase the chance for overdose and accidental injury. Accordingly, veterans represent a vulnerable population at disproportionate risk of PO misuse and overdose. As current research is demonstrating, these risks are potentially even higher for women, minority, homeless, and otherwise socially isolated veterans, as well as those with mental health concerns.[10,11]

PREVENTING OVERDOSE DEATH

Overdose events are both preventable and reversible.[12] One policy response has been to provide outreach education programs that distribute naloxone (commonly referred to by its trade name, Narcan), an opioid antagonist that can reverse opioid-involved overdose, and train PO users, their family, and friends in its use. In response to the rise of PO misuse and PO-related overdose, VA, DoD, public health departments, drug treatment programs, and community groups have implemented opioid safety and overdose prevention programs targeting prescription drug users, their families, and their peers. Typical programs provide information about preventing opioid misuse, identifying and preventing an overdose, understanding overdose risks (eg, tolerance, mixing drugs, using alone), and responding to an overdose (eg, calling 911, rescue breathing, naloxone administration). The effectiveness of these programs is well established.[13-17]

The army has been highly responsive to this problem. Following contact with a Wilkes County, North Carolina-based overdose prevention program, army medical personnel at Fort Bragg implemented Operation Opioid SAFE in 2011, which provided overdose prevention training and naloxone to active-duty soldiers at risk for opioid overdose in the course of routine pain management.[18] This program represents a forward-looking intervention in keeping with the CDC's recent call to public agencies to educate laypersons to administer naloxone to those in need.[12] This initiative has great potential to reach active-duty soldiers. However, additional outreach programs are needed to reach the vet-

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eran population who face similar overdose risks but may not be served by the VA, which is now providing risk reduction information and naloxone through its Overdose Education and Naloxone Distribution Program.[6,19]

Another approach to preventing opioid overdose has been to restrict access to POs, including a reduction in prescribing POs and the use of prescription drug monitoring programs to combat diversion. These programs are raising awareness and reducing misuse (especially casual misuse) among many populations. However, patients dealing with chronic pain still need medications, and POs work for many of them. Unfortunately, with restricted access to POs, some veterans self-treat pain with diverted POs or even switch to illicit substances, such as heroin.[20] Without medical oversight for their opioid use (and the standardized dosage and contraindication information that it involves), these veterans experience an even greater risk of opioid-related overdose.

ASSESSING THE PROBLEM

Despite findings about the clustering of opioid-related risks among particular veteran subpopulations, very little is currently known about how these risks emerge over time and what conditions and events precipitate them. The Institute for Special Populations Research (ISPR) of the National Development and Research Institutes, Inc. (NDRI), is conducting a project to address the emergence of opioid-related risk behaviors over time and to track the changing dimensions of veterans' reintegration experiences that impact PO and other substance use patterns. This project examines opioid-using veterans' substance use patterns alongside other physiologic, social, and psychological dimensions of their lives, ranging from PTSD symptoms, depression, and pain severity to social relationships and employment status. The goal is to provide critical biopsychosocial insights into the stressors, turning points, and substance use patterns that precede emergence of overdose risk behaviors and the protective factors that keep some opioid-using veterans safe, despite their struggles with pain and the psychosocial challenges of reintegration.

With this work, ISPR hopes to greatly inform the development of effective programs for preventing opioid misuse and opioid-related overdose among veterans by helping to identify the salient contexts for risky opioid use and gaining a better understanding of how even routine, adherent pain management behaviors sometimes lead to risky situations. This task is suited to both qualitative inquiry and survey research, and to that end, ISPR has conducted in-depth interviews with veterans who have experienced a PO-related overdose to gain a better understanding of proximal and distal antecedents of overdose. These interviews have helped ISPR to develop an Overdose Risk Behavior Scale, which is being administered to 250 veterans to monitor risk trajectories over a period of 2 years.

Preliminary results suggest that veterans are engaging in a variety of risky practices, such as off-label use of POs, mixing prescription opioids with other drugs and/or alcohol, and excessive opioid misuse without other people present. The research is also finding that these risky behaviors are deeply rooted in social factors (eg, unemployment, homelessness, and relationships) and mental health issues. Consistent with other research, we are finding that a large portion of veterans do not utilize or engage VA hospitals for a variety of reasons, including discharge status, confusion about eligibility, and a dissociation from military status, often due to experiences of trauma and/or moral injury.[21]

The ISPR has also convened focus groups involving homeless and female veterans to better understand the gendered dimensions of substance abuse challenges.[4] In collaboration with the New York City Department of Health and Mental Hygiene (NYCDOHMH), ISPR is convening additional focus groups with male and female veterans currently using opioids to gain insights into ways to promote opioid safety and prevent overdose among the veteran population.

POLICY AND OUTREACH

Ongoing work indicates that there is a need for additional community-based approaches to reach this high-risk population. In this community and through this work, ISPR is finding that community-based, low-threshold approaches are paramount. For veterans who do not utilize the VA, the foundational principles of risk mitigation, which urge individuals to "come as you are" and service providers to meet clientele "where they are" in low-threshold settings, are essential guidelines for conducting effective outreach.[22]

In New York City, for example, where the ISPR study is being conducted, the veteran community is served by a diverse network of veterans' organizations, many of which serve specific veteran subpopulations, including the homeless (eg, Jericho Project), black/African American (eg, Black Vets for Social Justice), female (eg, Service Women's Action Network), and substance-dependent veterans (eg, Reality House). The study has been working with these groups to develop strategies for overdose reduction. We are fortunate that the NYCDOHMH has been promoting overdose prevention and reversal within the community. They have collaborated with ISPR to support efforts to reach within the veteran population.

Although robust, collaborative community-based projects involving veteran populations have been slow to emerge, the ISPR findings indicate

that by collaborating with veterans and supporting them with overdose prevention knowledge and skills, they can be better prepared to participate in peer outreach efforts and in some cases, even become community health providers to other veterans in need. As many veterans have suggested, the "battle-buddy" military model of support could be adapted and widely implemented for veterans. With these veterans and the organizations that support them, ISPR aims to further the overdose prevention and opioid safety prevention efforts and pioneer new prevention and information resources for PO-using veterans, their friends, and family members. This effort is also helping to construct valuable ties with veterans service organizations (VSOs) that will empower them in future outreach to localized veteran subpopulations.

This joint effort will provide the means to develop more creative and time-sensitive interventions that prevent or mitigate risky behaviors before they lead to negative health consequences, including overdose and even untimely death. Helping to understand how veterans conceptualize risk and draw on social and institutional supports will allow for greater refinement in future efforts to educate veterans and assist them in establishing meaningful institutional affiliations and social relationships that may serve as protective factors against opioid-related health risks.

The ongoing dialogue with many veterans and the organizations that serve them has yielded recommendations to help improve their transitions to civilian life. Many veterans suggested the need for a continuum of services and more frequent/robust outreach, such as support and referral programs at every stage of the military/veteran career through VSOs. Many veterans also suggested the need for increased access to a range of treatment options on demand, including traditional 12-step and faith-based programs, medically assisted maintenance and therapy programs (eg, methadone and buprenorphine), as well as complementary and alternative medical approaches (eg, acupuncture).

Veterans have also advocated for the provision of different technological and philosophical approaches to assist them as civilians. For example, some veterans suggested that it is critical to address the stigma associated with seeking treatment and to provide treatment in nonjudgmental settings. Further, many advocated for expansion of short- and long-term maintenance therapies and increasing the availability of risk reduction services, such as the provision of naloxone and other low threshold interventions.

For those veterans who have difficulty giving up POs or other drugs completely due to comorbid conditions (eg, serious chronic pain, depression, PTSD, TBI, and dependence), the need to help reduce the stigma of treatment and the harms associated with drug misuse is great. A further insight we have developed while working with the veteran population is that community-based interagency collaboration can help veterans connect with other veterans and the services they need and to realize the potential for their voices to impact policies designed to assist them. Whether within the VA or elsewhere, primary care and mental health practitioners should urge their patients to take up broader networks of health-positive relationships. Indeed, strengthening partnerships between the VA, local health departments, and community-based groups may greatly benefit the larger veteran population. ●

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REFERENCES

1. Chen L-H, Hedegaard H, Warner M. QuickStats: rates of deaths from drug poisoning and drug poisoning involving opioid analgesics—United States, 1999-2013. *MMWR Morb Mortal Wkly Rep.* 2015;64(1):32.
2. Seal KH, Shi Y, Cohen G, et al. Association of mental health disorders with prescription opioids and high-risk opioid use in US veterans of Iraq and Afghanistan. *JAMA.* 2012;307(9):940-947.
3. Headquarters, Department of the U.S. Army. *Army 2020: Generating Health & Discipline in the Force Ahead of the Strategic Reset. Report 2012.* U.S. Army Website. http://usarmy.vo.llnwd.net/e2/c/downloads/235822.pdf. Published January 2012. Accessed May 11, 2015.
4. Bennett AS, Elliott L, Golub A. Opioid and other substance misuse, overdose risk, and the potential for prevention among a sample of OEF/OIF veterans in New York City. *Subst Use Misuse.* 2013;48(10):894-907.
5. Bohnert AS, Ilgen MA, Galea S, McCarthy JF, Blow FC. Accidental poisoning mortality among patients in the Department of Veterans Affairs Health System. *Med Care.* 2011;49(4):393-396.
6. Oliva EM. Opioid overdose education and naloxone distribution (OEND): preventing and responding to an opioid overdose. Department of Veterans Affairs Website. http://www.hsrd.research.va.gov/for_researchers/cyber_seminars/archives/video_archive.cfm?SessionID=868. Published September 2, 2014. Accessed May 11, 2015.
7. Toblin RL, Quartana PJ, Riviere LA, Walper KC, Hoge CW. Chronic pain and opioid use in US soldiers after combat deployment. *JAMA Intern Med.* 2014;174(8):1400-1401.
8. Committee on Prevention, Diagnosis, Treatment, and Management of Substance Use Disorders in the U.S. Armed Forces; Board on the Health of Select Populations; Institute of Medicine. *Substance Use Disorders in the U.S. Armed Forces.* Washington, DC: The National Academies Press; 2013.
9. Bray RM, Olmsted KR, Williams J. Misuse of pre-

scription pain medications in US active duty service members. In: Wiederhold BK, ed. *Pain Syndromes—From Recruitment to Returning Troops: Wounds of War IV*. Amsterdam, Netherlands: IOS Press; 2012:3-16.

10. Maguen S, Ren L, Bosch JO, Marmar CR, Seal KH. Gender differences in mental health diagnoses among Iraq and Afghanistan veterans enrolled in Veterans Affairs health care. *Am J Public Health*. 2010;100(12):2450-2456.
11. Galea S, Ahern J, Tardiff K, et al. Racial/ethnic disparities in overdose mortality trends in New York City, 1990-1998. *J Urban Health*. 2003;80(2):201-211.
12. Centers for Disease Control and Prevention. Community-based opioid overdose prevention programs providing naloxone—United States, 2010. *MMWR Morb Mortal Wkly Rep*. 2012;61(6):101-105.
13. Tracy M, Piper TM, Ompad D, et al. Circumstances of witnessed drug overdose in New York City: implications for intervention. *Drug Alcohol Depend*. 2005;79(2):181-190.
14. Strang J, Best D, Man L, Noble A, Gossop M. Peer-initiated overdose resuscitation: fellow drug users could be mobilised to implement resuscitation. *Int J Drug Policy*. 2000;11(6):437-445.
15. Piper TM, Rudenstine S, Stancliff S, et al. Overdose prevention for injection drug users: lessons learned from naloxone training and distribution programs in New York City. *Harm Reduct J*. 2007;4:3.
16. Behar E, Santos GM, Wheeler E, Rowe C, Coffin PO. Brief overdose education is sufficient for naloxone distribution to opioid users. *Drug Alcohol Depend*. 2015;148:209-212.
17. Bennett AS, Bell A, Tomedi L, Hulsey EG, Kral AH. Characteristics of an overdose prevention, response, and naloxone distribution program in Pittsburgh and Allegheny County, Pennsylvania. *J Urban Health*. 2011;88(6):1020-1030.
18. Operation OpioidSAFE rescues wounded soldiers from prescription drug addiction [news release]. Fort Bragg, NC: U.S. Army; November 13, 2012.
19. VA Pharmacy Benefits Management Services, Medical Advisory Panel, VISN Pharmacist Executives; VA OEND National Support and Development Work Group. Naloxone kits and naloxone autoinjectors: recommendations for issuing naloxone kits and naloxone autoinjectors for the VA Overdose Education and Naloxone Distribution (OEND) program. http://www.pbm.va.gov/clinicalguidance/clinicalrecommendations/Naloxone_Kits_and_Autoinjector_Recommendations_for_Use_May_2015.pdf. Published May 2015. Accessed May 15, 2015.
20. Goebel JR, Compton P, Zubkoff L, et al. Prescription sharing, alcohol use, and street drug use to manage pain among veterans. *J Pain Symptom Manage*. 2011;41(5):848-858.
21. Shiner B. Health services use in the Department of Veterans Affairs among returning Iraq War and Afghan War veterans with PTSD. *PTSD Res Q*. 2011;22(2):1-3.
22. Marlatt GA. Harm reduction: come as you are. *Addict Behav*. 1996;21(6):779-788.