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Rising Mortality Rates in Women in the U.S.: Role of Drug Abuse and Addiction

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National Institute on Drug Abuse (NIDA) director Nora Volkow recently discussed the role of substance abuse in the “Rising Mortality Rates in Women in the U.S.,” the subject of a July 15 Women’s Policy, Inc.-sponsored congressional briefing. Susan Dentzer, Robert Wood Johnson Foundation (RWJF), moderated the session.

According to Dentzer, the briefing was designed to address the data in the 2013 National Research Council (NRC) and Institute of Medicine (IOM) report, *U.S. Health in International Perspective: Shorter Lives, Poorer Health* (see [Update, October 7, 2013](#)), also the subject of an earlier congressional briefing sponsored by the Coalition for the Advancement of Health Through Behavioral and Social Sciences Research (CAHT-BSSR), a COSSA-led coalition co-chaired by deputy director Angela Sharpe. Dentzer highlighted research by David A. Kindig and Erika R. Cheng which examined the trends in age-adjusted mortality rates in U.S. counties between 1992 and 2006 and found that “even as mortality fell in most U.S. counties, female mortality rose in 42.8 percent of counties during this period.”

The NRC/IOM report found that Americans are at a distinct health disadvantage relative to populations of peer nations. With regard to female mortality, new research reveals particularly troubling trends across the U.S. Specifically, the trends show that for many women, there is a reversal of the long-term trend of rising life expectancy. Dentzer also pointed out that we know less than we need to know about the causes and stressed the “need for more research and action.”

She noted that the report also found that for many years, Americans have been dying at younger ages than people in almost all other high-income countries. In addition, “not only are their lives shorter, but Americans also have a longstanding pattern of poorer health that is strikingly consistent and pervasive over the life course – at birth, during childhood and adolescence, for young and middle-aged adults, and for older adults.” Kindig and Cheng’s research begins to show the reversal of this trend, which is part of a larger story, said Dentzer.

Dentzer explained that premature mortality is defined as death before age 50. For women, the causes of premature mortality include maternal conditions, communicable and nutritional conditions, intentional injuries, drug-related causes, perinatal conditions, unintentional injuries, cardiovascular disease (CVD), and noncommunicable disease, including CVD. Factors associated with areas that had lower mortality, Dentzer noted, include higher education levels and low smoking rates. Conversely, the causes are “most likely, a toxic ‘stew;’” that is toxic stress (e.g. fallout from adverse childhood events); socioeconomic stressors (e.g., low-wage jobs, poor economic growth), smoking, obesity (e.g., poor diets, lack of exercise,

resulting chronic illnesses, including diabetes, hypertension, and heart disease), prescription drug abuse and overdoses, among others, Dentzer stated.

Dentzer called for more research designed to fully understand the causes and drivers of premature mortality. She also emphasized the need for the development and testing of new interventions. Additionally, she stressed that existing proven interventions need to be used (e.g., obesity and diabetes prevention; prescription drug abuse reduction). There is a role for health care providers and the public health system acting in concert, said Dentzer, and concluded by emphasizing that “population health approaches and focus on upstream determinants of health, or building a ‘culture of health,’ is critical.”

Drug Abuse and Addiction: A Major Contributor to Women’s Rising Mortality Rates?

NIDA director Nora Volkow addressed the role of substance abuse as a factor contributing to the increase in rising mortality in women. People abuse drugs because all drugs of abuse (including cocaine, opiates, marijuana, nicotine and alcohol) raise brain dopamine levels, she explained, noting that these substances are highly efficient in doing so. The problem also involves the “human social systems,” the characteristics of the drugs, biology, and the social structure. Females respond differently to drug intoxication than males, and this is also affected by age. Hormones, particularly at menarche and menopause, may increase a drug’s reinforcing effects and its concentration in the brain, Volkow explained.

Volkow emphasized that female mortality is due in part to the use of legal nicotine and alcohol, reporting that tobacco use is the leading preventable cause of death in the U.S. According to the Centers for Disease Control and Prevention (CDC), there are 480,000 deaths (278,544 men and 201,773 women) per year attributable to tobacco use. She pointed out that the higher death rate among men is due to the fact that boys are more exposed to the environmental factors associated with tobacco use. Conversely, for women the social structure provides a protective element. This has resulted in delayed prevention efforts for women because the death rate reflects the delay in women smoking. In young adolescents we are seeing a narrowing of the rate of smoking between boys and girls. If we want to make a dramatic change, stressed Volkow, we need to continue to aggressively target smoking.

Excessive alcohol use, according to the CDC, is the fourth leading preventable cause of U.S. deaths, resulting in 88,000 annual deaths (62,000 men and 26,000 women), including deaths due to car accidents resulting from alcohol use. Volkow also highlighted the increase of alcohol use by elderly women, along with alcohol’s contributing role in many cancers.

She also noted the complacency surrounding the use of marijuana and its contributions to car accidents, now being seen in Colorado. Citing the higher prevalence among men in this area, Volkow emphasized the need for more statistics overall.

Prescription drug misuse/abuse is a major problem in the U.S., the NIDA director shared, highlighting the increase in nonmedical use of psychotherapeutic drugs (e.g., pain relievers, tranquilizers, stimulants, and sedatives) among persons age 12 or older. Volkow reported that the massive increase of people dying from overdosing on prescription drugs (five-fold in women and three-fold in men) has attracted a lot of attention, noting that deaths from drug overdose in the U.S. have more than tripled since 1990. The greatest increase is among women aged 45 -54, according to the latest data available from 2010. Similarly, the number of opioid prescriptions from U.S. retail pharmacies from 2002-2013, Volkow stated, increased more than thirty percent over an eight-year period. Accompanying this increase has been a



four-fold upsurge in treatment admissions for prescription painkillers in the past decade. She underscored that “multiple factors” are contributing to the increase.

Volkow also drew attention to a second IOM report, *Relieving Pain in America: A Blueprint for Transforming Prevention, Care, Education, and Research* (see [Update, July 11, 2011](#)). The recommendations from that report included the need to address disparities in the experience of pain among subgroups of Americans. Women appear to suffer more pain in many categories and at the same time, their reports of pain were more likely to be dismissed.

The prescription painkiller problem affects women in different ways than men, Volkow explained. Because women are more likely to have chronic pain, they are given prescription pain medication at higher doses, and they use them for longer periods of time than men. Accordingly, women may become dependent on prescription painkillers more quickly than men. She further highlighted the recent paper in [Nature](#) authored by NIH Office of Research on Women’s Health (ORWH) director Janine A. Clayton and NIH director Francis Collins, which notes that the agency is developing policies that require applicants to report their plans for the balance of male and female cells and animals in preclinical studies in all future applications.

