Opioid Overdose: When Good Drugs Break Bad

Actor Philip Seymour Hoffman died on February 2, 2014, at age 46 years of an apparent accidental overdose (OD) of an opioid drug. He is yet another in a long series of talented entertainers to succumb to this class of drug; others include Elvis Presley, John Belushi, Heath Ledger, and many more. Although these celebrity deaths generate great interest in the media, journalists and the public often underappreciate that these celebrity deaths are but a single manifestation of an ongoing population-wide epidemic of opioid OD deaths. These deaths have been associated with the use of pharmaceutical-grade drugs (“good drugs”) and non–pharmaceutical-grade drugs (“bad drugs”). We review these 2 categories and share with readers why this categorization, when applied to opioid-related deaths, is often a distinction without a difference. Furthermore, we place our speculative synthesis in the context of the opioid OD article by Hasegawa et al1 in the current issue of Mayo Clinic Proceedings.

In the early 1990s, there began a well-documented explosion in the sales of prescription opioid pain relievers believed to result from a variety of factors, including the release of new opioid drugs and formulations, the aggressive marketing of these drugs to physicians, the declaration of pain as the “fifth vital sign” by the American Pain Society and the Joint Commission, and an increased willingness on the part of physicians to treat chronic non–cancer-related pain with opioid drugs. Unfortunately, in concert with liberalization of the indications for the use of opioid drugs there have been parallel increases in the diversion and abuse of these same drugs and deaths attributable to them.2 In the age group 25 to 64 years, death due to unintentional drug poisoning is now the leading cause of accidental death in the United States, surpassing automobile accidents.3 Seventy-five percent of these drug poisoning deaths involved opioids.4 In its efforts to raise public awareness of the problem, the Centers for Disease Control and Prevention declared in 2011 that prescription drug abuse is now an epidemic.5

Multiple groups are joining efforts to curb the damaging impact of opioid abuse, among them the Food and Drug Administration, the Drug Enforcement Administration, the Federation of State Medical Boards, and component individual state medical boards. Much of this effort involves educating prescribing physicians and their proxy prescribers on the nature of the epidemic and strategies that can be used to responsibly prescribe these drugs in a manner that does not promote illicit use or increase the risk of diversion.6 It is often difficult, if not impossible, for otherwise overburdened health care providers to determine which patients are using their prescribed opioids responsibly and appropriately, which are taking them in a manner other than prescribed, and which are fraudulently obtaining prescriptions to support their addiction or to profit from the sale of the drugs.

In this issue of Mayo Clinic Proceedings, Hasegawa et al1 provide a glimpse of another disturbing facet of this epidemic. Using data derived from population-based analyses of state emergency department (ED) and inpatient databases for California and Florida, the authors found that frequent ED visits for opioid OD are associated with a higher likelihood of future hospitalizations and near-fatal events. Although these causal findings may not be surprising, the authors have offered solid data defining the risks and economic costs associated with opioid OD–related ED visits.

Hasegawa et al1 maturely interpret and place into context their results. However, we believe that several points in their methods and findings deserve additional comment. First, Hasegawa et al do not differentiate between an OD caused by good drugs (pharmaceutical-grade opioid preparations) from those caused by bad (street) drugs, such as heroin or opium. Although it might have been interesting to explore this breakdown were it available, the distinction between these 2 groups of drugs in terms of damaging consequences is illusory. As well, were the data available, it would certainly have been of interest to note whether those who...
experienced an OD while taking properly prescribed opioids were taking their medications as instructed. Although there are occasions where patients have experienced an OD while taking their opioid drugs as initially prescribed (eg, the documented risk posed by too rapid an upward titration of methadone dosage), more often an OD results from either a deviation from the prescribed dose and frequency or the use of licit pharmaceutical drugs diverted to illicit use. Patients who have escalated their use of opioids in excess of what is prescribed may turn to other means to obtain drugs, such as seeking early refills, exploiting multiple prescribers (“doctor shopping”), borrowing or stealing from family members or friends, or other means of diversion. Licit pharmaceuticals have been diverted in large quantities to the illicit black market owing to the popularity that results from their perceived safety in relation to street drugs. As buyers feel more certain of what they are buying, the price paid for diverted pharmaceutical drugs is often considerably higher than an equipotent dose of heroin. For example, public health officials say that a $10 packet of heroin compares pharmacodynamically with a single 80 mg OxyContin pill worth approximately $80 on the street.

As a result, law enforcement agencies now see addicts who are unable to afford their pharmaceutical-grade drug of choice turning to heroin to prevent the agony of withdrawal (oral communication, Matthew St George, Drug Enforcement Administration, Tactical Diversion Squad, Minneapolis, MN, District Office, Diversion Task Force, November 7, 2013). This is borne out by statistics from the Maryland Department of Health and Mental Hygiene study showing that in the first 7 months of 2012, a 15% drop in pharmaceutical opioid overdoses was accompanied by a 41% increase in heroin overdoses. Philip Seymour Hoffman had a well-documented and self-admitted history of substance abuse in his younger days, but then had a long period of sobriety. The danger posed by the false sense of safety that accompanies the use of pharmaceutical-grade drugs is made clear in this quote from a recent editorial by William Cope Moyers, who also has struggled publicly with addictive illness. “Hoffman had been clean and sober for 23 years. Last year, he relapsed on opiate pain medication, the ‘Trojan horse’ of drugs for people in recovery who don’t realize that a legitimately prescribed substance can unleash their dormant illness until they are right back where they started—or worse.” As such, the failure of Hasegawa et al to draw a distinction between pharmaceutical and street drugs is irrelevant when it comes to the ultimate consequences of this opioid abuse epidemic. Furthermore, because any use of a controlled substance in a manner and dose other than prescribed is a felony act under federal law, the abuse of opioids is dangerous and illegal regardless of the exact nature, quality, or purity of the abused drug.

Hasegawa et al demonstrate well the danger of opioid OD, finding that 10% of OD-related ED visits ultimately resulted in a near-fatal outcome and that 1.1% of visits ended in death. Another fascinating finding of their research arises from the determination of intentionality of the OD. The authors found that in most OD deaths (60%), there was no clear intention on the part of the individual to fatally injure themselves. It is also interesting to note that the rate of fatal events was higher in those who OD without an intention of death (ie, those not attempting suicide) vs those attempting suicide (1.3% vs 0.9%; P<.002). This trend was also noted with near-fatal outcomes (10.8% vs 8.8%; P<.001). Whether this finding means that those who have no intention of dying feel safe in testing the boundaries of increasingly dangerous doses is unknown. Hasegawa et al offer additional valuable clinical insights for those caring for individuals requiring opioid therapy. For example, patients with chronic respiratory or neurologic disease seem uniquely vulnerable to ED OD admissions.

Hasegawa et al are to be congratulated for identifying and better defining the subset of opioid-using or opioid-abusing patients admitted to the ED for opioid OD. Their research allows us to better understand the dangers associated with the explosion of opioid prescription in the United States. Although these drugs can bring great benefits to patients, their misuse can result in tragic consequences. Reports of studies that better define those populations most at risk for harmful or fatal outcomes are most welcome, as we urgently
need to define the most rational uses for these all-too-often harmful drugs.

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REFERENCES