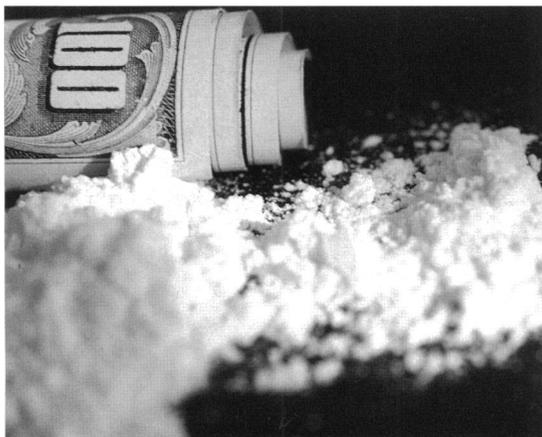


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## Deadliness of Declining Drug Abuse



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WE KNOW THAT THERE has been a general downward trend in the use and abuse of illicit drugs and alcohol since 1979. But the consequences of substance abuse, as measured by how high it ranks among causes of death, are less easily grasped and far less appreciated. Perhaps for the first time, Lois Fingerhut and Christine Cox document the contribution of poisonings—a high percentage of which are drug overdoses—to injury deaths.<sup>1</sup>

Given the general downward trend in substance use and abuse in this country (except for recent increases in incidence among a few drugs, including marijuana and heroin),<sup>2</sup> the findings in the Fingerhut and Cox article are unexpected: that from 1990 to 1995 the age-adjusted rate of death from poisoning increased 25% and that all of the increase was associated with drugs. Unfortunately there is no independent national data source to confirm an increase in unintentional drug poisonings.

We suspect the explanation can be found in drug use patterns. When use declines, there are fewer new users. Fewer new users means that the proportion of older users is going up. We can surmise that older users and those who have been abusing drugs for a long time are more debilitated and less resistant to the infections, cardiovascular toxicity, and other life-threatening effects of illicit drugs.<sup>3</sup>

Some data exist to make this a plausible explanation of increasing deaths in the face of declining use. Perhaps the best available source is the Medical Examiner (ME) report from the Drug Abuse Warning Network (DAWN).<sup>4</sup> DAWN is a national reporting system for information on patients seeking hospital emergency department treatment resulting from their use of an illegal drug or the non-medical use of a legal drug. Although the ME data are not nationally representative, medical examiners from 41 of the nation's larger metropolitan areas have consistently filed reports over the years. The ME reports show a 9.5% increase between 1992 and 1995 for drug-induced (overdose) deaths.<sup>4</sup> In addition, a study of accidental drug overdose deaths in New York City from 1990 to 1992 showed a similar rise, particularly in deaths from cocaine and opiates.<sup>5</sup> Both studies are consistent with Fingerhut and Cox's findings.

Fingerhut and Cox use a more comprehensive classification system than the earlier one cited in the article or the one developed by the Alco-

hol, Drug Abuse, and Mental Health Administration several years ago.<sup>6</sup> Yet even with their methodologic advances, the vital statistics mortality data reported by Fingerhut and Cox may still substantially undercount poisonings due to misclassification of deaths caused by drugs. When vital statistics have been compared with other sources for cocaine-related mortality, for example, researchers have found that fewer cocaine-related deaths were reported in vital statistics data than from other sources.<sup>7</sup>

Concerns about the quality and completeness of poisoning mortality data are not new.<sup>8-10</sup> Shai enumerated these problems, explaining that they are due to "differences in definition, differences in medical examiner practices, the constraints of the World Health Organization (ICD-9) coding regulations, and the pressures on medical examiners from kin and others to avoid a cause of death which is seen as social stigma."<sup>11</sup> Thus, even though expanding the coding of poisoning deaths leads to larger estimates, these estimates are likely to continue to be an undercount to an unknown extent.

Undercounting aside, the article presents important new findings. One is that unintentional poisoning by opiates and related narcotics, including heroin (E850.0), is the most often specified underlying cause of poisoning deaths, with local anesthetics (including cocaine) the third most commonly specified cause. This is surprising because one would have expected alcohol to hold this ignominious first place given that it is the most widely used substance. National data have shown that use of heroin trails use of marijuana and hashish, cocaine, non-medical use of prescription-type drugs (such as stimulants sedatives, tranquilizers, and analgesics), inhalants (for example, lighter fluid, aerosol sprays, glue, paint thin-

ners), and hallucinogens.<sup>12</sup> One wonders if Fingerhut and Cox's findings with regard to the ordering of drug-induced poisoning mortality might be due to relative toxicities. Opiates, heroin, and cocaine are more frequently consumed in lethal amounts than some other drugs.

Could improved reporting on death certificates (even though underreporting and misclassification continue) explain some of the increase? As clinicians have become increasingly aware of how toxicological emergencies present, they have become more willing to code a particular substance as the cause of death.

The analysis of death certificates is not always sensitive to co-existing and contributory causes of death because, although these are reported on deaths certificates, they are excluded from analyses that focus exclusively on the single, underlying cause of death. While Fingerhut and Cox did do multiple cause-of-death analyses, such analyses can still suffer from the same potential under-reporting or misclassification as single cause-of-death analyses.<sup>13</sup>

The article presents a challenge for researchers, medical examiners, and the substance abuse prevention and treatment community. For researchers, there is much in the article to stimulate more analysis. For medical examiners, coroners, clinicians, and coders, there remains a need to improve diagnostic coding of poisonings by drugs. Finally, the biggest challenge is for those who are trying to prevent and treat substance abuse, and this article leaves little doubt of a serious public health problem.

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