LETTERS

Poison Centers' Perspective

From 1985 through 1996, poison centers reported only 7627 deaths to the Toxic Exposure Surveillance System (TESS) administered by the American Association of Poison Control Centers.[1-12] This 12-year total pales in comparison to the 18,549 reported for 1995 alone by Fingerhut and Cox in the May/June issue [*PHR* 1998; 113:218–233]. As the medical director of New Jersey's regional poison center, I was shocked by the discrepancy in these numbers.

Although a medical professional is unlikely to report a death to a poison center if a victim is found dead or appears dead on arrival at a health care facility, it seems unlikely that the difference between the number of deaths attributable to poisonings and those reported to poison centers could be so large.

Death certificates are notoriously considered "busy work" by physicians, rarely taken seriously and often relegated to other staff. Thus most statisticians view death certificates with a "jaundiced eye." Toxicology results are not always available at the time the death certificate is completed, and the certificate is rarely updated when the results do become available. According to the New Jersey medical examiner, the cause of death may be ascribed to drugs by the postmortem examiner when a drug is found in a postmortem specimen and competing causes of death are ruled out (Personal communication, Faruk Presswalla, MD, April 1998)—even though the discovery of a drug in a specimen does not prove causality. These judgment calls skew the data to the high side.

Although Fingerhut and Cox's data show an increase in age-adjusted mortality from poisonings, the ratio of deaths to total exposures reported to poison centers (0.035%–0.036%), according to TESS data, has not changed significantly over the same period of time, suggesting that the mortality rate has not changed for cases reported to poison centers. This is interesting since the total number of exposures reported to poison centers rose from 900,513 in 1985 to 2,263,429 in 1996. One would have assumed that an increase in reporting would include an increase in the numbers of severe poisonings. If this has happened, then poison centers have successfully reduced the death rate from such exposures.

I agree with the authors that the epidemiology of poisoning is a baffling subject. The TESS system attempts to handle the various epidemiological variables by breaking down each exposure by circumstance. This allows a review of case by intent (unintentional or intentional) then by further circumstance (misuse, abuse, occupational, environmental, and so on). Careful review of this literature linked to the death certificate and OSHA records may give us a better idea of the true scope of the poisoning problem.

Woodward's commentary in the same issue [*PHR* May/June 1998; 113:234–5] points out that there may be significant variation in clinicians' awareness of poisoning circumstances. He postulates that there may be an increased awareness of toxicological emergencies and an increased willingness to code a particular substance as the cause of death. If so, one would assume that these clinicians would call a poison center, which has not apparently been the case.

The issue of drug abuse–related deaths is an important one. I have mixed feelings about the assumption that these are unintentional deaths. The drug abuser may not be trying to die—unless he or she has a subconscious death wish—but calling this type of exposure unintentional is misstating the facts. The TESS database includes a category, intentional abuse, that is more appropriate to these kinds of deaths.

Fingerhut and Cox's report and the accompanying commentary present a challenge to our health care system. Poisonings represent significant morbidity and cost. The shame is that poison centers fail to receive either the recognition or financial support they deserve and need. At any given time, one-quarter or more of the nation's poison centers face significant financial challenges.

To get a true idea of the effect of poisonings on American life, we need to adopt a single set of definitions, and all who collect epidemiological data on poisonings must use and share them; otherwise, we can only guess at the true impact of this health problem.

Steven Marcus, MD
Executive Director
New Jersey Poison Information and Education System

References

1. Litovitz TL, Normann SA, Veltri JC. 1985 annual report of the American Association of Poison Control Centers National Data Collection System. J Emerg Med 1986; 4:427-58.
2. Litovitz TL, Martin TG, Schmitz B. 1986 annual report of the American Association of Poison Control Centers National Data Collection System. J Emerg Med 1987; 5:405-45.
3. Litovitz TL, Schmitz B, Matyunas N, Martin TG. 1987 annual report of the American Association of Poison Control Centers National Data Collection System. J Emerg Med 1988;6:479-515.
4. Litovitz TL, Schmitz B, Holm KC. 1988 annual report of the American Association of Poison Control Centers National Data Collection System. J Emerg Med 1989; 7:495-545.
5. Litovitz TL, Schmitz B, Bailey KM. 1989 annual report of the American Association of Poison Control Centers National Data Collection System. J Emerg Med 1990; 8:394-442.
6. Litovitz TL, Bailey KM, Schmitz B, Holm KC, Klein-Schwartz W. 1990 annual report of the American Association of Poison Control Centers National Data Collection System. J Emerg Med 1991;9:461-509.

7. Litovitz TL, Holm KC, Bailey KM. Schmitz B. 1991 annual report of the American Association of Poison Control Centers National Data Collection System. J Emerg Med 1992;10:452-505.
8. Litovitz TL, Holm KC, Clancy C, Schmitz B, Clark LR, Oderda GM. 1992 annual report of the American Association of Poison Control Centers National Data Collection System. J Emerg Med 1993;11:494-555.
9. Litovitz TL, Clark LR, Soloway RA. 1993 annual report of the American Association of Poison Control Centers Toxic Surveillance System. J Emerg Med 1994;12:546-55.
10. Litovitz TL, Felberg L, Soloway RA, Ford M, Geller R. 1994 annual report of the American Association of Poison Control Centers Toxic Surveillance System. J Emerg Med 1995;13:551-97.
11. Litovitz TL, Felberg L, White S, Klein-Schwartz W. 1995 annual report of the American Association of Poison Control Centers Toxic Surveillance System. J Emerg Med 1996;14:487-537.
12. Litovitz TL, Smilkstein M, Felberg L, Klein-Schwartz W, Berlin R, Morgan JL. 1996 annual report of the American Association of Poison Control Centers Toxic Surveillance System. J Emerg Med 1997;15:447-500.

Fingerhut and Cox reply:

We agree that poison control centers continue to be an important and valuable resource for the management of more than two million cases of poison exposure annually. The data captured by these centers are included in the Toxic Exposure Surveillance System (TESS). The findings presented in our article, on the other hand, were derived from analyses of data from the National Vital Statistics System (NVSS). Vital statistics are the source of information on each of the more than two million deaths registered in the United States each year. While no data source is perfect, Dr. Marcus's position is quite extreme and, if his claims are valid, would call into question the entire process of death certification and registration in the United States and elsewhere. This is clearly not warranted.

As we noted, causes of death are reported on death certificates by physicians, medical examiners, or coroners; this information is filed in each of the 50 states and Washington DC and then forwarded to the National Center for Health Statistics for processing. It is important to restate the obvious—the data originate at the state and local levels. The point that death certificates are not taken seriously is difficult to accept given the widespread acceptance of analyses based on death certificate data. Moreover, deaths ascribed to injury and poisoning are supposed to be investigated and certified by a medical examiner or coroner rather than by an attending physician. The rules for coding a poisoning death, especially unintentional poisoning, are explicit.[1]

There is no reason to expect that the number of poisoning deaths reported in the NVSS would be similar to the number captured by the TESS. Vital statistics capture *all* deaths, while the TESS can only capture cases that were called in to poison control centers, a subset of both fatal and nonfatal poisonings. For example, our analyses showed that nearly 80% of poisoning deaths in the United States result from the use of drugs (including cocaine and heroin). Many of these patients are likely to be treated in an emergency department or in another health care facility. Medical staff in these facilities are not likely to call a poison control center. Furthermore, there is no *requirement* to report a poisoning (or a subsequent death) to a poison control center. Such a report would not likely be made unless a health care professional needed poison control center assistance or a bystander (relative, friend) happened to call a poison control center for advice or assistance.

New Jersey is among those states with a medical examiner system. Although the guidelines for which deaths to investigate vary widely from jurisdiction to jurisdiction,[2] most jurisdictions require investigations of deaths due to homicide, suicide, or unintentional causes such as motor vehicle crashes, falls, burns, or the ingestion of drugs or other chemical agents. The record of a complete death investigation would include the following: the initial report of the death made to the medical examiner or coroner's office (for example, by a family member, police officer, or attending physician); a determination of circumstances surrounding the death; findings of a scene investigation; findings of a postmortem exam or autopsy; results of laboratory tests to determine the presence of drugs, toxins, or infectious agents; and certification of the cause and manner of death.

The two data systems, the TESS and the NVSS, serve different purposes. Both are valuable for their users and should be seen as complementary rather than contradictory.

Lois A. Fingerhut, MA
Christine S. Cox, MA
National Center for Health Statistics
Hyattsville, Maryland

References

1. National Center for Health Statistics (US). Instructions manual Part 2a: instructions for classifying the underlying cause of death, 1992. Hyattsville (MD): Public Health Service; 1992.
2. National Center for Health Statistics (US). Medical examiners' and coroners' handbook on death registration and fetal death reporting. Hyattsville (MD): Public Health Service; 1994. ■

ERRATUM

In the May/June 1998 issue of *PHR*, the caption on page 221 should have read, "In *1995*, 1659 people committed suicide by inhaling motor vehicle exhaust gas, making it the second leading underlying cause of poisoning death in the United States." ■