Methadone Mortality – A 2010 Reassessment

Thursday, July 29 & Friday, July 30, 2010
Washington, DC

Briefing Paper

Sponsored by the

Center for Substance Abuse Treatment
Substance Abuse and Mental Health Services Administration
Department of Health and Human Services

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SAMHSA's role in addressing adverse events related to methadone is embedded in both its statutory authority and the agency's commitment to promoting the public health. In 2001, the Secretary of Health and Human Services delegated to SAMHSA the responsibility for regulation and oversight of the Nation's opioid treatment programs (OTPs).

SAMHSA's current actions to address methadone-associated deaths began in 2002, spurred by reports of drug diversion, abuse, and deaths involving many opioid medications, including methadone. SAMHSA already was collaborating with the CDC, DEA, NIDA, and FDA, as well as with agencies in some of the States most directly affected by rising methadone mortality rates. Their reports, coupled with an increase in requests for consultation and assistance from State authorities and practitioners in the field, created added urgency for SAMHSA to evaluate and address the causes of the increase.

In 2003, SAMHSA convened a multidisciplinary group of more than 60 experts – including representatives of various Federal and State agencies, researchers, epidemiologists, pathologists, toxicologists, medical examiners, coroners, pain management specialists, addiction medicine experts, and others – to develop strategies and action plans for the agency. A similar meeting in 2007 brought together 80 experts to re-evaluate and update the findings of the 2003 National Assessment. Participants in both the 2003 and 2007 meetings were asked to:

- Review current data on methadone-associated deaths.
- Determine whether and to what extent such deaths might be related to the clinical practices of SAMHSA-monitored opioid treatment programs (OTPs).
- Formulate strategies and action steps to address the problem.

A number of assessment findings, strategies and action steps were endorsed by the conferees, who demonstrated considerable consensus as to the way forward. These consensus-driven strategies were assigned the highest priority for follow-up action.

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The strategies can be summarized as follows. CSAT's activities to implement them are described below.

- Improve the quality of data through standardization of nomenclature and case definitions for classifying methadone-associated deaths;
- Promote the safe use of methadone to treat addiction;
- Promote the safe use of methadone to treat chronic pain;
- Reduce the rate of adverse drug events associated with methadone;
- Foster collaboration among government agencies and private-sector organizations; and
- Conduct periodic reassessments.

Improve the Quality of Data Through Standardization of Nomenclature and Case Definitions for Classifying Methadone-Associated Deaths

Findings of the 2003 and 2007 Assessments: More accurate and timely data are needed to fully understand the factors involved in drug-related overdoses and deaths. One obstacle to obtaining such data is the fact that cause of death (COD) continues to be classified and reported differently in various jurisdictions. As a result, methadone sometimes is reported as a cause of death when it is only a contributing factor or not a factor at all, while in other cases it actually is the proximate cause of death but is not reported as such.

Most Medical Examiners and Coroners favor standardization of nomenclature and case definitions, but this is a State function and thus not readily susceptible to intervention at the national level. However, a consensus process could be used to move more Medical Examiners and Coroners toward use of standardized definitions and classifications.

Strategies Proposed in 2007: To move the process forward, SAMHSA could work with NAME, SOFT, and the American Academy of Forensic Sciences (AAFS) to conduct a consensus-building process and any necessary validation studies in support of a draft statement on Uniform Standards and Case Definitions.

As a second step, the development of a central repository for reporting opioid-related deaths would facilitate data compilations and analyses.

Subsequent Activities: CSAT is working with experts across the country to win support for its draft statement on Uniform Standards and Case Definitions.

Expert Panel on Uniform Standards and Case Definitions. CSAT has convened a panel of experts representing Federal agencies (CDC, FDA, NIDA, and CSAT) and professional organizations (e.g., the Society of Forensic Toxicologists and the International Association of Coroners and Medical Examiners) to achieve consensus on a report on Uniform Standards and Case Definitions.

As a next step, the draft report will be submitted to a number of professional organizations for their adoption and/or endorsement. [Copies of the draft report will be available at the July 29-30 meeting.]

Medical Examiner Study: Participants in the 2007 Reassessment of Methadone-Associated Deaths urged CSAT to support the development of a surveillance system that would allow real-time reporting of methadone deaths and early identification of evolving patterns and trends.

CSAT supported a pilot study in Florida that had two objectives: (1) engage Medical Examiners in locales throughout the State in use of a model online, real-time surveillance system for rapid reporting of methadone overdose deaths; and (2) test the validity of a standardized system for classifying and reporting methadone-related deaths, like that in the draft statement described above.

Preliminary results were reported in 2009 at a meeting of the Expert Panel on Uniform Standards and Case Definitions. A second phase of the pilot test is now in the planning stage.

Promote the Safe Use of Methadone to Treat Addiction

Findings of the 2003 and 2007 Assessments*:* Staff and administrators of addiction treatment programs are more likely to provide effective care and adequate counseling to patients if they fully understand the risks and benefits associated with methadone. It also is important that they know what the research does not show. For example, carefully done studies do not support the popular belief that take-home medications increase the risk of methadone-related mortality. In fact, for patients doing well in treatment, take-home medication is a reward for positive progress and a source of motivation to continue in the recovery program.

Strategies Proposed in 2007: Treatment staff need better training in methadone's pharmacology and "best practices" for its use, as well as specific indications and cautions to consider when deciding whether to use methadone in the treatment of a particular patient.

In particular, the addiction treatment community needs credible information on the documented risks and benefits associated with use of methadone, as well as guidelines for assessing risk-benefit ratios.

Subsequent Activities*:* CSAT is supporting a number of activities to implement this strategy:

Methadone Induction and Stabilization: CSAT is supporting work by the American Society of Addiction Medicine (ASAM) to compile best practices and clinical protocols for the introduction of patients to methadone therapy for addiction treatment. This is significant because multiple studies show that it is during the induction period – roughly the first two weeks of treatment – that the majority of patient deaths occur. The ASAM project has produced a high-quality report, which recently was submitted to a large number of experts for field review. Final revisions are now being made. [Copies of the draft report will be available at the July 29-30 meeting.]

OTP Clinical Staff Training: CSAT is supporting a training course for OTP clinical staff, which has been delivered in live courses in Georgia, Nevada, North Carolina, and Texas. Future courses are planned for Kentucky and Maryland.

Risk Management Workshops for OTP Administrative Staff: In 2009, CSAT collaborated with the Northeast Addiction Technology Transfer Center (ATTC) to develop and deliver a Risk

Management Workshop, the goal of which is to inform OTP administrative and clinical staff about (1) the latest findings on the use of methadone and other therapies for opioid addiction, (2) evidence-based techniques for patient selection, assessment and monitoring, and (3) the risks and benefits of methadone use, as well as how to incorporate clinical and administrative practices that reduce risk and enhance patient outcomes. The workshops update a series offered in 2006 and 2007.

Physician Clinical Support System for Methadone (PCSS-M). Through a collaboration involving the American Academy of Addiction Psychiatry, the American Academy of Osteopathic Addiction Medicine, amd the American Society of Addiction Medicine, CSAT supports the activities of the Physician Clinical Support System for Methadone. The PCSS-M offers practicing physicians access to a group of expert mentors, who advise on the use of methadone to treat pain or addiction.

The essential elements of the PCSS-M are a national network of physician mentors with expertise in treatment and clinical education who can provide individualized support via e-mail, telephone or, in some cases, in person. There is no charge to physicians who use the service. [Information on the PCSS-M will be available at the July 29-30 meeting.]

Promote the Safe Use of Methadone to Treat Chronic Pain

Findings of the 2003 and 2007 Assessments: Experts agree that the standard of care for the initial screening of patients who are candidates for treatment with an opioid for chronic pain should include questions about past and current use of alcohol, tobacco, and other drugs. However, most physicians were not trained in such interview techniques or how to integrate them into their clinical practice.

Strategies Proposed in 2007: CSAT should assign high priority to completing and disseminating its new CME course on prescribing methadone for pain. Reimbursement issues also need to be addressed.

Subsequent Activities: In September 2007, CSAT launched a live CME course for primary caer physicians on the use of methadone to treat pain, and subsequently has developed multiple methods of delivering the course to diverse audiences.

Live CME Courses on Prescribing Methadone for Pain: Developed in consultation with the American Academy of Pain Medicine and an independent panel of experts in medical education, pharmacology, pain management, regulation, and addiction, the course meets the criteria for Category 1 credits under the Physician Recognition Award™ program of the American Medical Association, as well the accreditation programs of the American Academy of Family Physicians and the American Osteopathic Association.

Evaluations of the course by participants and independent experts have been extremely positive, with an overall average above 6.0 on a scale of 1 to 7, with 7 designated “superlative.”

Topics addressed in the course include: (1) best practices and clinical protocols for the use of methadone and other therapies to treat pain, (2) evidence-based strategies for patient selection,

assessment, and education, (3) techniques for effective patient monitoring, and (4) the risks and benefits of methadone use, as well as how to incorporate clinical and administrative practices that reduce such risks and enhance patient outcomes.

Through June 2010, the courses have reached almost 2600 physicians at 33 sites in Alaska, Arizona, California, Connecticut, Florida, Illinois, Indiana, Iowa, Louisiana, Maine, Maryland, Massachusetts, Michigan, New York, North Carolina, Ohio, Oklahoma, Vermont, Virginia, Washington State, and West Virginia.

Webinars and Online Courses: An online version of the CME course is being developed for posting on CSAT's website and on the sites of medical organizations and State agencies that can offer CME credits for its completion. Case Western Reserve University will provide CME accreditation. The first three of five modules are undergoing final review before they are ready to go live in summer 2010. [Information on how to access the online course will be available at the July 29-30 meeting.]

In addition, CSAT collaborated with the National Association of Community Health Centers (NACHC) to develop a 90-minute webinar based on the live courses. The webinar was recorded in February 2010 and is available to staff of community health centers to view on demand through NACHC's online educational resource center.

MedScape™ Course: A 30-minute web-based version of the live CME course has been developed in collaboration with MedScape™ , the world's largest medical education website. The MedScape course was completed and posted on MedScape in September 2008. The course can be accessed at no charge at http://www.medscape.com/viewprogram/17268?src=mp.

MedScape reports that, through the end of 2009, the course had attracted more than 5,000 physicians. Evaluations are exceptionally high: on a scale of 1 (poor) to 5 (excellent), the overall score is 4.42. (This is consistent with the evaluation scores for the live courses.)

In 2009, the prescribing course was "bundled" with other MedScape offerings on pain management to create a block of instructional materials, available at no cost. The bundled course went online Nov. 25th at http://www.medscape.com/viewarticle/712071, with the CSAT course as the lead offering. MedScape promoted the course bundle with a special newsletter, which highlighted the CSAT course. [Information on how to access the course will be available at the July 29-30 meeting.]

Reduce the Rate of Adverse Drug Events Associated with Methadone

Findings of the 2003 and 2007 Assessments: While more research on the link between methadone and cardiac arrhythmias amd drug interactions with methadone is needed, current data are sufficient to support taking actions now to improve patient safety.

Strategies Proposed in 2007: The medical community needs credible information on documented cardiac risks associated with use of methadone, as well as evidence-based advice on how to assess the risk-benefit ratio of giving methadone to particular patients. Options to ensure that clinicians consider the cardiac risks associated with methadone use include national

guidelines for methadone treatment programs; guidelines that are tied to institutional accreditation, a methadone-specific certification of competency, and convening a group of experts to recommend safety improvements.

Similarly, credible information is needed on the potential for interactions between methadone and other medications, to help physicians avoid such problems or, when they do occur, to manage them effectively.

Subsequent Activities: CSAT has convened two panels that bring together experts to examine some of the most difficult clinical challenges related to the use of methadone to treat pain and addiction.

Expert Panel on Cardiac Effects of Methadone: CSAT convened an Expert Panel to examine the evidence on adverse cardiac events associated with methadone. The Panel has been tasked with providing advice on how to assess and manage such risk in patients who are candidates for treatment with methadone, either for pain or addiction. CSAT will disseminate the Panel's report to Opioid Treatment Programs and to primary care physicians and pain specialists. [Copies of the draft report will be available at the July 29-30 meeting.]

Expert Panel on Drug Interactions with Methadone: CSAT convened an Expert Panel to evaluate available data on the risk of drug interactions between methadone (and buprenorphine) and other medications, such as those used to treat HIV infection. The panel was tasked with developing strategies for identifying and managing such risk in patients who may be candidates for treatment with methadone, either for pain or addiction.

A special issue of the *American Journal on Addictions* on drug interactions, published in January 2010, features articles authored by Panel members. [Copies of the journal issue will be available at the July 29-30 meeting.]

Foster Collaboration Among Government Agencies and Private-Sector Organizations

Findings of the 2003 and 2007 Assessments: Collaborative relationships among public health officials, regulators and law enforcement authorities, and health care professionals would facilitate a better understanding of the causes of methadone-associated overdoses and deaths, ultimately leading to effective initiatives for prevention and early intervention.

Strategies Proposed in 2007: CSAT should engage in collaborative activities with other Federal agencies and private-sector organizations whenever possible.

Subsequent Activities: CSAT is collaborating with other Federal agencies and private-sector organizations on multiple initiatives.

Biweekly Overdose Surveillance Calls: CSAT hosts biweekly conference calls in which Federal, State and local officials meet with public health experts to share information about drug seizures, overdoses and drug-related deaths. The group meets every second Wednesday by conference call, with a rapid report produced and distributed after each call.

In a related activity, CSAT officials are collaborating with AATOD to obtain reports of patient deaths from all OTPs.

Collaboration with the Federation of State Medical Boards (FSMB): CSAT is collaborating with the Federation of State Medical Boards to distribute an FSMB-endorsed handbook on the use of methadone and other opioids in the treatment of pain. With CSAT's assistance, books are mailed to primary care physicians by their State Medical Boards, with a cover letter drawing attention to the need for care in prescribing opioids for pain. The books also are distributed through the CSAT prescribing courses. [Copies of the book will be available at the July 29-30 meeting.]

Conduct Periodic Reassessments

To evaluate the effectiveness of activities currently under way and to advise on future plans and priorities, CSAT will convene a multidisciplinary group of more than 80 experts – including representatives of Federal and State agencies, researchers, epidemiologists, pathologists, toxicologists, medical examiners and coroners, pain management specialists, addiction medicine experts, patient advocates and consumer – in July 2010.

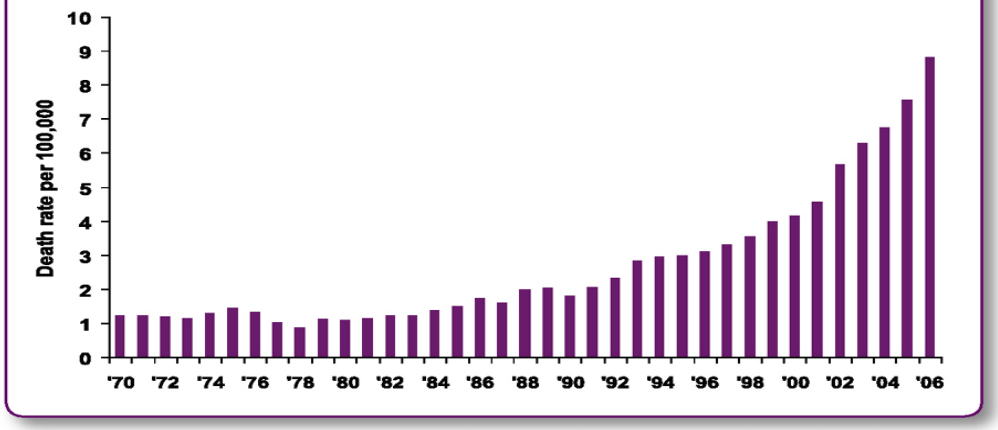
As at past meetings, the group will be tasked with (1) analyzing current data on methadone-associated deaths; (2) determining whether and to what extent such deaths might be related to the clinical practices of OTPs; and (3) formulating strategies and prioritizing action steps to address any issues identified.

Meeting deliberations will be captured in a conference report, which will be widely circulated to Federal agencies and private-sector organizations.

Current Morbidity and Mortality Data

The Centers for Disease Control and Prevention (CDC) reports that in 2006 (the most recent year for which data are available), 26,389 deaths from unintentional drug poisonings were reported in the United States. The national age-adjusted death rate from such poisonings has more than doubled in the past decade, from 4.0 per 100,000 population in 1999 to 8.8 per 100,000 in 2006 (see Figure 1). In fact, drug overdoses were second only to motor vehicle crashes as a leading cause of death from unintentional injury in 2006 (CDC, 2009).

Figure 1: Rate of unintentional drug overdose death in the United States, 1970-2006

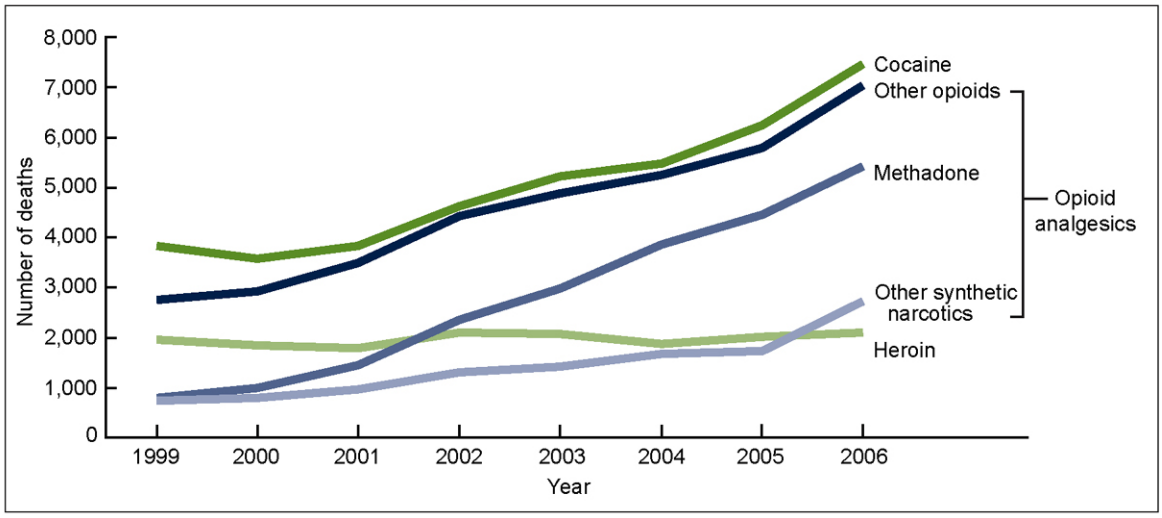


Source: National Vital Statistics System

There has been at least a 10-fold increase in the number of prescriptions written for opioid analgesics over the past 15 years, largely because of the aging of the population and a movement toward more aggressive management of pain (CDC, 2009). Unfortunately, this has made more opioids available for misuse. As a result, opioid analgesics were involved in more than half of the drug poisoning deaths in 2006 in which a drug was specified (Warner, Chen et al., 2009).

Further, the number of poisoning deaths involving methadone increased almost sevenfold between 1999 (when 790 such deaths were reported) to 2006 (with 5420 deaths reported). This represents the most rapid increase among all opioid analgesics involved in poisoning deaths (Warner, Chen et al., 2009; see Figure 2).

Figure 2. Poisoning deaths involving opioid analgesics, cocaine, and heroin: United States, 1999–2006

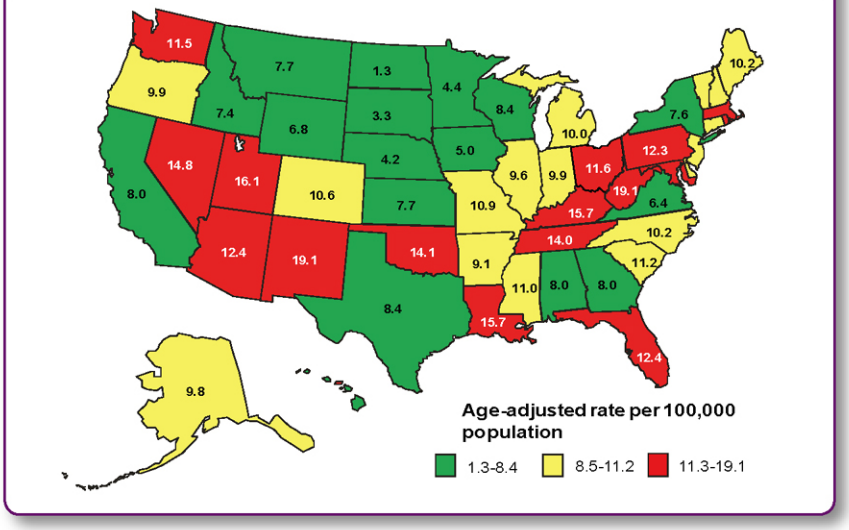


NOTES: Drug categories are not mutually exclusive. Deaths involving more than one drug category shown in this figure are counted multiple times. Access data table for Figure 2 at ftp://ftp.cdc.gov/pub/Health_Statistics/NCHS/Publications/Data_Briefs/db022/fig02.xls.

SOURCE: CDC/NCHS, National Vital Statistics System.

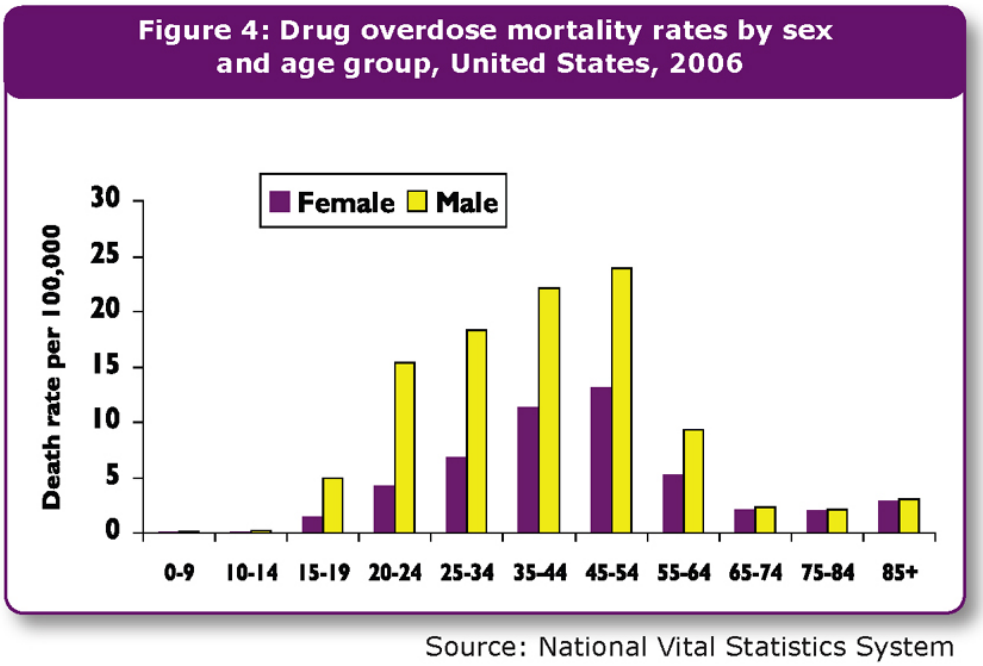
While rates of overdose and death are rising across the U.S., the percent of increase shows distinct geographical variations (see Figure 3). The reasons for these variations are not entirely clear.

Figure 3: Drug Overdose Death Rates by State, 2006



Source: National Vital Statistics System

The data also suggest that men are more often involved in opioid overdoses than women, although the rate of opioid overdoses among women has tripled since 1999, while the rate for men has doubled. For both sexes, the highest rates were seen in adults 45 to 54 years of age (see Figure 4).



Data specifically describing methadone-related overdoses and deaths, drawn from multiple Federal and private-sector datasets, will be presented at the July 29-30 meeting.

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Recent Publications

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Notes

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