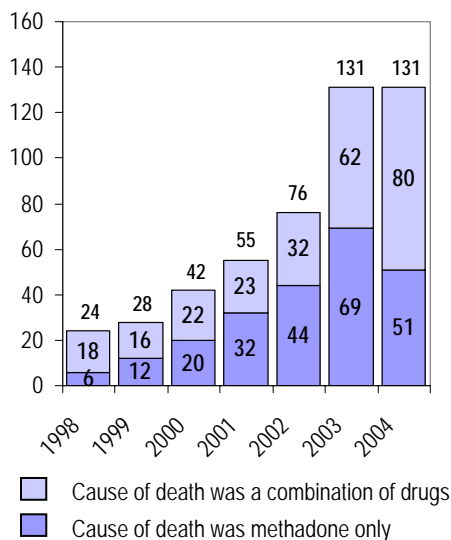


DEWS INVESTIGATES

A Pilot Study to Enhance the Understanding of Methadone Intoxication Deaths in Maryland

July 2005

Fig.1. Maryland Deaths Caused by Methadone Intoxication, 1998-2004.



Maryland Deaths 1998-2004

The number of deaths caused by methadone increased nearly six-fold (from 24 to 131) be-

tween 1998 and 2003 then leveled off in 2004 (Figure 1). Much of the increase from 1998 to 2003 was caused by increases in deaths involving a lethal dose of methadone only. But, in 2004, the number of deaths involving a lethal dose of methadone only decreased from 69 to 51.

Background of the Current Study

In a 2004 *DEWS Investigates* report (*What is Behind the Increase in Methadone Deaths in Maryland?*—available at <http://www.cesar.umd.edu>), we described a study designed to understand the factors contributing to Maryland's increase in methadone-caused deaths from 1998 to 2002. We reported that only about 16% of decedents in 2000 to 2002 were known to be enrolled in a methadone treatment program at the time of their death. However, this finding was limited by the fact that the source of their methadone was not found in 59% of the 64 records manually reviewed. We recommended that, "additional information should be collected to better characterize how decedents obtained meth-

adone, what form of methadone they used, and whether they were in treatment at the time of death." We also suggested that the Office of the Chief Medical Examiner (OCME) might consider collecting this additional information in their future investigations of methadone intoxication deaths. The current report describes a pilot study designed to assess the feasibility of having the OCME staff collect this additional information.

DEWS staff developed a short information form to be completed by OCME medical examiners as their investigation of the death was conducted. It was our hope that this form would enable OCME staff to obtain greater information about how the decedent had obtained the methadone.

Method

The new form was designed to collect demographic information about the decedent, source of methadone, and cause of death (see methods sidebar).

The OCME medical examiners completed the new methadone intoxication information forms on all 52 methadone intoxication deaths that occurred from September 10, 2004, to May 3, 2005. These cases were compared to the 52 cases from 1998 to 1999 and the 173 cases from 2000 to 2002 that we analyzed in our prior report.

Findings

Demographics and case information. Table 1 shows that the demographic characteristics were similar in all time periods, with the majority being white males with an average age of death around 40. The percentage of decedents coming from Baltimore City continued to decline. Residents of Baltimore City accounted for less than half (40%) of the deaths in 2004 to 2005. Seven rural and suburban counties outside of Baltimore City were represented.

STUDY HIGHLIGHTS

This report describes a pilot study designed to assess the feasibility of having the OCME medical examiners collect additional information about each decedent's source of methadone, using a specially prepared methadone intoxication information form. The OCME medical examiners completed forms on 52 decedents in 8 months in 2004 and 2005.

Key Issue:

Did the new methadone death information forms increase the information available on the decedent's source of methadone?

Key Findings:

- Even using the new form, information about the source of methadone was unknown for 58% of the cases.
- OCME investigators may need to be hired to collect the desired information.

We thank Dr. David Fowler, Dr. Mary Ripple, and Sheldon Lapan of the Maryland Office of the Chief Medical Examiner for their extensive contributions to this report.

DEWS Investigates provides a succinct report of the findings and implications of studies on important substance abuse-related issues in Maryland. Online copies are available at <http://www.cesar.umd.edu>. For more information, please contact Erin Artigiani at erin@cesar.umd.edu or 301-405-9774.

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Table 1: Information on Methadone-Related Deaths in Maryland, Before and After Implementing New Methadone Intoxication Information Forms

Demographics	Before introduction of new methadone intoxication death forms		With new methadone intoxication death forms
	1998-1999 (n=52)	2000-2002 (173)	2004-2005 (52)*
Male	63%	65%	64%
White	73%	67%	71%
Mean age of death	41.6	39.2	41.7
Baltimore City	56%	47%	40%
Number of counties (outside of Baltimore City) in which decedents resided	10	17	7
Source of Methadone	(n=8)	(56)	(52)
Enrolled in MTP at death	50%	16%	15%
Used diversion/illegal means	13%	20%	19%
Prescription for treating pain	0%	5%	2%
Friend or family member	n/a	n/a	6%
Source unknown	38%	59%	58%

*NOTE: The timeframe is September 10, 2004, to May 3, 2005.

The most common drugs attributed as a cause of death in combination with methadone were cocaine and heroin/morphine in 2004 to 2005. The most commonly found drugs in previous years were antidepressants, antihistamines, cocaine, and anti-psychotics.

Source of methadone. The introduction of the new information form did not result in a greater amount of information about the decedent's source of methadone. The source of the methadone was unknown in 58% of the cases, about the same as in the cases from 2000 to 2002. For those cases where a

source was identified, 15% were from methadone treatment programs (MTPs) and 19% purchased their methadone illegally; 6% obtained it from family or friends and 2% were prescribed it by a physician for pain. Two additional decedents are known to have acquired the methadone from someone in an MTP.

Implications

The introduction of the expanded information form did not increase the information recorded on the decedent's source of methadone. This information is often not collect-

ed during a standard death investigation because it is not essential to determine the cause of death. It is the opinion of both the CESAR and the OCME staffs that to fully answer these research questions about enrollment in MTPs and sources of methadone, it will be necessary to work with the OCME to find a way to enable investigators to expand their investigations into these deaths. Discussions between OCME staff and DEWS staff are underway to identify potential funding to pay investigators to complete the forms. The OCME's investigative staff are well positioned to collect the needed information, if additional resources are provided.

Study Limitations

Although the OCME medical examiners appear to have carefully recorded the information they collected during the death investigations, specific information regarding the source of methadone or the reasons for using the drug was often missing and our conclusions were severely limited. Our estimates should therefore be interpreted with caution. Furthermore, we did not study any decedents whose deaths were caused by something other than drug intoxication (e.g., trauma, homicide), even if they tested positive for methadone after death.

Study Methods

The Office of the Chief Medical Examiner (OCME) investigates human deaths caused by violence, suicide, or casualty; sudden death in an apparently healthy individual; and deaths that involve any suspicious or unusual manner. Maryland statute charges OCME to investigate these deaths and perform an autopsy, if necessary, to render an opinion as to the cause of death. The OCME's case record contains medical examiners' case notes, results of toxicological analyses on the decedent's body fluids, an autopsy report (if done), and, depending on the circumstances surrounding the death, copies of police and hospital reports. On average, the OCME conducts an investigation in approximately 25% of the 40,000 deaths that occur each year in Maryland.

On March 7, 2005, OCME staff provided a count of all methadone intoxication deaths in 2003 and 2004. In addition, DEWS staff worked with the Deputy Chief Medical Examiner to develop a special methadone intoxication information form to be completed by OCME medical examiners as their investigation of the death was conducted. The medical examiners were trained on the use of the form and monitored by the Deputy Chief Medical Examiner. They completed the new forms on 52 deaths during the course of eight months from September 10, 2004, to May 3, 2005.

DEWS Investigates Available Online

The first four *DEWS Investigates* reports—including CESAR's original report on the increase in methadone deaths in Maryland—are available at <http://www.cesar.umd.edu>. The past reports are:

- What is Behind the Increase in PCP Use in Prince George's County?
- What is Behind the Rise in Methadone Deaths in Maryland?
- Warning Signs for Early Marijuana Users Among Maryland's Public School Students
- Oxycontin® Abuse in Maryland