Epidemiology Of Heroin Deaths In Multnomah County, Oregon - Quantitative And Qualitative Perspectives

Reducing Crime Benchmark Analysis
Multnomah County, Oregon

Department of Support Services

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EPIDEMIOLOGY OF HEROIN DEATHS IN MULTNOMAH COUNTY, OREGON - QUANTITATIVE AND QUALITATIVE PERSPECTIVES

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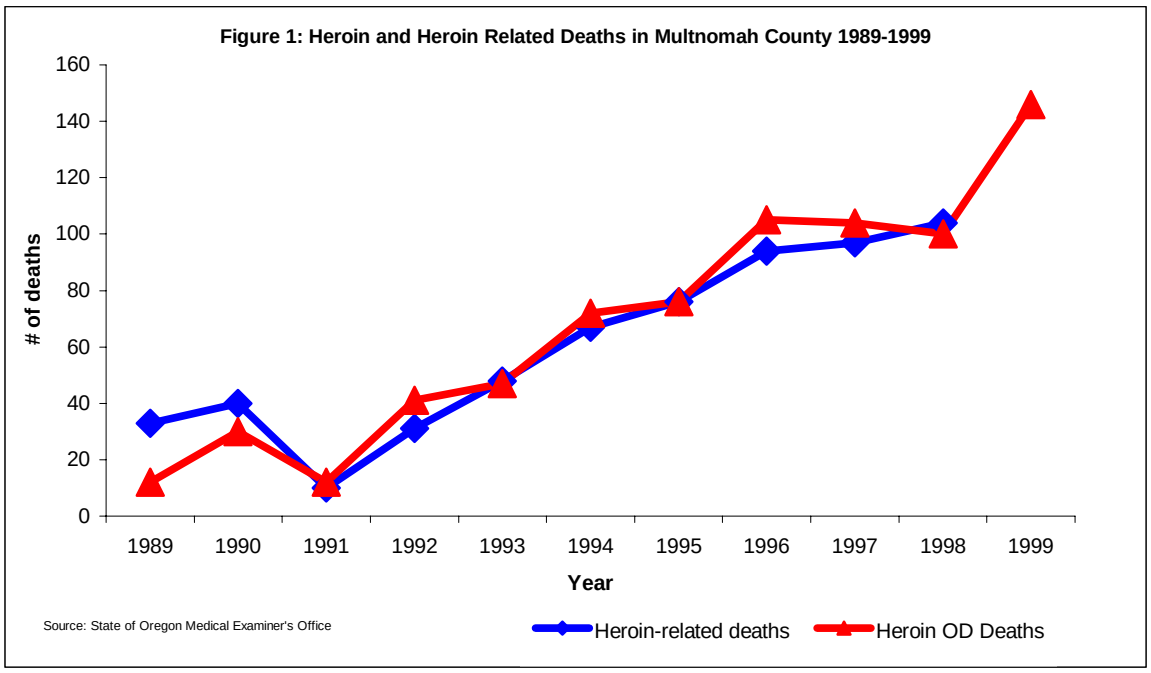
EPIDEMIOLOGY OF HEROIN DEATHS IN MULTNOMAH COUNTY, OREGON - QUANTITATIVE AND QUALITATIVE PERSPECTIVES

I. THE SIZE AND SCOPE OF THE PROBLEM

The various impacts of drug abuse change over time and heroin deaths are no exception to this rule. As shown in Figure 1 below, heroin and heroin related deaths in Multnomah County rose between 1989 and 1990, dipped between 1990 and 1991, and have risen steadily since 1991. Between 1989 and the summer of 1999, heroin deaths increased 209% in Multnomah County.



The increase currently shows no sign of abating. There have been 163 heroin deaths through September of 1999, up 34 percent from last year.[1] This level of heroin overdose deaths is considered epidemic. If the trend continues through the end of 1999, heroin overdose deaths will be one of the top causes of death among 25-44 year-old men, exceeding homicide, suicide, and AIDS.

When this kind of epidemic occurs, it is the responsibility of public health officials to gather and analyze information about the problem. To that end, the Multnomah County Heroin Deaths Task Force was commissioned during the Spring of 1999. The goals of

[1] "Drug deaths on rise in Oregon." *The Oregonian,* November 8, 1999.

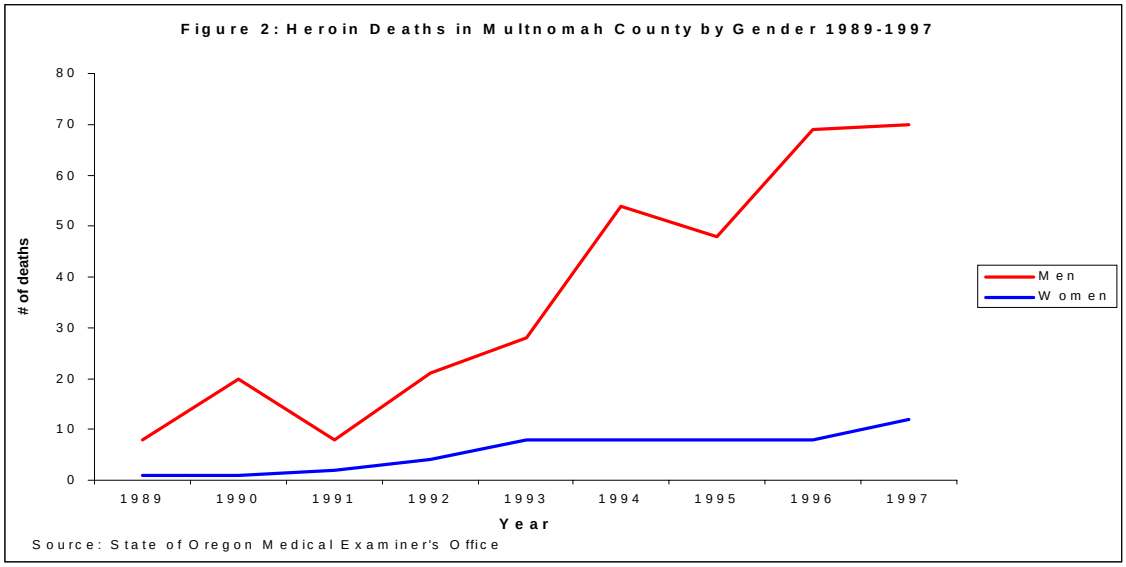
the Task Force were to get a picture of who had fatally overdosed, what the causes of fatal heroin overdose might be, and what opportunities exist for prevention (for more detail, please see Appendix A).

We learned early in the course of this investigation that there is no single data source that contains complete and accurate information about heroin overdose deaths. Therefore, we chose to examine this public health problem by augmenting these data with in-depth interviews of current and former heroin users. At this time, we are still in the process of reviewing medical examiner's records and transcribing our in-depth interviews. **As such, the results in this report should be considered preliminary.**

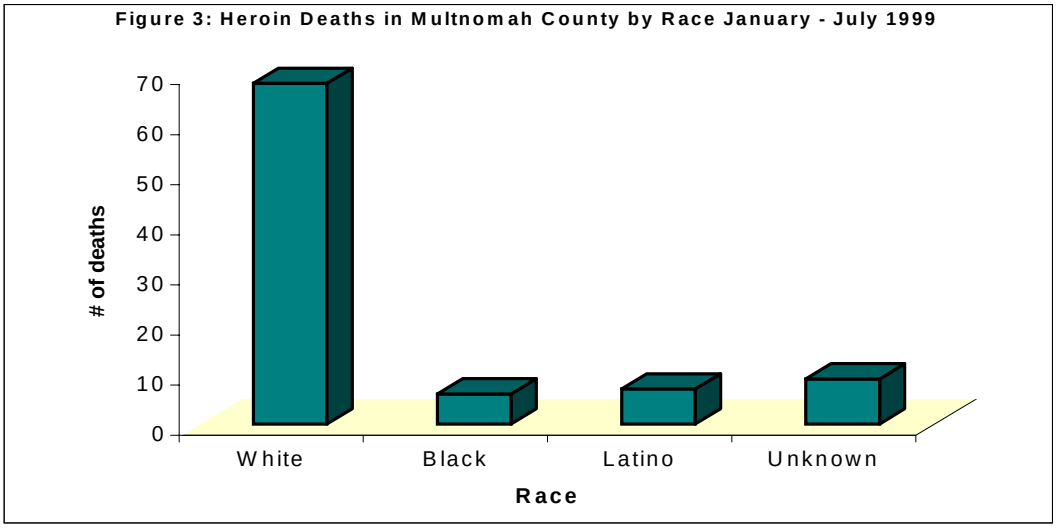
II. DEMOGRAPHIC DISTRIBUTION OF HEROIN DEATHS IN MULTNOMAH COUNTY

Demographic findings are based primarily on official death certificate data for the years 1989 through 1997. Additional data came from a review of Medical Examiner data for 1998, and a detailed review of ninety Medical Examiner case files covering the first seven months of 1999.

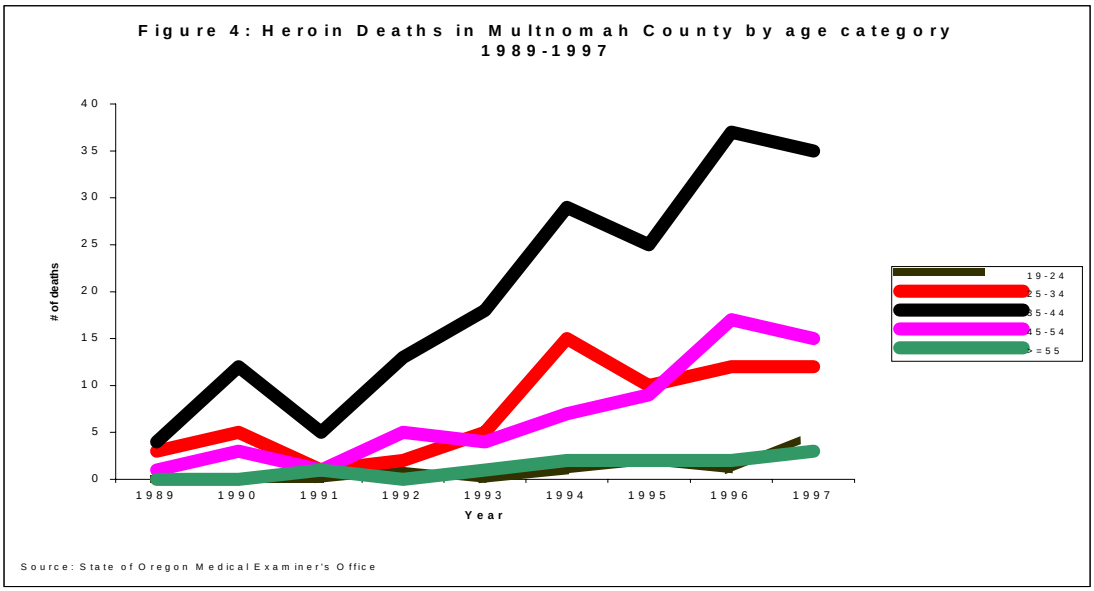
Gender



Race



Age



Demographic Findings

- The great majority of people who die of heroin overdose (85%) are men. There has been a slight trend towards more women dying over the past two to three years.

- People who die from heroin overdose reflect the racial/ethnic composition of the County. According to vital statistics data, European-Americans make up 90% of heroin overdose deaths, African Americans 8%, and Native Americans 4%. According to Medical Examiner data for January - July of 1999, approximately 75% of heroin decedents were Anglo, 7% were African American, 8% were Latino, and 10% were of an unknown race.

- Heroin overdose deaths occur primarily among older (and therefore experienced) users. Fifty percent of fatal overdose cases were persons aged 35-44 years; only one quarter of overdose cases were persons between ages 25-34. Deaths among people less than 25 years old were rare (2%).

- Deaths occurred mostly at home. Among deaths where the place of death could be determined, two thirds occurred in homes. Only one in six occurred in a public place.

- In the first seven months of 1999, deaths were scattered throughout the county. There were clusters in the downtown area and an "arc" of heroin fatalities west of downtown.

The demographic factors associated with fatal heroin overdose have not changed during the past ten years. Although the size of the problem is larger than in previous years, the profile of affected persons seems to be consistent over time.

III. USER DYNAMICS

This section of the report describes the characteristics of fatal and nonfatal heroin overdoses. Two data sources were used to obtain this information: 1) a review of ninety Medical Examiner Case Reports (for fatal overdoses), and 2) interviews with seventeen current and former heroin users (for information about nonfatal overdoses). We obtained interview subjects through study solicitation flyers posted in hotels, needle exchanges, detoxification centers, and other drug treatment facilities. Most former heroin users who participated in this study were in the beginning stages of their recovery. All study subjects were compensated for their time with gift certificates from a local retail outlet.

The Medical Examiner's Case Reports

The State Medical Examiner and her associates determine whether a given death is due to an overdose of heroin or some other cause. Determination of cause of death is based primarily on two sources of information:

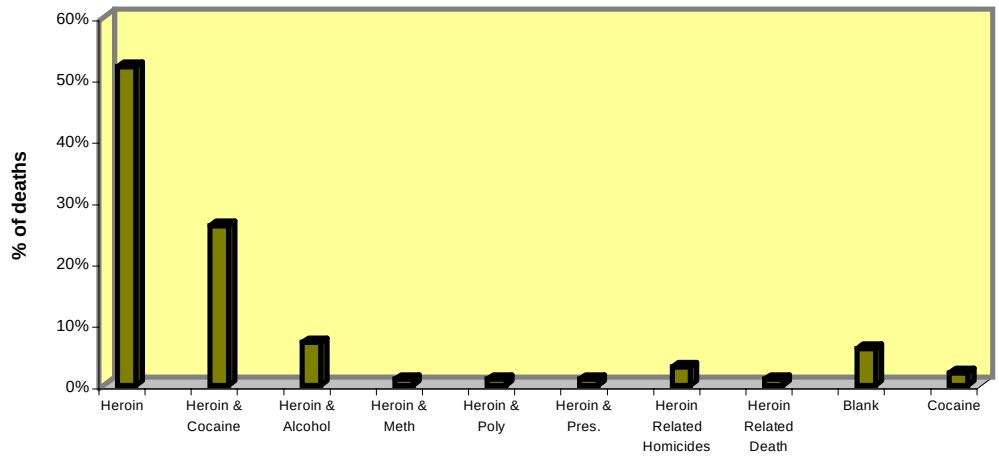
- Case investigation reports. Field investigators from the Medical Examiner’s Office

investigate the scene of death. In suspected heroin overdose cases, investigators look for heroin use paraphernalia around the body (e.g., spoons, needles, "ties," and/or cooking equipment) and do a preliminary examination of the body for fresh venipuncture marks. They also interview people connected with the deceased (e.g., friends and family) about the decedent's use of heroin and other drugs, and other factors related to the death.

- Results of autopsy and toxicology tests. The Medical Examiner draws fluid samples (e.g., urine and blood) and tests them for opiates, alcohol, benzodiazepines, and other drugs as appropriate to the case.

Characteristics of Fatal and Nonfatal Heroin Overdose

Figure 3: Heroin Deaths in Multnomah County
January - June 1999



Source: State of Oregon Medical Examiner's Office

1) POLYDRUG USE:

Of all heroin deaths in Multnomah County between January and August of 1999, 36% were caused by heroin used in conjunction with other drugs. The frequency with which heroin was used alone and in combination with other drugs is shown in Figure 3 (please see previous page).

Based on Medical Examiner investigations of deaths from January through August, 1999,

approximately 26% of heroin deaths in Multnomah County involved cocaine, 7% involved alcohol, 1% involved methamphetamine, 1% benzodiazepines, and 1% other drugs.

While Medical Examiner data show that cocaine is the most common drug to be mixed with heroin in heroin overdose deaths, interviews with current and former heroin users revealed that benzodiazepines may be more frequently used with heroin than cocaine. Benzodiazepines are used with and while waiting to obtain heroin. The users interviewed for this report consistently mentioned that prescriptions for these drugs, namely Xanax and Klonopin, are very easy to get, both legally from doctors and with stolen or bogus prescriptions. These pills are frequently sold and traded along side illicit drugs.

Despite the ethnographic data pointing to the prevalence of benzodiazepine use, Medical Examiners' toxicology reports on heroin fatalities did not show a significant pattern of combined benzodiazepine and heroin use (see above). However, review of Medical Examiner files did find several fatal overdose cases in which there was evidence of combined use of benzodiazepines and heroin that did not appear on some of the toxicology reports. This inconsistency can be explained in various ways, including:

- a particular type of benzodiazepine (Klonopin) popular among heroin users may be chemically distinct from other members of the benzodiazepine family. If this is the case, then Klonopin would rarely be indicated on a typical toxicology screen for benzodiazepines. To the extent that overdose cases involved use of Klonopin with heroin, routine toxicology results would tend to underestimate combined use of heroin and benzodiazepines.

- the Medical Examiner's office toxicology screening protocol for benzodiazepines might require inappropriately high levels of benzodiazepines to be present in the sample in order for the test to be considered positive. If the cut-off level for benzodiazepines is based on the level required for benzodiazepines to produce severe toxicity ***when used alone,*** then the contributing role of these drugs to fatal heroin overdose may be missed.

The level of benzodiazepines in the Medical Examiner's records of heroin overdoses is being further investigated and no firm conclusions can be stated at this time. It is known, however, that benzodiazepines can contribute to heroin overdose in two ways: 1) They can impair judgment, leading a user to use too much heroin; and 2) They can add to the respiratory depression caused by heroin. Both these effects can occur at levels less than that required for benzodiazepine overdose.

Short-Term Recommendations

Medical Examiner's Office:
There should be a review of Medical Examiner toxicology testing protocols, with an eye towards revisions (or adoption of other methods such as periodic studies) that would fully document the role of polydrug abuse in heroin overdose deaths.

User Population:
Don't use other drugs with your heroin.
Communication of this message should be distributed to the users via needle exchanges and detoxification centers. The following slogans could be printed and distributed on flyers:

Shoot straight, with no chasers
Know your dope
Don't shoot up alone
Control your kit
You can always do more
Go slow if you've been low

Medical Community:
Bulletin to the medical community to be judicious with prescribing benzodiazepines to patients. Evaluate all patients' history of using illicit and prescription drugs prior to prescribing benzodiazepines.

Law enforcement:
Consider increasing police activities to decrease illegal distribution of prescription drugs. Precedent and procedures on this type of enforcement can be gained by examining the work of the Cincinnati, Ohio Police Department's Prescription Drugs Enforcement Unit.

Longer-Term Recommendations:
Create a multidisciplinary task force to 1) determine the contribution of prescription drugs to heroin overdose, and 2) identify specific and effective intervention methods.

2) FAILURE TO CALL 911 IN THE CASE OF AN OVERDOSE

Seventy-five percent of local interviewees expressed hesitance to call for emergency medical intervention (9-1-1) upon witnessing a friend or associate suffering a heroin overdose. Detection of drug possession or use and subsequent arrest was cited as the primary reason one would not call for medical assistance.

Data from numerous local interviews were confirmed through comparison with

international studies that show fear of police intervention was a major factor in not seeking help for heroin overdoses.[2] Among users, fear of police investigation and apprehension inhibits users from calling 9-1-1 for companions who have overdosed. This is true even in the face of serious overdose. This fear results in either a delayed call or no call to 9-1-1 at all. In these circumstances, death occurs even when the person who overdosed could have been treated and survived without serious long-term health impacts.

In overdose situations, protecting life and health should be the primary goal of intervention by medical personnel and police. Conversations with Portland Police highlighted the desire for local police to protect life as their primary objective in response to a 9-1-1 call. Issues of criminal activity would give way to preventing death. There is a need to establish and reinforce such a goal among all emergency response systems, including law enforcement.

Immediate Recommendations:

Multnomah County Health Department, EMS, and Portland Police :
Establish a multidisciplinary task force to 1) examine the current emergency response to overdose calls, and 2) recommend changes to existing policies and procedures to ensure that protecting life and health is the key out come of these procedures.

Longer-Term Recommendations:

Multnomah County Health Department & The User Population:
After emergency response policies and procedures have been clarified, develop and implement practical mechanisms for assuring that heroin users and their companions appropriately use 9-1-1 to respond to overdoses. *Communication of this message should be distributed to the users via needle exchanges and detoxification centers. The following slogans could be printed and distributed on flyers:*

9-1-1 is a safe call
ID an OD--recognize the signs of overdose
Learn/Know CPR

Possible communication channels include needle exchanges, HIV Outreach, Hooper Detox Center, and others. The Department of Support Services is currently coordinating overdose education efforts by the Portland Fire Bureau for the staff of Outside-In.

[2] Drug & Alcohol Services Council of South Australia. 1999. "It's rarely just the 'h': addressing overdose among South Australian heroin users through a process of intersectoral collaboration." Waverly, New South Wales: National Drug and Alcohol Research Centre, pp. 25-26.

3) INTENTIONAL OR UNINTENTIONAL CESSATION OF DRUG USE

Heroin addicts who stop using long enough to lose tolerance to the effects of the drug are at risk for fatal and non-fatal overdoses once they resume using heroin. Cessation of heroin use can occur one of two ways: 1) intentionally, through the user's own desire to quit, which usually involves drug treatment, and 2) unintentionally, through incarceration or inability to obtain the drug. While detoxification from heroin use takes only approximately seven to ten days, the time it takes to lose tolerance varies (even with a single user across time). Therefore, a user can overdose by ingesting the same amount they normally did before losing tolerance. This can happen even in users who understand that they have lost tolerance and attempt to adjust their dose appropriately.

According to the Medical Examiner's Office data and corresponding corrections data, 17 out of 90 people who died of heroin overdoses in the first seven months of 1999 had been incarcerated within the two months preceding their death. Twenty-two out of 90 persons in the sample were currently being supervised by a Multnomah County parole/probation officer. International studies[3] show that 14% of heroin overdoses had been released from incarceration within the four weeks from their death.

The Corrections Health Division of the Multnomah County Sheriff's Office currently has an opiate withdrawal treatment protocol to improve the comfort and safety of people withdrawing from heroin. This protocol includes limited power to detain an inmate (referred to as a "medical hold"). However, this hold is often over-ridden for people on the opiate withdrawal protocol because Corrections Health personnel are not notified of an inmate's pending release. Thus inmates are released in the course of withdrawal, and with a strong motivation to use heroin immediately upon release. With the partial loss of tolerance achieved while in jail, these users are at particular risk for heroin overdose.

Intentional cessation of drug use can also lead to an overdose death. In Multnomah County, 10 out of 90 people who died of heroin overdoses during the first seven months of 1999 were in drug treatment immediately prior to their death. Some drug users continue to use heroin even though they are in drug treatment. Their use puts them at double risk for overdose. First, users in treatment are often presumed to be clean of illicit drugs and are given psychotropic medically-prescribed drugs, including benzodiazepines, to ease the physiological effects of opiate withdrawal. Moreover, people in treatment have probably reduced their normal use and thus, have a lowered tolerance as a result.

A heroin overdose is obvious evidence of relapse, if not continuing drug use and treatment failure. The risk of overdose death can be decreased by successful treatment. Knowledge that a user has overdosed can be very important to the treatment provider. Currently, there is no way (other than the user’s self-report) for a drug treatment provider

[3] Ibid., pp. 102-103.

to know that a client has suffered an overdose.

Short-Term Recommendations

Corrections Health:
Health protocols should be modified to ensure that appropriate individuals receive information regarding their risk of heroin overdose. Such information should emphasize the increased risk of overdose following abstinence, and should include the general messages outlined in Section I above. This information should be provided to all inmates on detox protocols, as well as those with a history of using heroin or other drugs.

Multnomah County Alcohol and Drug Programs:
Convene a working group to identify the potential benefits, risks and costs of a system to track overdoses and provide that information to treatment providers.

4) SUICIDE

Mental illness, depression, and suicide all contribute to fatal heroin overdose. Fifty percent of local users interviewed expressed a desire to commit suicide with a heroin injection; almost all indicated they had feelings of despondency, depression and desperation during their period of heroin use.

Local data, as well as national and international studies, show that persons with long-standing heroin habits are often suicidal. In the seventeen interviews conducted for this study, eight individuals, almost fifty percent of respondents, expressed suicidal ideation in conjunction with their drug use. Several mentioned that they hoped for the "ultimate high" or "going out for good."

Additionally, several overdose cases in the medical examiners files contained information that could be interpreted as showing a risk of suicide. Fully 15 out of 90 heroin deaths examined in 1999 showed signs of mental illness or suicide. Four suicide notes were discovered on the scene. Many of the other victims were using legally prescribed antidepressants or anti-anxiety drugs in addition to heroin.

In the absence of a suicide note or other clear expression of an intent to die, it is difficult to tell when an addict has genuinely committed suicide, but Medical Examiners speak with friends and family regarding the likelihood of suicidal overdose. Even after speaking with these persons, the roles of clear suicidal intent versus clouded judgment about the "proper" amount of heroin to use are difficult to discern. In either case, these factors speak to the need for heroin addicts' access to appropriate mental health evaluation and treatment services.

Recommendations

Multnomah County Mental Health Program:
Mental health resources should be targeted to meet the needs of heroin users, particularly those with identified mental health problems such as depression and anxiety. Users, A&D counselors, detoxification personnel, and EMT's should be 1) made aware of the risk of suicide among heroin users (particularly those who have used for a long time) and 2) trained in methods to get these high-risk individuals into mental health care.

III. EPILOGUE TO THIS REPORT

A summary of these research findings was presented at a community action meeting sponsored by the Recovery Association Project (RAP) on October 25, 1999. The recommendations in this report formed the basis for RAP's Action Items (enumerated in Appendix B of this report). Both Multnomah County Chair Beverly Stein and Multnomah County Commissioner Sharron Kelly agreed to implement the directives stated in the action items. Their commitment to eliminating heroin deaths in Multnomah County is currently being realized through committees in health and law enforcement agencies who are amending current policies and drafting new policies to address this problem.

APPENDIX A: FRAMEWORK FOR RESPONSE TO HEPATITUS C AND HEROIN DEATHS (REVISED)

May 18, 1999

MULTNOMAH COUNTY HEALTH DEPARTMENT
Disease Prevention and Control Division

FRAMEWORK FOR RESPONSE TO HEPATITIS C AND HEROIN DEATHS (REVISED)
(At Commissioner Kelley's request: Revised to integrate community advisory function on Hepatitis C, and to include at process for addressing heroin death problem).

GOALS:

1. Understand the magnitude and the focus of the Hepatitis C problem in Multnomah County's populations.
2. Based on that understanding, identify the potential short and long term impact on treatment resources.
3. Increase capacity for targeted outreach counseling and testing as well as prevention activities in probable high risk groups.
4. Analyze heroin deaths to identify causes and develop recommendations for practical short and long-term approaches to preventing future deaths.

ACTIVITIES:

1. To understand the magnitude and focus of Hepatitis C in the general population:
   a. Expand required reporting to include all Hepatitis C testing in Multnomah County, from both public and private sector laboratories.
   b. Implement a registry to store testing data for later analysis of Hepatitis C prevalence in populations tested.
   c. Develop and implement a study design for the registry data and outreach testing data described below.
2. To target counseling, testing and referral, as well as prevention activities, in probable high risk populations (e.g. street outreach to injection drug users, Hooper Center, selected public STD clinic clients):
   a. Expand outreach capacity and integrate Hepatitis C counseling and testing with existing HIV/STD counseling, testing and prevention activities.
   b. Integrate harm reduction counseling and interventions into service delivery, with a focus on breaking Hepatitis C transmission pathways (e.g. motivational interviewing techniques, needle exchange).
   c. Identify access to care in tested populations, including insurance coverage.
   d. Refer those who test positive to sources of care.

3. The Health Department will collaborate with the Recovery Association Project (RAP) to establish a work group to work jointly with the Department throughout this activity.
4. The County Health Officer will provide guidance to the RAP work group to use a well-focussed public health/epidemiological approach to heroin deaths. This will include:
   a. Developing a clear statement of its scope and objectives
   b. Identifying and recruiting participants that will add value to its activities
   c. Delineating the methods it will use to carry out the analysis and develop recommendations, and
   d. Participating in the conduct of the study and development of recommendations as appropriate.

   DSS Evaluation/Research Unit will provide a Program Evaluation Specialist to assist with the heroin death study.

APPENDIX B: ACTION ITEMS AUTHORED BY THE RECOVERY ASSISTANCE PROJECT (RAP) USING THE FINDINGS OF THIS REPORT

The following policy directives were presented to the Multnomah County Chair Beverly Stein and Multnomah County Commissioner Sharron Kelley on October 25, 1999. This report was a key data source for these "action items." Both Chair Beverly Stein and Commissioner Sharron Kelley responded in the affirmative to each policy directive. The action items are as follows:

The County Chair will direct the Public Health Officer to make an agreement with the Medical Examiner to adopt examination methods that would fully document the role of polydrug abuse in heroin deaths.

The County Chair will commit to directing the Health Department to provide a targeted campaign on risk factors of heroin and polydrug overdose to at-risk population by January 15, 2000.

The County Chair will commit to directing the Health Department to issue a bulletin to the medical community to be judicious with prescribing benzodiaepines to patients who have a history of illicit and prescribed drug use by November 30, 1999.

The County Chair will commit to implementing a multidisciplinary task force to analyze how heroin addicts attain prescription drugs, why certain prescription drugs are highly available on the streets and how those drugs are diverted from legal use by January 15, 2000.

The County Chair will then commit to directing the Health Department to implement a practical education campaign encouraging heroin users and their companions to appropriately use 911 to respond to overdoses by July 1, 2000.

The County Chair will commit to directing appropriate County Departments under her authority to provide education to correctional institutions on the high risk of overdose following abstinence by incarcerated heroin users by January 15, 2000.