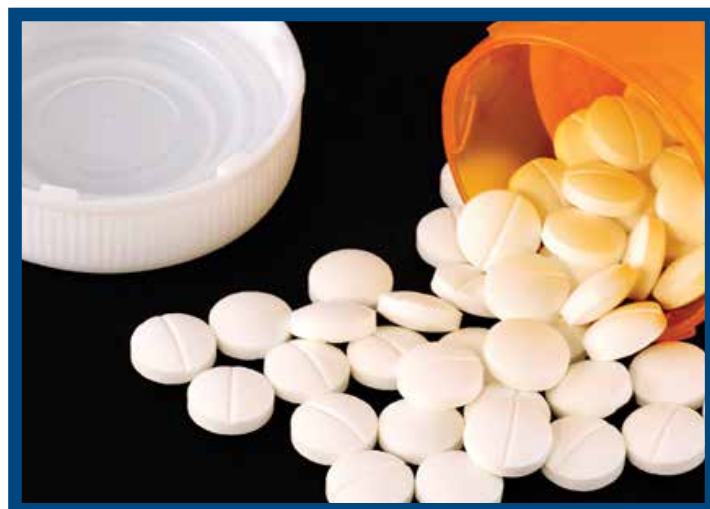


DRUG POISONING AND OVERDOSE

DESCRIPTION:

Any product or substance, including medications, can be harmful if it is used in the wrong way, by the wrong person, or in the wrong amount. A poisoning can occur from that substance by eating, drinking, breathing, or injecting it, getting it on the skin, or getting it in the eyes. A drug overdose is considered a poisoning.



Washington State Goal Statement

To decrease deaths and hospitalizations due to unintentional poisoning

National Healthy People 2020 Objectives

- Prevent an increase in the rate of poisoning deaths from 13.1 per 100,000 in 2007.
- Prevent an increase in the rate of poisoning deaths among those 35 to 54 years old from 25.5 per 100,000 in 2007.
- Prevent an increase in the rate of unintentional and undetermined poisoning deaths from 11.1 per 100,000 in 2007.
- Prevent an increase in the rate of unintentional and undetermined poisoning deaths among those 35 to 54 years old from 21.6 per 100,000 in 2007.
- Prevent an increase in the rate of nonfatal poisonings from 304.4 per 100,000 in 2008.

Statement of the Problem in Washington State

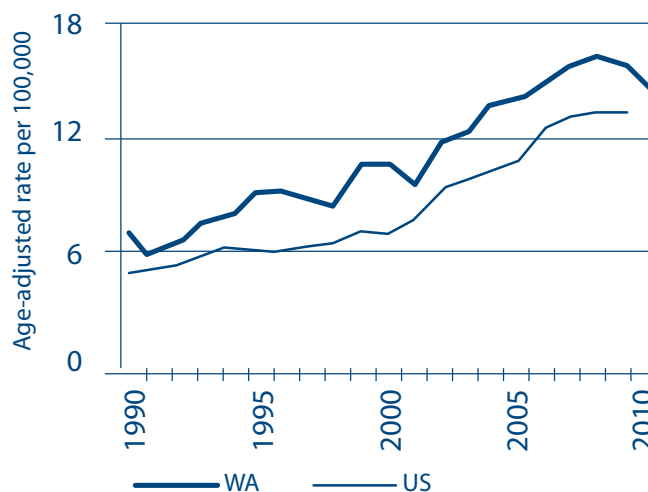
Washington State Data

In 2010, Washington State's poisoning death rate was 15 per 100,000. This was higher than the national death rate of 13 per 100,000.

In Washington State, poisoning is the first leading cause of unintentional injury-related death. It is the third leading cause of unintentional hospitalization. Over 90 percent of poisoning deaths in Washington State are due to drug overdoses. About 2 percent are due to alcohol poisoning.

Poisoning Deaths

Washington State & United States Death Certificates, 1990–2010

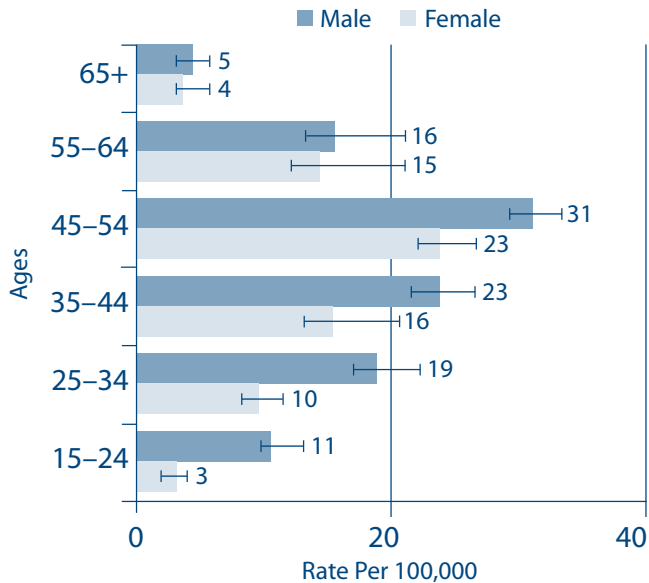


From 1990–2010, unintentional poisoning death rates have increased by 370 percent from 2.3 to 10.8 per 100,000. Suicide, homicide, and undetermined poisoning rates have remained stable. Because of these trends, the remainder of this chapter will focus on unintentional poisoning.

Age and Gender

From 2008–2010, males had higher unintentional poisoning death rates when compared to females. The highest death rates were among those 45–54 years old. The chart does not include age groups with fewer than 20 deaths. Children younger than 15 years of age had fewer than 20 deaths. The chart on the next page does not include these groups.

Unintentional Poisoning Deaths Age and Gender Washington State Death Certificates, 2008–2010

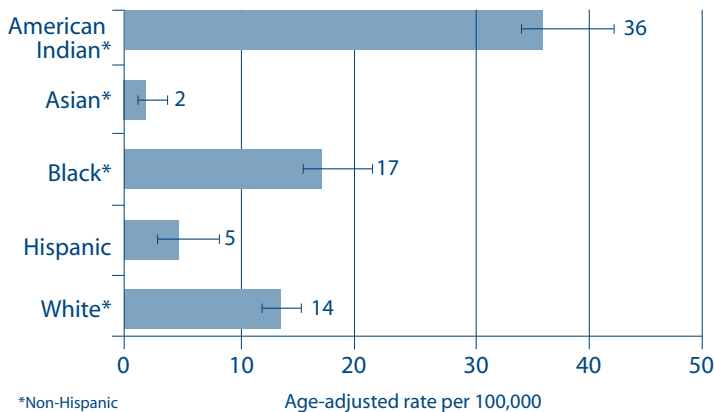


Race and Ethnicity

For 2007–2009, American Indians and Alaska Natives had the highest death rate for unintentional poisoning. African Americans had the next highest. Death rates for whites were in the middle, followed by people of Hispanic origin. Asians had the lowest rates.

Unintentional poisoning death rates are higher in low-income neighborhoods and among those with lower education.¹ Researchers have not studied the relative importance of race, Hispanic origin, poverty, and education on these rates.

Unintentional Poisoning Deaths Race and Ethnicity Washington State Death Certificates, 2007–2009



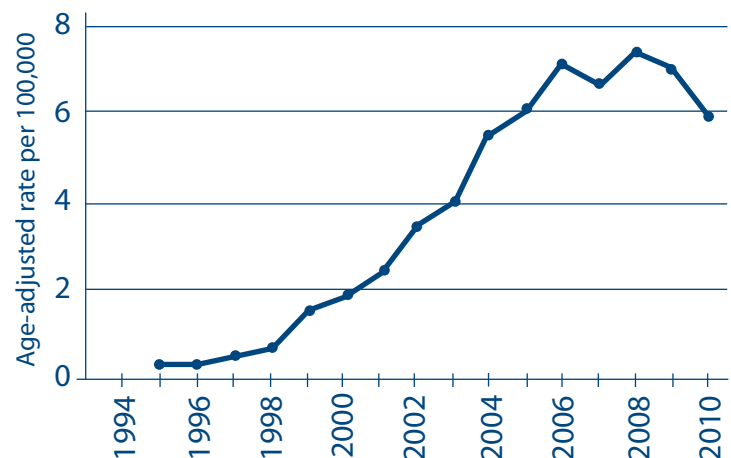
*Non-Hispanic

Increase in deaths is driven by prescription pain medications called opioids

Opioids are a prescription pain medication used to treat moderate to severe pain, examples include methadone, OxyContin® (oxycodone), or Vicodin® (hydrocodone). Prescription opioid involved overdoses are responsible for the increase in unintentional poisoning deaths.

In Washington State, prescription opioid involved overdose deaths increased from 0.4 per 100,000 in 1995 to 7.4 per 100,000 in 2008. The rate dropped to 6.0 per 100,000 in 2010. The three opioids most often involved in overdose deaths are methadone, oxycodone and hydrocodone. Methadone has been involved in the majority of the deaths. States with higher sales of prescription opioids have higher rates of overdose deaths.²

Prescription Opioid Involved Overdose Deaths Washington State Death Certificate Data, 1995–2010



Youth Drug Use

In the 2010 Healthy Youth Survey, 4 percent of 8th graders (about 3,300 students) had used opioids to get high in the past 30 days. Of 10th and 12th graders, 8 percent (about 13,200 students) had used these drugs to get high.

Native American students reported more abuse of prescription opioids compared to other race groups. Students who lived in rural, urban, and suburban areas of the state had similar levels. The students who reported abuse of prescription opioids tended to have lower socioeconomic status. They reported lower quality of life, lower grades, and did not enjoy school as much as their peers. Students who abused prescription opioids were more likely to participate in other risky behaviors such as drinking and driving.

Most of these youth got their drugs from a friend or acquaintance (35 percent) and 25 percent had their own prescriptions (from a doctor or dentist). Other sources include:

- 15 percent from their own or someone else's home without permission
- 9 percent from a family member
- 8 percent from other sources
- 7 percent from a drug dealer
- 1 percent from the internet

Substance Abuse Treatment Admission Data and Transition from Prescription Opioids to Heroin

From 2003–2010 in Washington, public-funded substance abuse treatment admissions for prescription opioid abuse increased four-fold. Admissions then declined about 10 percent between 2010 and 2011. Admissions included public pay clients in inpatient, outpatient, and methadone maintenance treatment.

Prescription opioids appear to be a pathway to heroin for many users. In one study, 39 percent of heroin injectors in Seattle reporting being “hooked on” prescription-type opioids before trying heroin in 2009.³ These data are the first to address this issue after years of anecdotal reports from local service providers about the transition from prescription opioids to heroin.

There are several indicators showing that heroin use has increased in recent years. Substance abuse treatment admissions for heroin as the primary drug doubled from 2003–2011. The biggest increase was seen from 2010–2011, when there was a 25 percent increase in treatment admissions. In addition, police evidence in which heroin was seized doubled between 2000 and 2009.

Poison Control Center – Other Poisonings

In 2011, the Washington State Poison Control Center received about 60,000 calls for advice about a possible poisonous exposure to a human. Over 78 percent of the exposures were managed over the telephone and did not need to be seen by a healthcare provider. Almost 52 percent of the incidents occurred to a child under six years. The most common substances involved in possible exposures are pain medications, personal care products, cosmetics, and household cleaning substances.

Risk Factors for Prescription Opioid Overdose Death

Poverty

Among non-Hispanic whites, there is a strong link between the increase in overdose deaths and percentage of the population below poverty.²

Medicaid clients

Medicaid clients are six times more likely to have a fatal overdose involving prescription opioids. They are also twice as likely to receive an opioid prescription compared to non-Medicaid clients.⁴

High daily doses

Patients receiving a high daily dose of opioids are at an increased risk of a fatal overdose.^{5,6}

Receiving prescriptions from multiple providers and multiple pharmacies

The percent of patients using multiple prescribers and pharmacies is relatively low. Those that do are at increased risk of overdose.^{6,7,8}

Use of multiple prescription drugs

Most people who died of an overdose involving prescription opioids had taken other drugs right before their death. The most common prescription drugs taken in combination with opioids are anti-anxiety medications and antidepressants.^{9,10}

History of substance abuse or other mental health issues

A history of substance abuse or other mental illness are both risk factors for an overdose.^{11,12}

Increase in Prescribing of Opioid Pain Relievers

At the end of the 1990s, various groups in Washington began to recognize opioids as important for treating chronic, non-cancer pain. New policies were developed. These new policies reflected a major shift in thinking. They were based on low-grade evidence that patients were under-treated for pain and there was a low risk of addiction while taking opioids long-term.

Prescription opioid sales and prescribing increased dramatically after this policy change. Opioid prescribing increased from 5.5 milligrams (mg) morphine equivalents per person in 1997 to 28.5 mg in 2006.¹³

The workers' compensation system also saw prescribing of more potent opioids and a higher dose per prescription. Prescriptions for the most potent opioids (Schedule II) increased about three fold between 1996

and 2006. Prescriptions plateaued from 2006–2008 and declined in 2009 and 2010. Prescribing of lower potency opioids (Schedule III) opioids increased from 1996 to 1999 and declined from 1999 to 2010.¹⁴

Among long-acting opioids, the average daily dose increased by 50 percent between 1996 and 2002. In 2002, the average dose was 132 mg per day. The average dose was relatively stable between 2002 and 2006, and then started declining. In 2010, it had declined to 105 mg per day.

Misuse of prescription opioids

People get prescription opioids from different sources:

- From a friend or relative with a prescription
- From a healthcare provider
- Purchased on the street or from the internet
- Stolen from pharmacies

People can misuse prescription opioids in several different ways. Misuse includes taking more than the prescribed dose, taking them without a prescription or combining them with illicit drugs or alcohol.

The estimated number of emergency department (ED) visits for non-medical use of opioids more than doubled from 2004 to 2008. There were about 305,900 visits in 2008.¹⁵ Nationally, in 2009, there were 1.1 million ED visits involving prescription or over-the-counter drugs. This is more than the number of visits

for illegal drugs. Pain relievers were the most common type of drug misused. These accounted for about half of all non-medical prescription drug use visits. About half of these ED visits involved the use of multiple drugs.

Trends in Non-medical Use of Prescription Pain Medications

Nationally in 2010, 2 million people aged 12 years old or older took prescription pain drugs non-medically for the first time. Non-medical use of prescription pain drugs had the second highest number of new users out of all illicit drugs. There were 5 million current non-medical users of prescription pain drugs.¹⁶

About 6 percent of Washington residents age 12 years old or older use prescription pain drugs non-medically. This is about 342,000 people. Washington State has the 4th highest rate of residents using prescription pain drugs in a non-medical way in the U.S.¹⁷

Non-medical users of prescription pain drugs most commonly (about 55 percent) got them “from a friend, or relative, or for free.” Other sources include:

- About 17 percent from a doctor
- 16 percent either bought them or took them from a friend or relative
- 5 percent from a drug dealer
- 0.4 percent purchased from the internet¹⁶

Recommended Strategies

To date, no one has systematically evaluated interventions to prevent prescription opioid abuse or overdose deaths. The Centers for Disease Control and Prevention (CDC) released promising policy recommendations.¹⁸

Evidence-Based Strategies

Continue and expand the Washington State Screening, Brief Intervention, Referral and Treatment (WASBIRT) program.

Up to 50 percent of trauma patients seen in an emergency department (ED) had been using alcohol and/or other drugs prior to admission.¹⁹ As a means to prevent unintended poisoning, EDs are ideal settings to identify and intervene in drug-seeking behaviors.

A screening and brief intervention program screens patients for alcohol or drug misuse, abuse, or addiction in any healthcare setting. The majority of the screening occurs in emergency departments. Depending on a patient’s risk, they receive screening and feedback, brief intervention, brief treatment, or a referral to substance abuse treatment as appropriate.

An evaluation project of the WASBIRT Program, which took place from 2004–2008, showed significant positive outcomes. These included reduced substance use, medical costs, and risk of death. The evaluation also found improvements in social and mental health and an increase in abstinence. These outcomes were seen across all interventions.²⁰

Promising or Experimental Strategies

Strategies Underway in Washington State

Electronic Prescription Monitoring Program for controlled substances

A Prescription Monitoring Program (PMP) is a database used to track controlled substance prescribing and dispensing to patients. The Department of Health coordinates the program in Washington State.

Washington State's PMP goals are to:

- Give practitioners an added tool in patient care
- Allow prescribers and dispensers to have more information when making decisions
- Get those who are addicted into proper treatment
- Help stop prescription overdoses
- Educate the population on the dangers of misusing prescription drugs
- Make sure that those who do need scheduled prescription drugs receive them
- Curb the illicit use of prescription drugs

CDC's goals of a PMP are to:

- Limit access of controlled substances to only those with legitimate medical needs
- Track instances in which controlled substances are being obtained from multiple prescribers
- Identify suspected controlled substance abusers and steer them into treatment

CDC recommends that states with a PMP focus their resources on:

- Patients at high risk of an overdose. Risk may be due to high dose, being prescribed many controlled substances, or getting prescriptions from different prescribers.
- Providers who clearly deviate from accepted medical practice in their prescribing patterns. This includes dosage, number of controlled substance prescriptions, and proportion of their patients who are 'doctor shoppers'.¹⁸

In Washington State, the PMP began collecting data in October 2011. Provider access started in January 2012.

Healthcare provider accountability

CDC recommends that states ensure that providers follow evidence-based guidelines for safe and effective use of prescription opioids. It also recommends that states take regulatory action against providers not following these guidelines.¹⁸

The 2010 Washington State Legislature passed a bill directing five healthcare provider boards and commissions to adopt rules for management of chronic, noncancer pain with opioids. The rules became effective on either June 2011 or January 2012 for different types of providers. The rules require providers to follow best practices in pain management. The goal of these rules is better treatment, not less treatment.

Washington State's chapter of the American College of Emergency Physicians published guidelines for prescribing opioids from the Emergency Department (ED) in June 2011.²¹ The guidelines encourage prudent opioid prescribing. The 2012 state budget included a budget proviso which encourages all EDs to adopt these guidelines.

Establish a patient review and coordination (PRC) program

CDC recommends that state benefit programs, such as Medicaid, should consider monitoring prescription claims and PMP data for signs of inappropriate use of controlled substances. These programs should consider restricting reimbursement for controlled substances to a single provider and pharmacy in certain cases.

In Washington, Medicaid expanded their PRC program in 2005. The PRC program conducts reviews to identify inappropriate use of services, including opioids. PRC program clients are restricted to one primary care provider, one opiate prescriber, one pharmacy, or one hospital. The PRC program has seen significant savings associated with the program. The program has also shown declines in ED visits, physician visits, and number of prescriptions.²²

Better access to substance abuse treatment

Effective, accessible substance abuse treatment programs could reduce overdose among people struggling with dependence and addiction.

Laws to prevent prescription drug abuse and diversion

Enacting and enforcing laws to prevent doctor shopping and the operation of rogue pain clinics (or 'pill mills') might reduce prescription opioid diversion and abuse while safeguarding access to needed pain management services.

Naloxone distribution programs

Naloxone hydrochloride is the treatment of choice to reverse a potentially fatal opioid overdose. There are 50 Naloxone distribution programs throughout the U.S. These programs have received reports of over

10,000 overdose reversals. The main focus of Naloxone distribution programs has been to injection-drug users through needle exchange programs. More recently several programs have prescribed Naloxone to high risk patients receiving prescription opioids.²³

For More Information

Washington State

Pain Management Rules

www.doh.wa.gov/PublicHealthandHealthcareProviders/HealthcareProfessionsandFacilities/PainManagement.aspx
and

www.doh.wa.gov/PublicHealthandHealthcareProviders/HealthcareProfessionsandFacilities/PainManagement/AdoptedRules.aspx

Patient Review and Coordination Program

<http://maa.dshs.wa.gov/PRR>

Prescription Monitoring Program

www.doh.wa.gov/hsqa/PMP/default.htm

Recovery Help Line 1-866-789-1511

www.crisisclinic.org/WARECOVERYHELPLINE/index.html

Take As Directed

www.doh.wa.gov/YouandYourFamily/PoisoningandDrugOverdose/TakeAsDirected.aspx

National

Centers for Disease Control and Prevention, Prescription Painkiller Overdoses

www.cdc.gov/homeandrecreationalafety/rxbrief/index.html

National Institute on Drug Abuse: Easy to Read Drug Facts

www.easyread.drugabuse.gov

Office of National Drug Control Policy: Prescription Drug Abuse

www.whitehouse.gov/ondcp/prescription-drug-abuse

Physicians for Responsible Opioid Prescribing

<http://responsibleopioidprescribing.org/>

Substance Abuse and Mental Health Services Administration

www.samhsa.gov/rxsafety/

Endnotes

- ¹ Washington State Department of Health, Health of Washington State, Poisoning & Drug Overdose chapter in Injury and Violence Section, www.doh.wa.gov/hws, accessed on January 10, 2008.
- ² L.J. Paulozzi et al., "Vital Signs: Overdoses of Prescription Opioid Pain Relievers – United States, 1999–2008," *MMWR*, 2011, Vol. 60, No. 43, pp. 1487–1492.
- ³ C. Banta-Green and M. Brunner, "Opiate Use and Negative Consequences in Washington State," 2011, <http://adai.uw.edu/pubs/infobriefs/ADAI-IB-2011-03.pdf>, accessed on May 24, 2012.
- ⁴ Centers for Disease Control and Prevention, "Overdose deaths involving prescription opioids among Medicaid enrollees – Washington, 2004–2007," *MMWR*, 2009, Vol. 31, pp. 506–511.
- ⁵ K.M. Dunn et al., "Opioid prescriptions for chronic pain and overdose," *Ann Intern Med*, 2010, Vol. 152, pp. 85–92.
- ⁶ L.J. Paulozzi et al., "A history of being prescribed controlled substances and risk of drug overdose death," *Pain Med*, 2012; Vol. 13, pp. 87–95.
- ⁷ A.G. White et al., "Analytic models to identify patients at risk for prescription opioid abuse," *Am J Manag Care*, 2009, Vol. 15, pp. 897–906.
- ⁸ N. Katz et al., "Usefulness of prescription monitoring programs for surveillance – analysis of schedule II opioid prescription data in Massachusetts, 1996–2006," *Pharmacoepidemiol Drug Saf*, 2010, Vol. 19, pp. 115–123.
- ⁹ M.J. Wunsch et al., "Opioid deaths in rural Virginia: a description of the high prevalence of accidental fatalities involving prescribed medications," *Am J Addictions*, 2009, Vol. 18, pp. 5–14.
- ¹⁰ A.J. Hall et al., "Patterns of abuse among unintentional pharmaceutical overdose fatalities," *JAMA*, 2008, Vol. 300, pp. 2613–2620.
- ¹¹ L.J. Paulozzi et al., "A comparison of drug overdose deaths involving methadone and other opioid analgesics in West Virginia."
- ¹² R.L. Toblin et al., "Mental illness and psychotropic drug use among prescription drug overdose deaths; a medical examiner chart review," *J Clin Psychiatry* 2101, Vol. 71, pp. 491–496.
- ¹³ Drug Enforcement Administration Automation of Reports and Consolidated Orders System, data include medications prescribed and dispensed. Comparable data are not available after 2006. Calculated using an estimated daily dose and population data.
- ¹⁴ G.M. Franklin et al., "Bending the prescription opioid dosing and mortality curves: impact of the Washington State Opioid Dosing Guideline," *Am J Industrial Med*, 2011, doi: 0.1002/ajim.21998.
- ¹⁵ R. Cai et al., "Emergency Department Visits Involving Nonmedical Use of Selected Prescription Drugs—United States, 2004–2008," *MMWR*, 2010, Vol. 59, No. 23, pp. 705–709.
- ¹⁶ Substance Abuse and Mental Health Services Administration, "Results from the 2010 National Survey on Drug Use and Health: National Findings," 2011, www.samhsa.gov, accessed on February 23, 2012.
- ¹⁷ Substance Abuse and Mental Health Services Administration, "State Estimates of Substance Use and Mental Disorders from the 2008–2009 National Surveys on Drug Use and Health," 2011, NSDUH Series H-40, HHS Publication No. (SMA) 11-4641, Rockville, MD, www.samhsa.gov/data/2k9State/Cover.htm, accessed on February 24, 2012.
- ¹⁸ Centers for Disease Control and Prevention, "Policy Impact: Prescription Painkiller Overdoses," 2011, www.cdc.gov/homeandrecreationalafety/rxbrief/index.html, accessed on February 24, 2012.
- ¹⁹ L.M. Gentilello et al., "Alcohol interventions in a trauma center as a means of reducing the risk of injury recurrence," 1999, *Annals of Surgery*, Vol. 230, No. 4, pp. 473–483.
- ²⁰ S. Estee and A. Huber, "Washington State Screening, Brief Intervention, and Referral to Treat Program. Final Report," July 2010, Department of Social and Health Services, Research and Data Analysis Division, Olympia, WA, www.dshs.wa.gov/pdf/ms/rda/research/4/83.pdf, accessed on March 2, 2012.
- ²¹ Washington chapter of American College of Emergency Physicians, "Prescription pain medication guidelines," <http://washingtonacep.org/painmedication.htm>, accessed on May 24, 2012.
- ²² P. Coolen, "Patient Review and Coordination Program," 2009, www.safestates.org/displaycommon.cfm?an=1&subarticlenbr=204, accessed on March 14, 2012.
- ²³ E. Wheeler et al., "Community-based opioid overdose prevention programs providing Naloxon—United States, 2010," *MMWR*, 2012, Vol. 61, No. 6, pp. 101–105.