



Wisconsin  
Poison Center®

*A program of Children's Hospital of Wisconsin.*

[www.wisconsinpoison.org](http://www.wisconsinpoison.org)  
1-800-222-1222



**HOW WE HELPED YOU IN 2006**

Dear Wisconsin resident,

Wisconsin Poison Center, located in Milwaukee, provides 24-hour, toll-free poison information for all individuals in the state of Wisconsin. Anyone who has had direct contact with a known or potential poison can receive immediate recommendations on what steps to take to prevent injury from that exposure. From anywhere in Wisconsin, the general public, industry, emergency medical services and health care workers can contact the center toll-free at 1-800-222-1222.

The Poison Center has been Wisconsin's designated poison information service since 2001. Registered nurses trained and certified as specialists in poison information directly handle telephone inquiries. Consultation with medical toxicologists is available 24 hours a day for health care providers.

The Poison Center's primary mission is to consistently deliver comprehensive and accurate information to callers faced with any poison or drug-related event. In support of this mission, the Poison Center found it necessary to discontinue providing pill identification to the public. Recommendations are provided to individuals in all age groups who are concerned about an exposure to medications, illegal drugs, household chemicals, botanicals, animal and insect envenomation, food poisoning, occupational chemicals, environmental pollutants and other hazardous substances.

In addition to assisting with poison exposure management, the center strives to provide comprehensive education regarding the prevention of poison injury. The Poison Center in Milwaukee and the University of Wisconsin Hospital and Clinics Poison Prevention Education Center in Madison collaborate to provide statewide public and professional outreach about poison prevention. A variety of literature, including our new comprehensive standards based curriculum (K-12), is available on our Web site at [www.wisconsinpoison.org](http://www.wisconsinpoison.org).

The Poison Center's outreach program is awarded grants to pursue this vital service.

Reporting a poison exposure to the Poison Center remains an important step in maintaining surveillance of poisoning trends at regional and national levels. It also provides access to experienced individuals in poison identification and management. We look forward to continuing to serve your needs in 2007 and beyond. For any questions related to the Poison Center, please contact us.

Sincerely,

David Gummin, MD, FACEP, FACMT, medical director, Wisconsin Poison Center  
[dgummin@chw.org](mailto:dgummin@chw.org) or (414) 266-6724

Mary Powers, BSN, CSPI, MS, managing director, Wisconsin Poison Center  
[mpowers@chw.org](mailto:mpowers@chw.org) or (414) 266-2952

## Wisconsin Poison Center calls

In 2006, a total of 60,764 calls for help and information were answered.

Calls are labeled as an “exposure call” when an individual has had known or suspected contact directly with any potentially poisonous substance.

Calls are labeled as “information calls” when a question exists, yet direct contact by an individual with a specific substance has not occurred. (See Figure 1.) Following is an example:

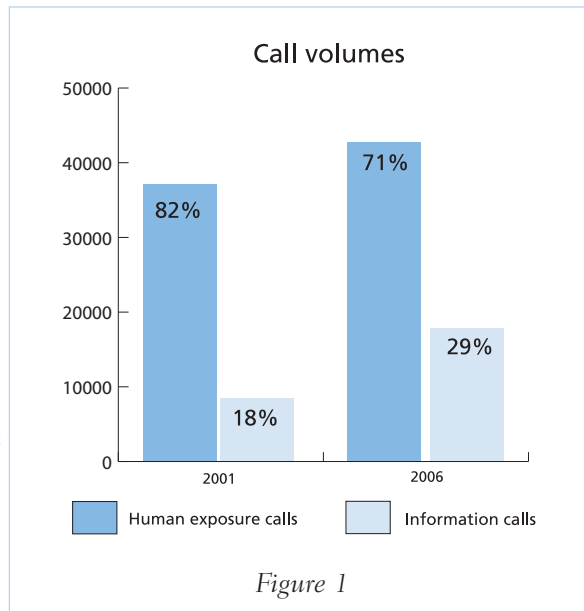
### Exposure call

“Please help. My child just took two bites out of a mouse poison bait block!”

### Information call

“Can mouse bait blocks be used safely in a home with children?”

Poison exposure calls carry particular risk, as injury from the exposure can occur. Wisconsin Poison Center staff identifies the product, the amount involved, and the general condition of the exposed individual to determine if significant medical risk exists.



## Primary customers

The majority of individuals who have experienced a poison exposure are children. Nearly 66 percent of the exposure cases recorded in Wisconsin occur in children younger than 5 years of age, with the 1- to 2-year-old age group showing the greatest frequency.

An exposure case typically involves a “victim” and a “caller.” This may or may not be the same individual. For example, a parent may call about a child who has ingested glue, or an emergency department nurse can call about a teen experiencing seizures from dextromethorphan (DXM) abuse. (See Figure 2.)

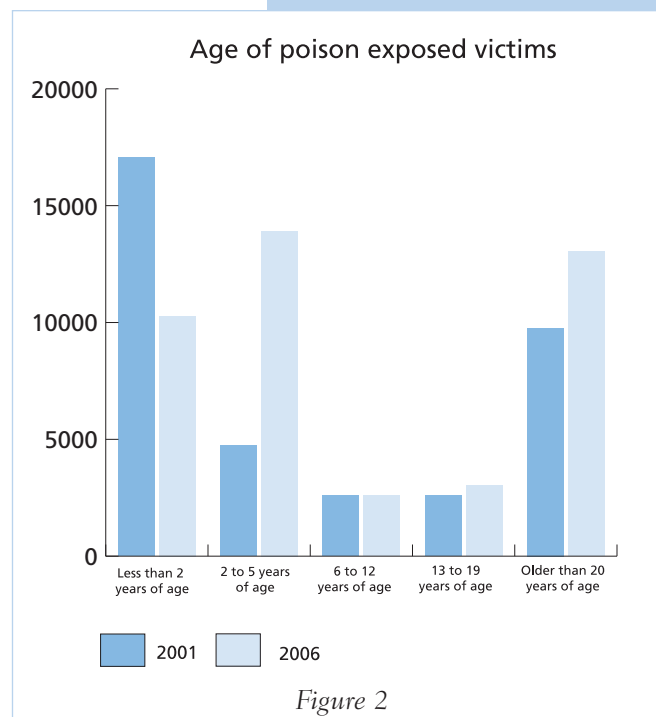
## Origin of calls

Calls most often originate from individual residences, hospitals, work sites, emergency personnel in the field and

## facts

In 2006,

- 60,764 calls were completed.
- Nearly 70 percent of the calls were regarding a poison exposure.
- Total annual calls have risen more than 40 percent in the past five years.



schools. The site of the call and the site of exposure can occur in the same or different locations. Tracking the exposure site is important for identifying ways to prevent unintentional poisoning, and for assessing how medication errors occur. (See Figure 3.)

An adult male calls from home after developing a rash while working with solvents all day at his job. Here the exposure site is a workplace, and the call site is a residence.

### How poisonings occur

Poisonings can be either unintentional (accidental) or intentional. The majority occur without intent, and often are preventable.

Medication errors account for 8 percent of all poison exposures. Of the 4,967 medication errors reported in 2006, 91 percent occurred in the home. All age groups are affected by this type of poison exposure. Errors can include: an inappropriate dose of medication being given or taken; a dose used in too high or low concentration, or in too frequent intervals; the same drug taken in two or more different products resulting in excess dosing; or the wrong medication being dispensed.

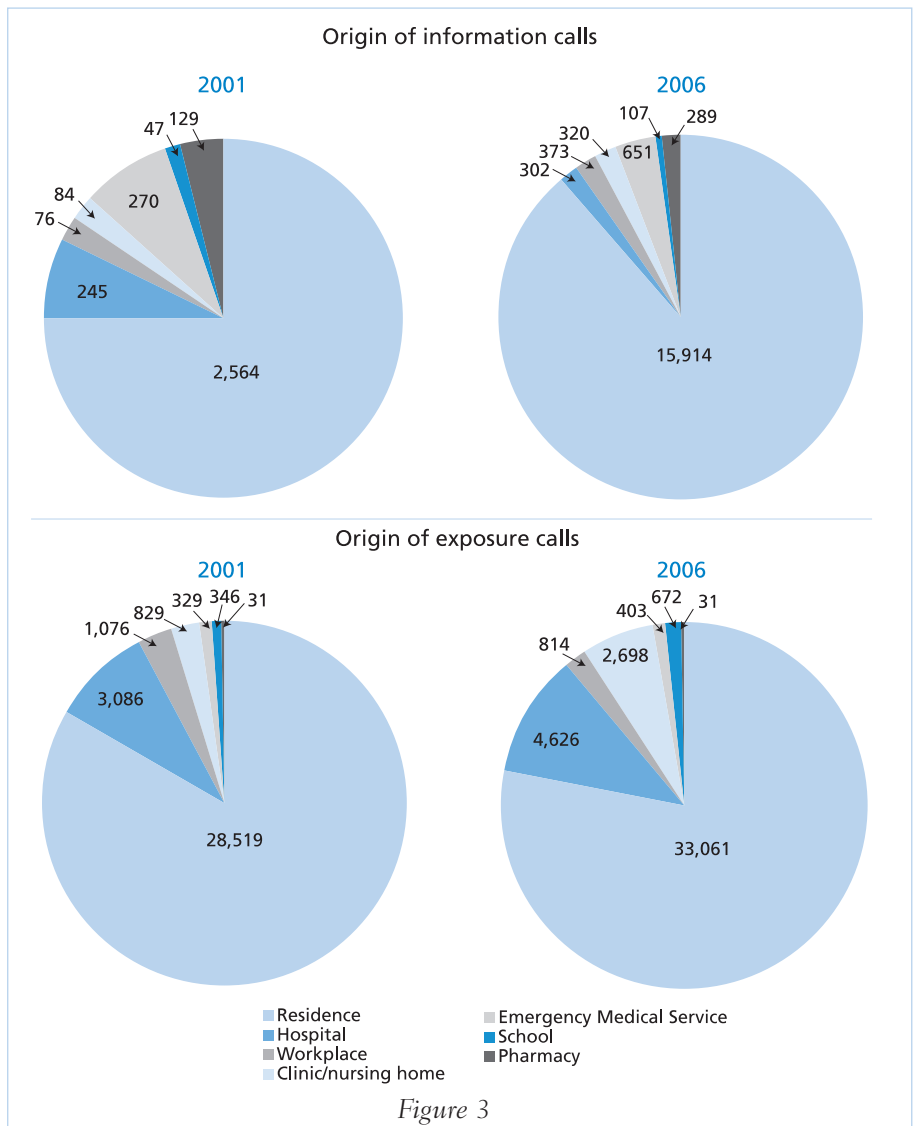


Figure 3

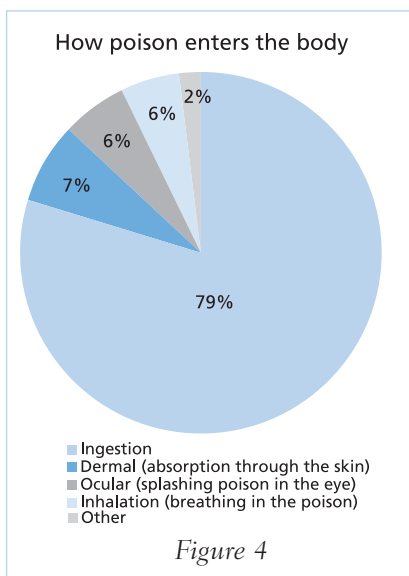


Figure 4

Inside the home, teens and adults have a higher incidence of taking a medication intended for another individual or mistakenly repeating a dose that already has been given. Separating medications and tracking doses can help to avoid these mix-ups. Infants and preschoolers most often are given an inappropriate dose for their age and size. Parents and caregivers always should have accurate measuring devices for their children's medication.

### How poison enters the body

Most individuals think of a poisoning as occurring by swallowing a harmful substance. In general, eight out of 10 poison exposures do occur through ingestion. However, severe injury also can occur through inhalation, absorption of chemicals through the skin or injection into the skin, splashes into the eyes, venomous bites and stings, and through contact with other body areas. Some poisonings will involve two or more routes of exposure. (See Figure 4.)

Consider two scenarios: In each case, liquids or droplets in the mouth, eyes, nose, skin and inhaled vapors all deliver toxic chemicals into the body. Skin, eyes and lungs can be extremely “efficient” in absorbing toxic chemicals. In scenario one, a 2-year-old child opens and spills a reachable plastic bottle of weed killer while trying to take a drink. In the second scenario, a 32-year-old pesticide applicator stands in the drift of a farm pesticide being sprayed by a tractor. In both scenarios, failure to remove contaminated clothing or thoroughly wash products off the head and body will prolong chemical absorption and risk cross contamination of rescuers and treatment areas.

## Substances most often involved in poisoning

Substances commonly found in the home are the most likely agents to be involved in a poison exposure. Toxic products located in the home account for more than 90 percent of poison exposures. Here are some examples:

Substances found in the home			
Category	Product	Toxin	Effect(s)
Personal care products	Cologne/perfume	Ethanol	Coma, seizures and intoxication
Analgesics	Non-aspirin pain relievers	Acetaminophen	Liver failure
Cleaning agent	Sanitizers and toilet bowl cleaners	Corrosives	Internal and external burns

## Adults calling about themselves

More adults are calling Wisconsin Poison Center for their own questionable exposures to household products and medication. The medication may be theirs, but the caller made an error when taking it.

## Medication mistakes can lead to poisoning

There are five main medication errors adults describe when calling the Poison Center. The number one reported error is that he or she inadvertently took (or was given) the same medication twice. Double-dose errors account for more than 25 percent of medication errors in people ages 20 and older. Perhaps the caller took the medication earlier in the day, but forgot and took it again. In some cases, multiple people care for the adult and two different people give the person the same dose.

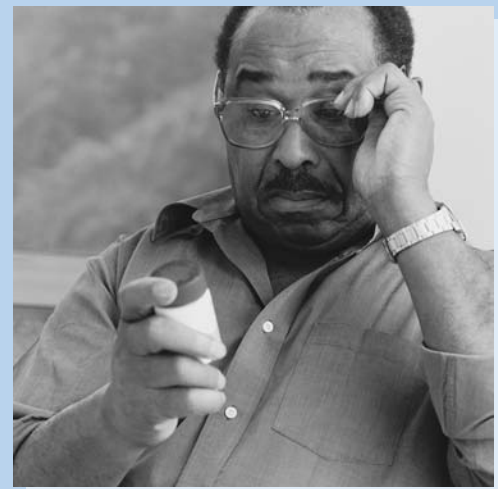
Taking the wrong medication is the second most common mistake. This can happen when people reach for a medication without turning on the light or putting on their glasses. Adults reported unintentionally taking the wrong medication more than 15 percent of the time.

Another common mistake is taking the wrong dose of medication. This usually happens when a measuring spoon isn't used for liquid medications. A regular kitchen spoon does not give the same measure as a measuring spoon. With

## facts

In 2006:

- Accidental poisoning that occurred in the home accounted for three out of four cases reported to the Wisconsin Poison Center.
- 80 percent of poison exposure calls originated from a residence.
- Health care facilities and emergency medical services on scene accounted for almost 18 percent of the calls.
- Occupational health nurses call about workplace exposures.



medications in pill form, people might get different medications confused and instead of taking two white tablets and one pink one, they do just the opposite.

It's easy to grab someone else's (or the pet's) medication by mistake when all household medications are stored in the same place. With many adults caring for their own children as well as older, aging parents, it's important to double check every medication administration to adults, as well as children.

If someone lives alone and is unable to remember if or when they are supposed to take medication, there are several possible solutions to preventing medication errors:

1. Use a pill dispenser. Many pharmacies and discount stores sell pill dispensers that are divided into morning, afternoon and evening compartments. Fill the compartments for the entire week's medications. When the compartment is empty, that means the patient already has taken his or her medication for that time of day. This also ensures the patient is not taking someone else's medication. If there is more than one person in the household that takes multiple medications, it is a good idea to keep each person's medication in a separate part of the house or separate corner of the room.
2. Chart medications. Draw a chart including the days of the week and times of day that the patient checks off when the medication is taken. Refer to the chart when the next dose is necessary.
3. Read labels carefully. Most importantly, turn on the lights and put on your reading glasses when taking medication to ensure you are taking the correct medication in the correct dose.

## Potential household poison hazards

Household products can be dangerous when used in ways not recommended by the manufacturer. The most common household poisonings occur when cleaning products don't seem to be working. A second cleaner is added to the bucket with the original cleaner, for example, combining bleach with another cleaner. Doing this causes chloramine gas to be released. Chloramine, when inhaled in large quantities, may cause coughing, choking and tearing eyes. Smokers are especially sensitive to this type of reaction.

### Pesticides

If a person uses a pesticide without wearing protective clothing, the pesticide may then be absorbed through the skin or inhaled and cause poisoning.

### Carbon monoxide

Carbon monoxide poisoning kills Wisconsin adults every year. It's important to remember to have the furnace checked every year for cracks and leaks in the system. It's also dangerous to let a car run in a garage on a cold day, even if the garage door is open. Ice fishermen and hunters need to make sure propane heaters are properly vented to the outdoors.

## Top 10 substances involved in poisoning

### Age 5 and younger

1. Personal care cosmetics
2. Household cleaning agents
3. Over-the-counter analgesics
4. Topical preparations
5. Nontoxic foreign bodies
6. Over-the-counter cough and cold medications
7. Plants
8. Vitamins
9. Pesticides
10. Antimicrobials

### Ages 6 to 19

- Over-the-counter analgesics
- Over-the-counter cough and cold medications
- Sedatives
- Antidepressants
- Stimulants
- Personal care/cosmetics
- Nontoxic foreign bodies
- Household cleaning agents
- Food poisoning
- Antihistamines

### Ages 20 and older

- Over-the-counter analgesics
- Sedatives
- Antidepressants
- Household cleaning agents
- Cardiac medications
- Arts/crafts/office supplies
- Personal care/cosmetics
- Nontoxic foreign bodies
- Chemicals
- Heavy metals

## Food poisoning

Food poisoning, while not widely reported, happens more often than adults realize. Many older adults on a fixed income are more likely to leave food in the refrigerator longer than they should. Leaving food out at room temperature while entertaining also can lead to food poisoning.

Symptoms of food poisoning include flu-like symptoms, vomiting and diarrhea. Hospitalization may be required if there is severe vomiting or prolonged diarrhea. Dehydration can cause medications in the blood stream to become more concentrated and cause a toxic reaction.

If in doubt, check with the Poison Center any time of the day or night toll-free at 1-800-222-1222.

## Managing phone calls

Registered nurses who have completed a comprehensive training program in clinical toxicology and telephone assessment skills initially handle calls received at the Poison Center.

During a call, questions detailing the specifics of the exposure are asked. From information given by the caller, Poison Center staff can determine whether or not a significant risk of harm due to the exposure may occur. If so, the staff member will recommend that the individual be evaluated in a medical facility, usually an emergency department. Most exposures pose minimal risk of harm and therefore do not require that the individual be urgently transferred to an emergency department.

Often, a call regarding a poison-exposed patient can be handled over the phone by staff. This eliminates the need for emergency department treatment. For these types of exposures, staff may recommend simple decontamination and observation. A follow-up call from staff may be initiated to further evaluate the well-being of the individual.

A comprehensive quality assurance process is maintained at the Poison Center to ensure prompt, reliable, accurate and consistent interventions for all individuals who utilize the services.

Managing low-risk poison exposures on-site is a valuable and safe method to reduce utilization of expensive resources such as ambulance transports and emergency department care. Health care costs are reduced significantly through the telephone interventions of U.S. poison centers. Twenty-four hour access to a poison center guarantees that individuals with drug and poison exposures can reach caring and experienced individuals who can provide sound assessment and advice. Wisconsin Poison Center has a language service allowing quick access to translators when needed. The expanding ability of Poison Center staff to provide on-site management of cases is a necessary intervention

## facts

- Of the 42,840 exposure calls, 33,406, or approximately 78 percent, were managed at home.
- In 2006, this saved Wisconsin residents more than \$5 million in hospital emergency charges.
- Most poisonings are unintentional (accidental) in nature.
- Common household products account for more than 90 percent of poison exposures.
- Most accidental poisonings occur in the home.
- Types of substances people are exposed to vary by age.



in assuring proper health care resource utilization. If each on-site managed case saves a minimum of \$150 in emergency department costs, annual savings would exceed \$5 million dollars.

## Poison exposures requiring intervention

Poisoning can become life-threatening. About 20 percent of poison exposure cases are managed at hospitals or clinics. Patients may arrive at a health care facility following the advice of the poison center. Individuals found to have a significant risk of harm are referred to a health care facility (often an emergency department) for immediate evaluation and treatment. (See Figure 5.)

## Patient confidentiality

Medical records are kept on all calls made to the Poison Center. Recorded data includes demographics, contact information, substances, symptoms, interventions and outcomes. All data is maintained in a secure program used only by center staff. Records are treated like hospital medical records in that they cannot be accessed or shared. Only patients (or their guardians) can request copies of their record.

Health Insurance Portability and Accessibility Act (HIPAA) regulations have resulted in a nationwide reluctance of health care staff to discuss cases with Poison Center staff. HIPAA does not intend to stifle consultations between hospitals and clinics with poison centers. Health care providers who require assistance from a poison center should not hesitate to seek that consultation.

Providing patient information to the center allows for:

- Proper and patient-specific advice.
- The staff to assess interventions and outcomes so that best practices are identified and incorporated into toxicology care.
- State and national ability to provide toxic-surveillance trends in poison exposure and in the early identification of potential outbreaks in poisoning.

U.S. poison centers play an important role in providing toxicology consultation to health care providers. They have been given federal mandates and support from the Centers for Disease Control in providing regional and national surveillance of poisoning. The operations of U.S. poison centers as health care consultants and public health entities does not violate rules of patient confidentiality as described in HIPAA.

At Wisconsin Poison Center, everyone is trained and updated on matters regarding HIPAA compliance and patient confidentiality. Personal identification data never is released or discussed outside the Poison Center.

### Hospital case management

	Cases
Call originated from a hospital	5,111
Poison center referral	4,120
Emergency department, no admittance	1,698
Admitted, intensive care unit	209
Admitted, non-intensive care unit	221
Unable to follow-up	1,992

Figure 5

## Find out more about Wisconsin Poison Center

The Poison Center maintains an independent Web site at [www.wisconsinpoison.org](http://www.wisconsinpoison.org). The site contains a wealth of information available to parents, care providers, teachers and health care professionals.

Topics include how to make your home or school safer for small children; how to avoid unintentional poisoning as an adult (taking the wrong medication, carbon monoxide poisoning, etc.); and how to teach poison prevention to people of all ages. The Poison Center also has some materials available in Spanish and Hmong.

Brochures available for download include:

- Mr. Yuk brochure (available in English and Spanish).
- Poison prevention flyer (English and Hmong on the same page).
- Poisonous plant list (available in English).
- Carbon monoxide safety brochure (available in English, Spanish and Hmong).
- Inhalant abuse information (available in English).
- Cough/cold medication abuse information (available in English).
- Pesticide safety for urban or rural environments (available in English).
- Poison prevention for seniors (available in English).
- Preschool games: How to teach poison prevention to preschoolers (available in English).
- Rural and farm safety (available in English).

## *facts* • • • • •

- Anyone can call Wisconsin Poison Center toll-free.
- Poisoning affects all age groups. Children most often are the victims of poisoning, yet behaviors of teens and adults also result in exposures.
- The Poison Center managed 34 calls of another language in 2006.
- The Poison Center provides 24-hour, toll-free poison information for all Wisconsin residents.
- For poison information, call toll-free at 1-800-222-1222.



## Contact information

To arrange presentations, interviews or order poison prevention materials, please contact:



David Gummin, MD, FACEP, FACMT, medical director

E-mail: [dgummin@chw.org](mailto:dgummin@chw.org)

(414) 266-6724

(Professional organizations, hospital grand rounds and medical/professional education.)

Mary Powers, BSN, CSPI, MS, managing director

E-mail: [mpowers@chw.org](mailto:mpowers@chw.org)

(414) 266-2952

(Professional organizations, nursing schools and public health departments.)

Cathy Smith, Poison Center coordinator

E-mail: [csmith@chw.org](mailto:csmith@chw.org)

(414) 266-2630

(Legislators and legislative issues, media interviews, community organizations, public education and statewide materials distribution.)

Donna Lotzer, poison education coordinator (Madison)

E-mail: [dm.lotzer@hosp.wisc.edu](mailto:dm.lotzer@hosp.wisc.edu)

(608) 265-8160

(Media interviews, community organizations, professional/public education and materials distribution – Dane County area.)



In cooperation with the funding of Wisconsin Department of Health & Family Services - Programs & Services.

This report is supported by funds received through grant #H4BMC00005-04-00 awarded by the Department of Health and Human Services, Health Resources and Services Administration. Its contents are solely the responsibility of the authors and do not necessarily represent the official views of the Health Resources and Services Administration, Division of Healthcare Preparedness, Healthcare Systems Bureau.



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PO Box 1997  
Milwaukee, WI 53201-1997  
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