The Hennepin Regional Poison Center

has served the residents of Minnesota since 1972, and is designated by the state as the Minnesota Poison Control System. It is one of only 55 U.S. Poison Centers accredited by the American Association of Poison Control Centers (AAPCC), which sets stringent criteria to ensure quality service and care. Hennepin County Medical Center continues to generously provide a home for the Poison Center since its founding.

In 2013 we answered 51,012 calls from Minnesota residents and health care facilities regarding patients that either were or were in danger of being poisoned. Calls to the Poison Center are answered 24/7 real time by experienced pharmacists certified by the AAPCC as Certified Specialists in Poison Information. This wealth of experience allows us to continue to keep 92% of all patients safely in their homes while offering up-to-date, cutting edge advice to the small number of patients who require specialized critical care. Studies estimate for every dollar spent on Poison Centers, $13.39 is saved in unnecessary health care costs and lost productivity, saving Minnesotans over $32 million dollars last year.

Each year the epidemiology of poisonings changes in Minnesota and the Poison Center serves a unique surveillance role in tracking these trends. In 2013 we saw the emergence of e-cigarettes and the rise in the exposures of both adults and children to the concentrated nicotine liquid cartridges used. We also saw a steady upswing in heroin use from 56 cases in 2010 to 146 cases in 2013. In addition, we collaborated with the Minnesota Department of Health in an exploratory epidemiologic investigation to track the health care burden of illicit synthetic drug use in Duluth, Minnesota.

The Hennepin Regional Poison Center is supported by consulting medical toxicologists who volunteer their time to assist clinicians across the state treating critically ill poisoned patients. On behalf of our Associate Medical Directors, Drs. David Roberts, Benjamin Orozco, and Louis Ling we would like to sincerely thank Beth Baker MD, Elisabeth Bilden MD, Jennifer Englund MD, Carson Harris MD, Michael Kinnan MD, Samuel Stellpflug MD, Mathew Sztajnkrycer MD, and Andrew Topliff MD for their service.

We strive to prevent poisonings wherever possible via an active education program. In 2013 the Poison Center conducted poison prevention events attended by 12,037 people and participated in professional events attended by 7,943 health care professionals. On site we educate students and residents in multiple specialties, including Emergency Medicine, Internal Medicine, Family Medicine, Occupational Medicine, Pediatrics and Pharmacy. We also continued our very successful collaboration with HealthPartners Institute for Graduate Medical Education as a major training site for Minnesota’s only Medical Toxicology Fellowship.

The Poison Center staff and consultants continued to remain active in research. Twenty peer-reviewed abstracts were presented at the 2013 North American Congress of Clinical Toxicology in Atlanta, GA. Numerous peer-reviewed, indexed publications were also authored in 2013.

The Poison Center continues its dedication to reducing the morbidity and mortality of poisoning while simultaneously saving the state of Minnesota millions of dollars in unnecessary health care expenses. We look forward to serving Minnesota in 2014.

Ted Gray, III, RPh, Certified Specialist in Poison Information

Jon B. Cole, MD
Medical Director

Deborah L. Anderson, PharmD
Managing Director
Meet Our Staff

**Director**
Deborah Anderson, PharmD

**Medical Director**
Jon Cole, MD, ABMS

**Senior Associate Medical Directors**
David Roberts, MD, ABMT, ABMS
Louis Ling, MD, FACMT, ABMT, ABMS

**Associate Medical Director**
Benjamin Orozco, MD

**Clinical Supervisor**
Stacey Bangh, PharmD, DABAT

**Educator**
Kirk Hughes, RN, EMT-B, CSPI

**Specialists in Poison Information**
Rachel Brandt, PharmD, CSPI
Alisha Floan, PharmD, CSPI
Gregory Grande, RPh, CSPI
Ted Gray, RPh, CSPI
Alyssa Klotz, PharmD, SPI
Samantha Lee, PharmD, CSPI
Chris Lintner, RPh, DABAT, CSPI, BCPS
Kevin Sell, RPh, CSPI
Steve Setzer, RPh, CSPI
Kelsey Stokkeland, PharmD, CSPI
Jill Topreff, PharmD, CSPI
Greg Wedin, PharmD, DABAT
Laurie Willhite, PharmD, CSPI

**Poison Information Providers**
Jenna Bednar
Gina Danielson
Sarah Derr
Calley Gruenhagen
Dustin Hadley
Huy Huynh
Amanda Kurtti
Renee Petroski

**Consultants**
Beth Baker, MD, ABMS
Elisabeth Bilden, MD, ABMS
Jennifer Englund, MD, ABMS
Carson Harris, MD
Mike Kinnan, MD, ABMS
Sam Stellpflug, MD, ABMS
Matthew Szajnjkrycer, MD, ABMS
Andrew Topliff, MD, ABMS
JoAn Laes, MD,
   Toxicology Fellow
Katherine Katzung, MD,
   Toxicology Fellow
Rebecca Gardner, MD,
   Toxicology Fellow

**ABMS American Board of Medical Specialties**
**DABAT Diplomat of the American Board of Applied Toxicology**
**CSPI Certified Specialist in Poison Information**

Jill Topreff, PharmD,
Certified Specialist in Poison Information
Deborah Anderson, PharmD, Director
Jon Cole, MD, Medical Director
Calls Per Minnesota County
Call 1-800-222-1222, 24/7, everyday

Provided immediate help to 51,012 callers in 2013

Calls are free of charge and confidential

Minnesota Relay and interpretive services available

Staffed by specially trained pharmacists nationally certified as Specialists in Poison Information

45% of calls involved a child under the age of 6 years

Age of Patients

Number of Calls

Reason for Exposure

Exposure 87%

Information 13%

Unintentional 77%

Intentional 20%

Adverse Reaction 1%

Other 1%
- 92% of exposures occurring in a residential setting were safely managed at home with Poison Center assistance

- 70% of callers would have sought emergency medical attention if the Poison Center was not available

- 22% of calls received are from health care providers seeking patient treatment recommendations

- 86% of calls transferred from nurse lines were managed at home

- 61% of exposures involve prescription and/or over-the-counter medications

**Top 5 Substances Involved in Poisoning**

**Non-Drug**
1. Cosmetics, personal care items
2. Household cleaners
3. Foreign bodies, toys, silica gel packets
4. Alcohols
5. Pesticides

**Drug**
1. Analgesics
2. Sedatives, Hypnotics, Antipsychotics
3. Antidepressants
4. Cardiovascular drugs
5. Antihistamines
Medical Outcomes

- Non-Toxic Exposure: 70%
  - Minor Effect: 19%
  - Moderate Effect: 6%
  - Unrelated Effect: 4%
  - Major Effect: 1%
  - Death: <0.1%

Statewide Public & Professional Education Outreach
- Distributed 98,613 pieces of poison prevention materials
- Participated in 116 public poison prevention events to over 13,500 Minnesotans
- Conducted 103 professional training events to public safety and health care professionals

Funding Sources
- State: 64%
- Host Institution: 18%
- Federal: 14%
- Other: 4%

- Patients admitted to hospitals with poisonings who receive Poison Center assistance have measurable reductions in average hospital stays
- Total annual expenses $2,195,879
- 83% of budget are personnel expenses
- Every $1 spent on Poison Center services saves an estimated $13 on unnecessary health care costs and lost productivity
- $28 million in costs avoided annually through use of the Poison Center

On-site Health Care Professional Education
- 34 medical residents (emergency medicine, family medicine, pediatrics)
- 3 physician medical toxicology fellows
- 28 pharmacy residents and students
- 17 medical students
- 1 Physician Assistant
- 5 Nursing Students

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Electronic Cigarette Poisonings

- Electronic Cigarettes are vaporizers that heat concentrated flavored nicotine liquid to be inhaled.

- In 2013 there were 74 exposures to e-cigarettes.

- Poisonings can occur by ingestion of the liquid, often by children handling the liquid refills or misuse of the device by adults.

- Nicotine poisoning, from traditional cigarettes or e-cigarettes, can cause agitation, nausea, vomiting, sweating, seizures, abnormal heart rhythms or difficulty breathing.

- Poison Center monitors new products and educates health care providers and the public about health concerns.