NEW YORK STATE

POISON CONTROL NETWORK

COMBINED

2002-2004

DATA REPORT

STATE OF NEW YORK
DEPARTMENT OF HEALTH

Corning Tower The Governor Nelson A. Rockefeller Empire State Plaza Albany, New York 12237

Richard F. Daines, M.D.
Commissioner

Wendy E. Saunders
Chief of Staff

Dear Member of the Legislature:

On behalf of the New York State Poison Control Network, I am pleased to submit the combined report for data collected from 2002 to 2004 calendar years. This report summarizes the activities, effectiveness, impact and benefits of the Poison Control Network for that time period.

Sincerely,

Richard F. Daines, M.D.
Commissioner of Health

Enclosure

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COMBINED REPORT

NEW YORK STATE POISON CONTROL NETWORK

MISSION STATEMENT

The New York Poison Control Network, comprised of five regional poison control call centers and one public education center (for a total of six centers), provides poison emergency assessment and treatment information, public education, and health professional education to the citizens of New York State for the purpose of preventing injury and death from poisoning. The Network enhances the prevention of poisoning and management of poisoning victims by early recognition of new risks and continued research in the field.

New York Regional Poison Control Center Network

Call 1-800-222-1222

Upstate New York Regional Poison Center

Upstate Medical University
750 East Adams Street
Syracuse, New York 13210

The Ruth A. Lawrence Poison and Drug Information Center

Serving the Finger Lakes
University of Rochester
601 Elmwood Avenue, Box 321
Rochester, New York 14642

Long Island Regional Poison and Drug Information Center

Winthrop University Hospital
259 First Street
Mineola, New York 11501

New York City Poison Control Centers

New York City Bureau of Public Health Labs

455 First Avenue
Room 123, Box 321
New York, New York 10016

Western New York Regional Poison Center
Children's Hospital of Buffalo

219 Bryant Street
Buffalo, New York 14222

Hudson Valley Poison Education Center

Phelps Memorial Hospital Center
701 North Broadway
Sleepy Hollow, New York 10591

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COMBINED REPORT

2002, 2003 & 2004 DATA

EXECUTIVE SUMMARY

Poison control services have been available in New York State since 1955. At one time, there were more than twenty poison control centers providing services to the residents of New York State, primarily through hospital emergency rooms. In 1986, the Poison Control Network Act established regional poison control centers throughout the State. Eight (8) regional centers were originally designated, formulating the statewide network dedicated to preventing injury and death from poisoning by providing poison emergency assessment and treatment information, public education, and health professional education. In 1990, the number of centers comprising the New York Poison Control Network was reduced to six (6). This was the case during the first six (6) months of 2001.

In mid 2001, the Hudson Valley Regional Poison Center, located at Phelps Memorial Hospital Center in Sleepy Hollow, New York, converted to an educational center only. Responsibilities for other than public education services were handled by the Central New York Regional Poison Control Center for all counties originally handled by the Hudson Valley Regional Poison Center, except for Westchester County. The Long Island Regional Poison and Drug Information Center assumed the responsibility for other than public education services in Westchester County.

With this structural modification, the New York State Poison Control Network is now comprised of five (5) regional poison control call centers and one (1) public education center. The Network is dedicated to preventing injury and death from poisoning by providing poison emergency assessment and treatment information, public education, and health professional education. The centers disseminate expert information to the general public as well as to professionals, participate in the collection of uniform data and conduct research to enhance the science of toxicology.

The centers are immediately available, 24 hours per day, seven days per week, to health care professionals, as well as the general public, for the purpose of providing expert telephone consultation for emergency poison exposures and inquiries. The emergency telephone numbers and services are widely publicized in each of the regions. The centers serve as a source of information to both health care professionals and the general public regarding intentional and unintentional exposures. Calls form the general public are triaged to determine if further medical evaluation is needed. Calls from the Emergency Department are evaluated and treatment is streamlined. This primary function allows for a decrease in State medical costs. In addition, the centers respond to a variety of information questions that include life saving antidotes and vaccines, as well as being a primary resource for education and research on poison related issues. The centers provide professional education to medical students, physicians, pharmacists, nurses and other health care professionals. Overall, the Network strives to promote poisoning prevention among the general public through a variety of outreach programs, various education programs and literature distribution designed for specific age groups.

One of the functions of the Poison Control Network is to report information on pesticide poisonings to the New York State Department of Health for the monitoring of acute and chronic effects of pesticide exposure. Since 1999, the centers within the network with constituents in the greater New York metropolitan area have been doing on-going research and review of pesticide information relative to the outbreak of the West Nile Virus.

During 2001, the poison control centers in New York State were supported through reimbursement authorized under the Health Care Reform Act (HCRA) of 2000. In addition, poison center host institutions are provided an add-on to their Medicaid emergency room rate. The current HCRA methodology provides five million dollars annually, which is distributed through the host institutions.

Previous assessments by the Network indicate poison control center services prevent emergency room visits by as much as forty percent (40%) of members of the general public contacting the centers for assistance.

Appendix Two provides graphic reports of the statistical data specific to the telephone services provided by the centers in 2002, 2003 and 2004.

In 2002:

- The two major categories of telephone calls received were human exposure and information calls.

- The Network of centers received over 189,000 calls in 2002. Approximately sixty-nine percent (69%) of these calls were related to human poisonings and twenty-seven percent (27%) were requests for information.

- Forty-seven percent (47%) of the information calls in 2002 dealt with questions concerning drug information and identification;

- Poisoning to children under five years of age constitute forty-seven percent (47%) of human exposure calls in 2002;

- Unintentional poisonings comprise the predominant number of human poisoning exposures;

- Of the 131,791 human exposure calls received during 2002, less than two percent (2%) resulted in a major effect or death;

- The vast majority of the human exposure calls (approximately 66% in 2002) were managed on-site without need for additional health care intervention, contributing a significant cost savings to the health care system;

- Seventy-seven (77%) of all human exposure calls were the result of ingestion.

In 2003:

- The two major categories of telephone calls received were human exposure and information calls.
- The Network of centers received 188,122 calls in 2003. Approximately seventy percent (70%) of these calls were related to human poisonings and twenty-eight percent (27%) were requests for information.
- Forty-five percent (45%) of the information calls in 2003 dealt with questions concerning drug information and identification.
- Poisoning to children under five years of age constitute forty-seven percent (47%) of human exposure calls in 2003.
- Unintentional poisonings comprise the predominate number of human poisoning exposures.
- Of the 130,703 human exposure calls received during 2003, less than two percent (2%) resulted in a major effect or death.
- The vast majority of the human exposure calls (approximately 69% in 2003) were managed on-site without need for additional health care intervention, contributing a significant cost savings to the health care system.
- Seventy-nine percent (79%) of all human exposure calls were the result of ingestion.

In 2004:

- The two major categories of telephone calls received were human exposure and information calls.
- The Network of centers received 177,705 calls in 2004. Approximately seventy-one percent (71%) of these calls were related to human poisonings and twenty-six percent (26%) were requests for information.
- Forty-three percent (43%) of the information calls in 2004 dealt with questions concerning drug information and identification.
- Poisoning to children under five years of age constitute forty-eight percent (48%) of human exposure calls in 2004.
- Unintentional poisonings comprise the predominate number of human poisoning exposures.
- Of the 126,368 human exposure calls received during 2004, less than two percent (2%) resulted in a major effect or death.
- The vast majority of the human exposure calls (approximately 68% in 2004) were managed on-site without need for additional health care intervention, contributing a significant cost savings to the health care system.
- Seventy-eight percent (78%) of all human exposure calls were the result of ingestion.

The poison centers within the Network continue to work directly with the State's 911 system by providing training and education to the dispatchers. The poison centers are involved in triaging 911 patients regarding poison exposure. The Network recognizes trends in poisonings as well as seasonal hazards and coordinates services throughout the Network as a statewide service.

INTRODUCTION

HISTORY AND BACKGROUND OF THE NEW YORK STATE NETWORK

Historical Perspective

Poison control services have existed in New York State since 1953, when the first poison control centers were established as a result of the collaborative efforts of the American Academy of Pediatrics, the New York Academy of Medicine and local medical societies.

Over the next two decades, additional regional programs provided poison services. The scope of these programs varied depending on the needs of the community and the available funding. To determine the level of poison control services available, the Department of Health in 1979 conducted a survey of all poison control services in the State. Results illustrated that only 50% of New York State's population received any level of poison control services and there was a lack of service uniformity in those areas.

State Involvement

In 1981, the Commissioner of Health established an advisory council on poison prevention and control. The purpose of the council was to advise the Department of Health on the further development of statewide standards for poison control services. The collaborative efforts of the council and the department resulted in the development in 1984 of the comprehensive Administrative Guidelines for the Operation of Poison Control Centers. Those guidelines were subsequently used in the development of State regulations.

The Poison Control Network Act was signed on May 12, 1986 and provided for the establishment of regional poison control centers to form a statewide network to reduce poisonings, educate the public about hazardous exposures and assure statewide emergency coverage by poison control facilities. Poison control centers must disseminate expert information to professionals and the public. Centers must also participate in collection of uniform data and conduct research to enhance the science of toxicology. It was recognized that regional poison control centers can reduce hospital costs by handling nontoxic and mildly toxic poisoning emergencies through telephone consultation.

Together the centers formed the Association of Poison Control Centers of New York State, for the purpose of collaborating on issues of concern to all of the centers and interacting with the New York State Department of Health.

Previous Consolidations

Extensive consolidation of poison control services has taken place since its inception in 1955. During 1956 - 1981, there were 17 - 21 poison control centers in New York State. Many of these existed as a part of emergency room services and many handled calls during day time hours only. There were no regulations or guidelines for these services.

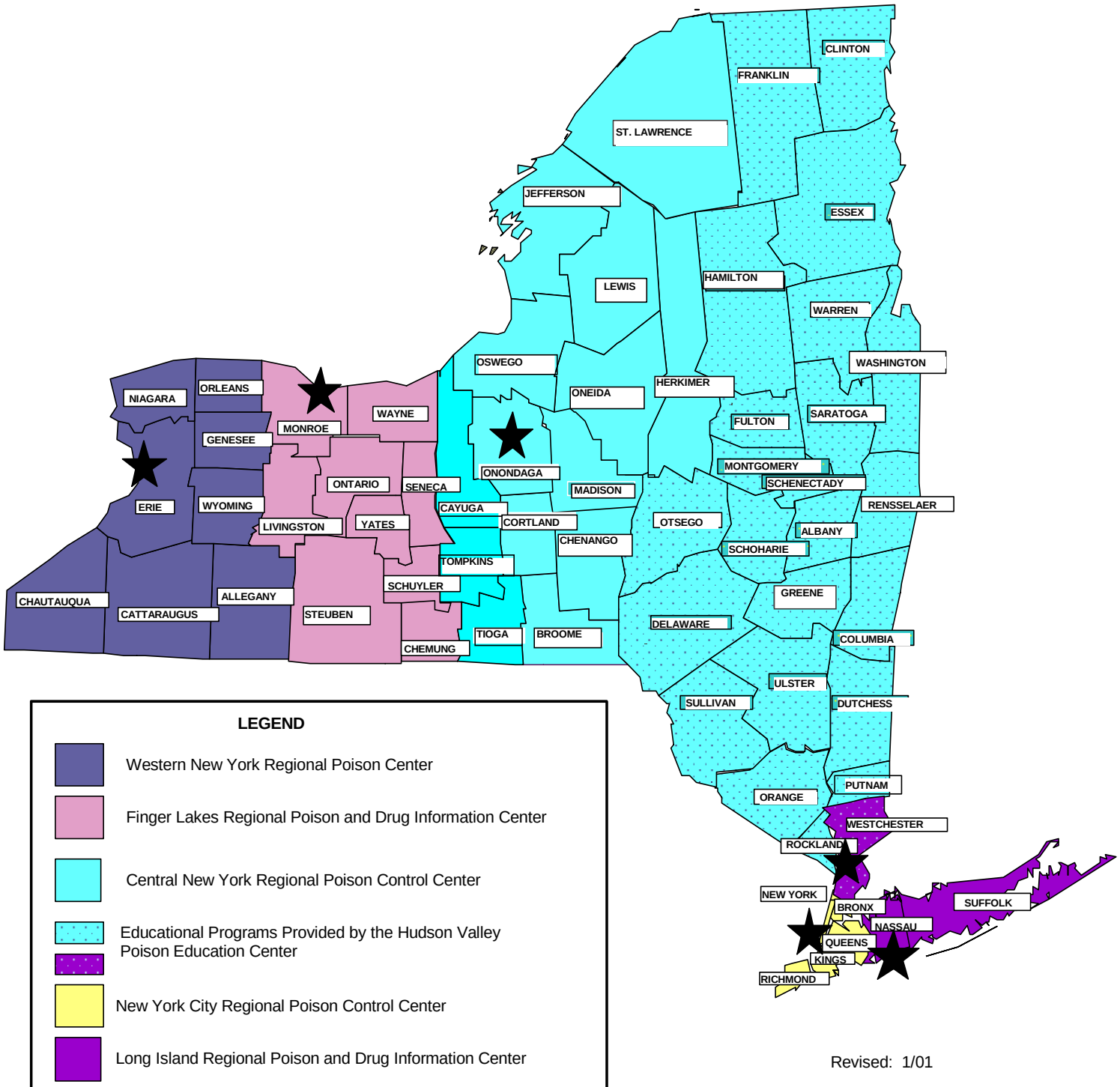
With the enactment of the New York State Poison Control Network Act in 1986, eight poison centers were designated, one for each of the state's health service areas. In 1990, Ellis Hospital Poison Control in Schenectady transferred their services to the Hudson Valley Regional Poison Center and the Southern Tier Poison Center in Binghamton was absorbed by Central New York Regional Poison Control Center.

For the past decade, the six remaining poison centers have effectively carried out the delivery of services to the 18 million people of New York State. During 2001, the Hudson Valley Regional Poison Center converted to a public education center only. As such, the Network is now comprised of five (5) emergency call receiving centers and one public education center. The counties serviced by the Hudson Valley Regional Poison Center were reassigned to the Central New York Regional Poison Control Center, with the exception of Westchester County, which was assigned to the Long Island Regional Poison and Drug Information Center. The newly named Hudson Valley Poison Education Center, continues to provide public education services under the supervision of both the Central New York Regional Poison Control Center and the Long Island Regional Poison and Drug Information Center. The five (5) remaining full service centers are certified by the American Association of Poison Control Centers.

STRUCTURE OF THE NETWORK

LOCATION OF CENTERS

The current network consists of five (5) poison control centers and one poison educational center, strategically located throughout the state as noted on the map below. Management information specific to the individual centers is included in **Appendix One.**



Revised: 1/01

SERVICES PROVIDED BY POISON CONTROL CENTERS

Each of the five (5) regional poison control centers is staffed by a Board Certified Medical Director, a Clinical Board Certified Managing Director, a team of Specialists in Poison Information, Health Educators, and support staff. For the Education Center, there is a Health Educator and support staff. In New York State, the poison control centers perform the following services:

Telephone Communications

Centers publicize their emergency telephone numbers and services to the general public and to health care professionals. The American Association of Poison Control Centers has initiated a new national toll free number (1-800-222-1222) that allows anyone access to their local poison control center. This is similar to the 911 or 411 process. The national toll free number was activated in New York State in June 2001. This new toll free number was tested during the events of September 11, 2001. With the loss of Tower II and the Verizon buildings, the majority of local phone service to the New York City and Long Island poison centers decreased and calls were intermittent. Fortunately, the toll free calls were easily re-routed to other Network poison centers allowing for no loss of calls. All of the Network centers have maintained their local pre-existing numbers in addition to the toll free number. The Network has also developed a backup system where, in case of telephone failure, local calls can be automatically re-routed, as well.

Distribution and advertising of the new phone number is ongoing and usage is being documented. This system allows the Centers to share educational and awareness materials. As always, each Center's emergency telephone numbers are listed on the inside front section of all local telephone directories and is provided to all telephone operators. Centers also have telecommunications that allow contact with hearing impaired persons. Commercial translation services are used by centers with a large number of foreign language speaking populations.

Specialists in Poison Information (registered nurses, pharmacists, physician assistants, and/or physicians) are trained in toxicology, certified by examination, and answer incoming calls to the poison control center. Services include the provision of:

- expert telephone consultation for emergency poison exposures and inquiries 24 hours per day, seven days per week to health care professionals and the public;
- assessment of the risk of toxicity associated with poisoning emergencies;
- home treatment information to the public and clinical consultation to health care professionals;
- ability to recognize potential epidemics, biological and/or chemical terrorist events.

The following case illustrates the cooperation amongst health care professionals, the patient and the poison specialist:

Case: ***In early September, the poison center received a call from a doctor in a local emergency department from a family member of a patient who was vacationing in Thailand. Apparently, she was stung by a sea urchin and was in considerable pain. The certified poison information specialist (CSPI), who received the call, made a three-way connection between the patient in Thailand and the physician in the emergency department so an accurate assessment of her injuries could be made. After a few minutes, the poison specialist made the recommendation of hot water soaks, removal of the spines, and a pain reliever for the discomfort.***

Crisis Intervention

Poison control centers have immediate access to on-line and print toxicology resources, which display the most current information on more than 500,000 products, drugs, plants, and environmental toxins. The centers are supported 24 hours per day, every day, by medical and clinical toxicologists, and have access to expert consultants in specialties such as plants, mushrooms, snakes, insects and environmental and industrial toxins.

Crisis intervention services:

- contribute to reducing health care costs by triaging home calls to prevent unnecessary emergency department visits;
- provide drug information for the public and health care professionals;
- serve as a source of information on life saving antidotes and vaccines;
- serve as resource for chronic lead poisoning and other environmental toxins;
- serve as a resource for substance abuse information and management;
- provide reporting, surveillance and act as an early warning network for the following: pesticide exposures, food poisoning episodes, substance abuse, herbal products and alternative medicine, biological and chemical warfare terrorist attacks, and exposures associated with malicious acts;
- cooperate in reporting all clusters of similar exposures and hazards to government agencies including the FDA, CPSC, OSHA, EPA, CDC, Department of Environmental Conservation, and local and state health departments.

Education and Research

- provide professional education to medical students, physicians, pharmacists, nurses, and other health care professionals;
- identify new toxic risks;
- conduct research to better prevent poisoning and enhance the management of poisoned persons;
- participate in nationwide sharing of data regarding poisonings;
- promote poisoning prevention among the general public;
- have an analytical toxicology laboratory available.

Most emergency calls to the centers are managed by poison specialists over the phone, avoiding expensive visits to a health care facility. Center staff follow-up on the patient's status by calling them at home at regular intervals to ensure the patient's welfare. If staff assess that further evaluation or treatment by a physician is necessary, they refer the caller to the nearest health care facility capable of providing appropriate care; call that facility to inform the staff of the referral; if necessary, arrange for emergency transportation of the patient. Patient status is monitored by the specialists until the patient is released from the treatment facility. The poison control centers provide expert consultation to health professionals in emergency departments and other health care settings 24 hours per day, seven days per week. Centers conduct product surveillance for use as early warning systems.

The medical and managing directors play important roles in the centers by providing expert toxicology in-service training, hands-on intervention with patients at host facilities, and consultations for health professionals from their own hospitals and from other health care facilities. This vital service provides medical students and residents with hands-on experience in management of poisoned patients, thus helping prepare physicians and future toxicologists.

In addition, medical and managing directors meet with members of the community they serve including EMS providers, 911
communication centers, city, county and regional emergency management agencies, health care provider users and advocacy groups.

Health educators at each of the centers conduct extensive community outreach and education regarding the services provided by the centers and the prevention of poisoning. The health educators are responsible for promoting the center's emergency telephone numbers throughout their region. Educators will continue to promote and distribute educational materials with the national 800# on a statewide basis. In addition, the health educators facilitate poison prevention/awareness events and deliver education programs that target teachers, children, parents and care givers.

PROFESSIONAL ORGANIZATION INVOLVEMENT

Each poison center in New York State belongs to, and is certified by, the American Association of Poison Control Centers (AAPCC). Members of the centers take an active, and in some instances, leadership role in the operations of the association including membership on board of directors, certification committee, public education committee, quality assurance committee, abstract review committee, scientific affairs subcommittee, nominating committee, personnel proficiency, long range planning, specialist in poison information committee, and manager's committee. Members of the New York State Network participate fully in the educational and information sharing components of the AAPCC through attendance at the annual and mid-year meetings.

In addition, The Association of Poison Control Centers of New York State, a network made up of the members of the five regional poison control centers and one public education center, collaborate to set policy, share case information, exchange ideas in administration, public education, professional education, data collection and conduct research.

OPERATIONS

FINANCES

Support for the Cost of Services

New York State has supported the Poison Control Network first through reimbursement add-ons for poison center host institutions (usually a hospital) through the NYPHRM legislation. An emergency room rate add-on was determined based on the cost of poison center services as reported by the host institution in their annual Institutional Cost Report. When the NYPHRM legislation expired, the state continued support of poison center services in the Health Care Reform Acts (HCRA). In addition to continuing the add-ons for the Medicaid emergency room rates, HCRA authorized grants to the poison control centers to assist them with meeting operating costs that may not be funded by other payers subsequent to the expiration of NYPHRM which regulated rate setting for all payers. The grant funding compensates for each center's allocable share of projected revenue lost plus the poison control center's cost allocable to the Medicare program.
In the years 2002, 2003 and 2004, disbursement of funds was as follows:

In the years 2002, 2003 and 2004, disbursement of funds was as follows:

	Bellevue Hospital Center	Children's Hospital of Buffalo	Phelps Memorial Hospital Center	Strong Memorial Hospital	University Hospital/ SUNY Health Science Center	Winthrop University Hospital	Total
2002	$689,100	$435,615	$337,456	$863,694	$1,112,373	$1,462,663	$4,900,901
Medicaid	$455,613	$72,172	$0	$175,299	$214,801	$85,109	$1,347,980
Total	$1,144,713	$507,172	$337,456	$1,038,993	$1,327,174	$1,547,772	$5,248,881
2003	$650,631	$464,818	$337,456	$866,451	$1,112,373	$1,462,663	$4,896,392
Medicaid	$650,154	$66,152	$0	$158,476	$251,127	$86,182	$1,212,091
Total	$1,300,785	$530,970	$337,456	$1,024,927	$1,363,500	$1,548,845	$6,106,483
2004	$650,631	$461,026	$337,456	$776,891	$1,112,373	$1,462,663	$4,801,040
Medicaid	$597,437	$71,385	$0	$209,569	$322,243	$80,164	$80,164
Total	$1,248,068	$532,411	$1337,456	$986,460	$1,434,616	$1,542,827	$56,081,838

Cost Savings

Poison control centers have long proven their value in saving money by reducing the burden on 911 systems, emergency transport services and avoiding unnecessary visits to the emergency department.

The Network previously conducted a cost study survey with callers from the general public and health care professionals. When asked what they would do without the services of a poison control center, 40% of the general public stated they would go to a hospital, 44% to a physician's office, and the remaining 16% would call a friend, pharmacist or do nothing. These patients were insured 82% of the time by private insurance or HMOs, and 12% by public insurance programs. The patients who would do nothing if the poison control center did not exist represent a possible increase in morbidity and mortality among inadequately treated poisoning victims. It was also noted that 90% of patients already in the emergency department for treatment of a poisoning, did not consult the poison center before coming to the hospital. In 2002, the New York Centers (Network) handled 131,789 human exposure calls.
Approximately sixty -six percent (66.5%) or 88,291 were managed without health care facility, 911 or emergency services intervention. In 2003, the Network handled 130,703 human exposure calls.

Approximately sixty-nine percent (69%) or 90,091 were managed without health care facility, 911 or emergency services intervention. In 2004, the Network handled 126,368 human exposure calls. Approximately Sixty-eight percent (68%) or 85,453 were managed without health care facility, 911 or emergency services intervention.

STATISTICAL INFORMATION

Statistical information is provided in graphic form in **Appendix Two**. The two major categories of calls are human exposure and information calls. Data for these two categories are broken down into more specific analysis.

Summary of 2002 Statistics

In 2002, the Network received a total of 189,005 calls for assistance. Sixty-nine percent (69% or 131,791) of these calls involved human poisoning, 5,541 calls involved animal poisonings, and 51,454 represented a wide range of information calls.

The remaining charts provide information specific to the calls received involving human exposure. Children five years of age or younger were involved in forty-seven (47%) of poisonings. Unintentional poisonings remained the predominant number of exposures at eighty-two percent (83% or 109,558). The majority of exposures (67%) were managed on-site, without need for additional health care intervention. Data collected for 2002 on the site-of-exposure indicates that eighty-nine percent (89% or 117,159) of the exposures occurred in the home.

Summary of 2003 Statistics

In 2003, the New York Centers (Network) handled 188,122 human exposure calls. Approximately Sixty-nine percent (70% or 130,703) of these calls involved human poisoning, 5506 involved animal poisonings, and 51,681 involved a wide rage of informational calls.

The remaining charts provide information specific to the calls received involving human exposure. Children five years of age or younger were involved in forty-seven percent (47% or 61,346) of poisonings. Unintentional poisonings remained the predominant number of exposures at eighty-two percent (82% or 107,224). The majority of exposures (69%) were managed on-site, without the need for additional health care intervention. Data collected for 2003 on site of exposure indicates that eighty-nine percent (89% or 116,663) of these exposures occurred in the home.

Summary of 2004 Statistics

In 2004, the New York Centers (Network) handled 177,705 human exposure calls. Approximately Seventy-one percent (71% or 126,368) of these calls involved human poisoning, 5717 involved animal poisonings, and 45,423 involved a wide rage of informational calls.

The remaining charts provide information specific to the calls received involving human exposure. Children five years of age or younger were involved in forty-six percent (46% or 57,884) of poisonings. Unintentional poisonings remained the predominant number of exposures at eighty-one percent (81% or 102,357). The majority of exposures (68%) were managed on-site, without the need for additional health care intervention.

Data collected for 2003 on site of exposure indicates that ninety percent (90% or 113,638) of these exposures occurred in the home.

An analysis of the most common substances involved in human exposures and in pediatric human exposures is contained in **Appendix Three.**

MANAGEMENT OF THE SOCIETAL IMPACT OF POISONING

TOXICOSURVEILLANCE

Early Warning System

The Network participates in early warning surveillance by notifying each other of local trends, personal hazards, hazardous material incidents, and product recalls. In addition, the New York State Network shares and reviews this information with centers nationwide through the American Association of Poison Control Centers.

Each center has conducted a survey of hospitals, their services and their antidote availability.

An example of how the early warning system can be effective in detecting sentinel cases:

- A 74-year-old male presented to the Emergency Department (ED) after ingesting a free sample of Uroprin (yohimbe) that he received in the mail. On presentation to the ED, he was found to be clammy and complained of feeling dizzy. The poison center was contacted and advised the treating physician to observe the patient (in the ED) for 8 hours and discharged once his symptoms had resolved.
- A 75-year-old male presented to another Emergency Department (ED) after ingesting a free sample of Uroprin (yohimbe) that he received in the mail. On presentation to the ED, he was found to have a heart rate of 134 beats per minute, and a blood pressure of 186/110 mmHg. His chief complaint was of feeling dizzy. The poison center was contacted and recommended that the patient receive general supportive care and was admitted overnight for observation.

Both of these cases occurred on the same day but were reported from two different hospitals in two different counties. The poison center staff noticed a trend and immediately advised their director who put a call into the distributor of the product Uroprin. It was discovered that a massive nationwide mailing of these free samples of Uroprin had been conducted over the previous week. The poison center staff alerted the New York State Department of Health, the other New York State poison centers within the Network, and the American Association of Poison Control Centers (AAPCC) national office regarding these exposures and mailings.

Toxic Exposure Surveillance System (TESS)

Administered by the American Association of Poison Control Centers (AAPCC), all poison centers nationwide contribute to the TESS database. During 2001, the AAPCC initiated an auto upload program that immediately collects and categorizes all cases entered into each poison center's database. The data is immediately analyzed and monitored for trends in poisoning as well as chemical and/or bioterroristic events. In case of a recognized sentinel event, the AAPCC will notify the local poison center that, in turn, will notify the proper governmental agencies.

Other information or feedback that is recovered can be used to monitor product safety and can provide an early opportunity to consider product reformulation or repackaging. The information collected by the AAPCC is distributed to poison centers, governmental agencies and industry.

An example of the value of this database was shown during the events of September 11, 2001. At that time, portions of the state (and country) were activated on the auto-upload system. The AAPCC was able to track Anthrax calls throughout the nation and observe for additional small pockets of cases. In addition, the poison centers in New York State monitor both pesticide exposures and West Nile Virus, and the data collected is distributed to the New York State Pesticide Agency. The auto upload feature continues to assist in monitoring for sentinel cases, such as food poisoning and carbon monoxide.

The following is an example of a case that highlights the benefit of the auto upload feature:

Case: A local emergency department called the poison center with a patient who was suffering form a heroin overdose. The patient's status, included vital signs, were collected and entered into the Tozicall database. It was discovered that this particular patient had similar signs and symptoms as other cases found in New Jersey and Pennsylvania. At its conclusion, it was determined that a heroin supply was adulterated with a pharmaceutical and was potentially lethal to the user. We were able to work with local Health Departments and put out alerts to various emergency departments to prevent further morbidity and mortality.

911 System

Centers continue to provide training and education to the 911 dispatchers. Protocol stipulates that all 911 calls involving a poison exposure are called into the poison center prior to dispatching an ambulance. With 911 on the line, the centers triage the calls and then determine if the patient needs to be transported. If the patient is unconscious or experiencing life-threatening problems, 911 dispatches an ambulance and the EMTs on the scene contact the poison center for recommendations during transport. If the patient is asymptomatic and no serious effects are expected from the exposure, 911 are advised that a transport is not necessary and the poison center handles the case, including follow-up.

Pesticide Reporting

Each center in the Network reports information on pesticide poisonings to the New York State Department of Health, which maintains a registry that monitors both the acute and chronic effects of pesticide exposure. It investigates occurrences of pesticide poisoning and may perform environmental monitoring to determine the source and circumstances of exposure. Both occupational and environmental incidents are followed. Appropriate acute and long-term interventions (changes in work practice/protective equipment) work to prevent pesticide poisoning.

West Nile Virus (WNV) encephalitis transmission via mosquitoes continued in the greater New York metropolitan area during the summer and fall of 2002, 2003 and 2004. Consistent with prior years, ground and aerial application of pesticides were used to control the adult mosquito population. As concerns regarding possible public health effects among individuals who may have been exposed to these pesticides continued, the New York State Pesticide Poisoning Registry (NYSPPR) evaluated all calls regarding pesticide exposures received by poison control centers during the period of active spraying.

Hazardous Materials

Centers work with local emergency planning boards and emergency services to assist and advise during toxic spills, fires and hazardous incidents. They also participate in disaster drills conducted by host institutions.

Bioterrorism

Since the events of September 11, 2001, the Network has continued to train health care professionals, governmental, and uniformed agencies regarding biological and chemical agents. In addition, the Network has also focused on the development and distribution of public education within the communities served. Network members were also involved in:
the development of decontamination rooms and hospital medical response systems in their local areas;

- serving as advisors to local and State health Bioterrorism Task Forces;
- assisting in the Metropolitan Medical Response System; and
- participating in the enhanced health Alert Network.
- providing Bioterrorism programs to various Health Department agencies, school groups and community organizations.

Since poison centers are considered sentinel units, the members of the Network assist local health departments in bioterrorism surveillance, including daily reports. Training, including mock drills in coordination with other governmental and uniformed agencies, has been ongoing.

Quality Assurance

Centers conduct quality assurance activities on a daily basis. Direct assessment occurs with peer review of active cases and supervisory review of active, random and high-risk cases. Feedback is provided and instruction given at staff meetings to address recurring problems and unusual poisonings, as well as review of protocols and guidelines. In addition, centers conduct periodic satisfaction surveys, hospital services and antidote availability. Fatalities are reviewed and discussed and abstracts written for submission to the national database. Staff receive periodic evaluation and skills assessment for competency.

PUBLIC EDUCATION AND AWARENESS

The Network strives to offer a variety of outreach programs throughout the state in an effort to instruct the public in poison prevention and to create an awareness of the services of poison centers.

Various education programs have been designed and developed for the general public targeting specific age groups and are provided in different areas of the state. Examples of the types of programs provided are identified in **Appendix Four**.

An example of how the Public Educators utilize poison center data and bring an educational service to the community is described below:

A review of the ten most common calls to the poison center revealed that carbon monoxide (CO) exposures were a significant cause of morbidity and mortality in the community. When combined with other sources, this study helped facilitate the enactment of a law requiring CO detectors within the city limits. The Community Educators developed a community outreach program on CO. However, it was realized that low-income (home owning) families might not have the ability to purchase CO detectors. Using Geographical Information System (GIS) software, the educators determined areas of low call volume where most homes were one to two family units. A program was then created where attendees were educated on both CO and CO detectors. In addition, free CO detectors were distributed and follow up calls one month later charted the progress.

A statistical summary of public education outreach efforts is presented below:

Public Education Statistics

CATEGORY	**2002**	**2003**	**2004**
Literature Distributed			
Brochures	441,667	417,397	445,525
Telephone Stickers	756,544	756,082	748,538
Magnets	58,138	51,974	52,467
Newsletters	21,200	22,500	22,058
Posters	3,836	6,068	4,250
Videos	186	215	358
Curriculum	1,417	1,323	1,157
Other	79,245	34,746	56,853
Programs Conducted			
Health Fairs	209	40	40
Seminars	50	20	3
Presentations	370	602	543
Media			
News Releases	37	6	9
Public Service Announcements	4	2	3
TV and Radio Interviews	56	21	5
Other:			
Outdoor Ad	145	125	1,726

INHALANT AWARENESS PROGRAMS

STUDENT PROGRAM – Reintroduces the concept of poison prevention and focuses specifically on poisons in their environment including inhalants. Topics include recognition of inhalants, short and long term effects, sudden sniffers death and how to help a friend who is using inhalants.

PARENT PROGRAM – This program educates parents and other adults about common household products being abused by children. This program teaches the who, what, why and when of inhalant use, including signs and symptoms, short and long term effects, sudden sniffers death, and what to do if you find your child using an inhalant.

Collaboration with Community Groups

Poison control centers collaborate with the following community groups:

Collaborations

American Association of Retired Persons
American Red Cross
BOCES
Boy & Girl Scouts
Child care councils
Community action organizations
Community health coalitions
Cornell Cooperative Extensions
Day care centers
Department of Transportation
Elementary, middle and high schools
Emergency medical services
Fire departments
Grocery Stores
Head Start
Health departments
Hospitals
Human service organizations
Junior League
Literacy organizations
Migrant health centers
National Safe Kids
Office of the Aging
Parenting programs
Pharmacies
Public libraries
Religious organizations
School nurses
Senior centers
Social service agencies
Volunteers/auxiliaries at hospitals
Women, Infant and Children (WIC)
YMCA/YWCA

Special Populations

Children under five
Parent/caregivers
Seniors
Foster care
Migrant workers
Day care/preschool workers
Developmentally challenged
Hearing Impaired
Pregnant teens
Adult learners
Diverse populations and cultures

Poison Prevention Week

National poison prevention week is recognized during the third full week in March. Centers conduct special activities throughout the month.

2002 through 2004 Highlights:

Activated Charcoal Educational Campaign
Poster, Essay and Coloring Contests
Special News Releases, Public Service Announcements and Proclamations programs
Chain and Neighborhood Pharmacy literature distribution and advertisement programs
Inhalant Educational Program
Presentations and information tables at multiple WIC sites
Lead Conference
Presentations and information tables for New York City libraries

TOXICOLOGY TRAINING

In order to stay abreast of changes in the field of toxicology, all staff at the poison centers participate in toxicology symposia, in-service training, electronic continuing education, conferences and meetings. In turn, staff of the poison center teach pharmacy and nursing students, ambulance personnel (EMT), physicians and physician assistants.

Appendix Five includes a description of these programs.

Health Professional Training	**2002**	**2003**	**2004**
Pharmacy Students	60	72	72
Physicians	610	581	581
Physicians Assistants			
Nurses	37	24	24
Staff			
Conference	55	10	10
Lectures	277	268	273
In Service	215	202	205
Case Reviews/ Grand Rounds/ Journal Club	611	607	621
Electronic Continuing Education	6	5	5

RESEARCH AND PUBLICATIONS

The Network conducts research, studies, case reviews, quality assurance and presents and/or publishes its findings.

Appendix Six includes examples of research conducted and articles published, and abstracts presented at annual meetings for 2002 thorough 2004.

Research and Publications	**2002**	**2003**	**2004**
Research Projects	2	3	1
Book/Book Chapters	65	34	13
Journal Articles	46	45	36
Abstracts Presented	33	46	41
Newsletters	13	11	10

APPENDIX ONE

MANAGEMENT INFORMATION

FOR

THE POISON CONTROL CENTERS IN

NEW YORK STATE

1-800-222-1222

Western New York Regional Poison Center

Location:
Children's Hospital of Buffalo
219 Bryant Street
Buffalo, New York 14222

Population Served: 1.6 Million

Counties Served: Allegany Cattaraugus, Chautauqua, Erie, Genesee, Niagara, Orleans, Wyoming

Medical Director:
Prashant Joshi, MD, FRCPC

Poison Educator:
Rhonda Collins, RN, CSPI

Poison Information Specialists:
5.5 FTE's

Telephone Numbers:
Emergency TOLL-FREE
1-800-222-1222

Poison Center:
(716) 878-7654

Website Address:
www.wnypoison.org

Finger Lakes Regional Poison and Drug Information Center

Location:
Strong Memorial Hospital
University of Rochester
601 Elmwood Avenue
P.O. Box 321
Rochester, New York 14642

Population Served: 1.4 Million

Counties Served: Cayuga, Monroe, Livingston, Chemung, Steuben, Schuyler, Seneca, Wayne, Yates, Ontario ,Tioga, Tompkins,

Medical Director:
Ruth A. Lawrence, MD

Associate Medical and Managing Director :
John G. Benitez, MD, M.P.H.

Health Educator:
Nancy Warburton, R.N., BSN

Secretary/Clerical:
Kristine Mossgraber

Drug Information Coordinator:
Sharon Ternullo, Pharm.D.

Poison Information Specialists:
7.0 FTE's

Telephone Numbers:
Emergency TOLL-FREE
1-800-222-1222
Office/Administrative:
(585) 273-4155
Public Educator:
(585) 273-4621
TTY: (585) 273-3854

Website Address:
www.fingerlakespoison.org
E-Mail Address:
John.benitez.@
rochester.edu

Central New York Regional Poison Control Center

Location:
University Hospital,
Upstate Medical University
SUNY Health Science Center
750 East Adams Street
Syracuse, New York 13210

Population Served: 4.4 Million

Counties Served: Broome, Herkimer, Lewis, Jefferson, Oneida, Onondaga, Chenango, Oswego, Cortland, Madison, St. Lawrence, Albany*, Clinton*, Columbia*, Delaware*, Dutchess*, Essex*, Franklin*, Fulton*, Greene*, Hamilton*, Montgomery*, Orange*, Otsego*, Putnam*, Rensselaer*, Rockland*, Saratoga*, Schenectady*, Schoharie*, Sullivan*, Ulster*, Warren*, and Washington*.

Medical Director:
Richard Cantor, MD
Managing Director:
Christine Stork, Pharm.D., ABAT

Education Coordinator:
Gail Banach, MSEd

Administrative Director:
Michele Caliva, R.N. CSPI

Secretary/Clerical: Lauri Foster

Poison Information Specialists:
10.5 FTE's

Telephone Numbers:
Emergency TOLL-FREE
1-800-222-1222
Office/Administrative:
(315) 464-7078
Public Educator:
(315) 464-5423

Website Address: cnypoison.org

Hudson Valley Poison Education Center **Location:** **Phelps Memorial Hospital Center** **701 North Broadway** **Sleepy Hollow, New York 10591** **Population Served: 3.6 Million** **Counties Served for Education Services: Albany, Clinton, Columbia, Delaware, Dutchess, Essex, Franklin, Fulton, Greene, Hamilton, Montgomery, Orange, Otsego, Putnam, Rensselaer, Rockland, Saratoga, Schenectady, Schoharie, Sullivan, Ulster, Warren, Washington, and Westchester** **Medical Director:** **Emil Nigro, MD, FACEP** **Administrative Director:** **Bruce B. Davidow** **Program Manager, Education and Communications:** **Jonathan Weinstein, MD** **Telephone Numbers:** **Emergency TOLL-FREE** **1-800-222-1222** **Office/Administrative:** **(914) 366-3577** **Public Educator:** **(914) 366-3675** **TTY: 1-800-421-1220** **Website Address:** **www.PoisonEducation.org** **E-Mail Address:** **PoisonEducation @yahoo.com**	**Long Island Regional Poison and Drug Information Center** **Location:** **Winthrop University Hospital** **107 Mineola Boulevard** **2nd Floor** **Mineola, New York 11501** **Population Served: 3.7 Million** **Counties Served: Nassau, Suffolk, Westchester*** **Medical Director:** **Micheal McGuigan, MD** **Managing Director:** **Thomas Caraccio, Pharm.D.,ABAT** **Education Coordinator:** **William Gaffney** **Secretary/Clerical:** **Dennis Jao/Pat Palazzo** **Poison Information Specialists:** **10.6 FTE's** **Telephone Numbers:** **Emergency TOLL-FREE** **1-800-222-1222** **Office/Administrative:** **(516) 663-4574** **Public Educator: (516) 663-2650 or (516) 663-2592** **TTY: Nassau (516) 747-3323** **TTY: Suffolk (516) 925-8811** **Website Address: lirpdic.org/** **E-Mail Address:** **Tcaracci@winthrop.org** **or** **McGuigan@wintrhrop.org**	**New York City Regional Poison Control Center** **Location:** **New York City Dept. of Health & Mental Hygiene** **455 First Avenue, Room 123** **New York, New York 10016** **Population Served: 8 Million** **Counties Served: Bronx, Brooklyn, Queens, Staten Island and Manhattan** **Medical Director:** **Lewis Goldfrank, MD** **Director:** **Robert S. Hoffman, MD** **Managing Director:** **Maria Mercurio-Zappala, RPh., M.S., CSPI, DABAT** **Education Coordinator:** **Lauren Schwartz, M.P.H.** **Maryann Howland, Pharm.D.** **Information Services Coordinator:** **Carmen Paez** **Poison Information Specialists:** **14.0 FTE's** **Telephone Numbers:** **Emergency TOLL-FREE** **1-800-222-1222** **Office/Administrative:** **(212) 447-2666 or 477-8152** **Public Educator: (212) 447-2599** **TTY: (212) 689-9014** **Website Address:** **www.nyc.gov/html/doh/html/poison/poison.shtml**

***Telephone Inquiries Only. Educational Programs provided by Hudson Valley Poison Education Center.**

APPENDIX TWO

GRAPHIC PRESENTATION

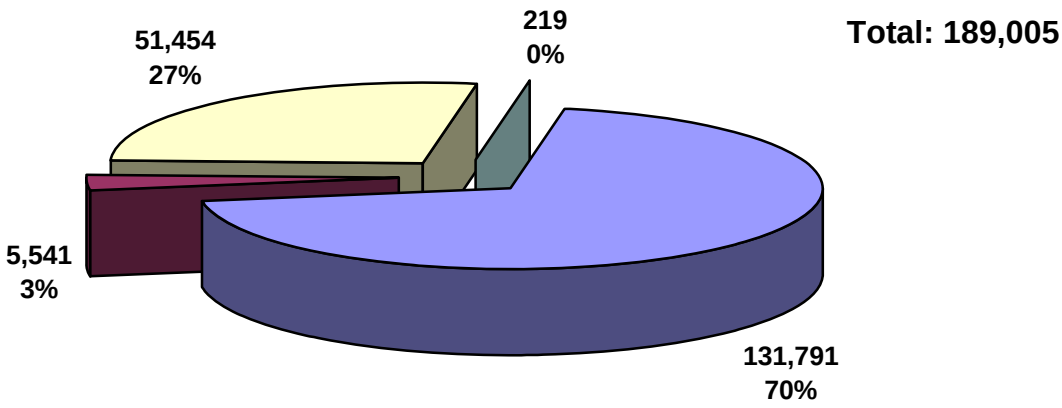
OF

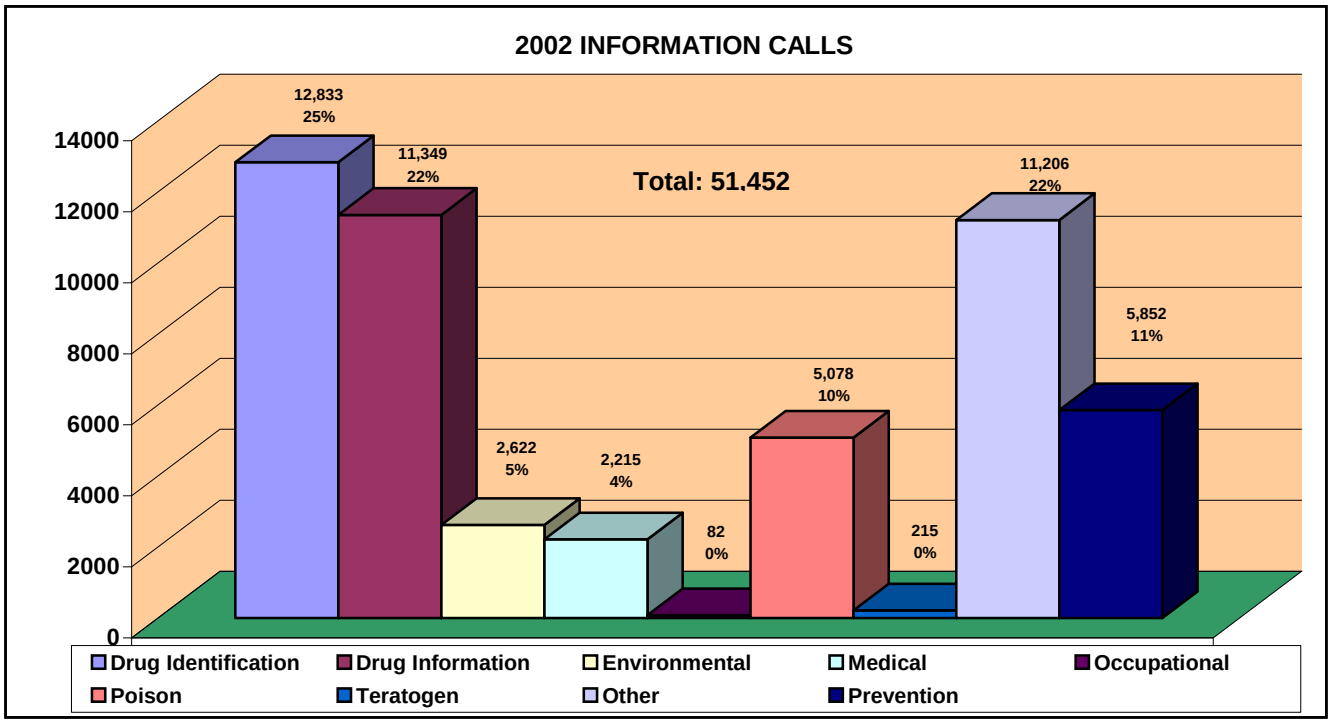
STATISTICAL INFORMATION

2002 - 2004

2002 – REPORT

2002 TOTAL CALLS





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Environmental: Questions involving contamination of air, water or soil including disposal of chemicals, potential danger of treatments by lawn care or exterminators.

Medical: Questions not related to poisonings.

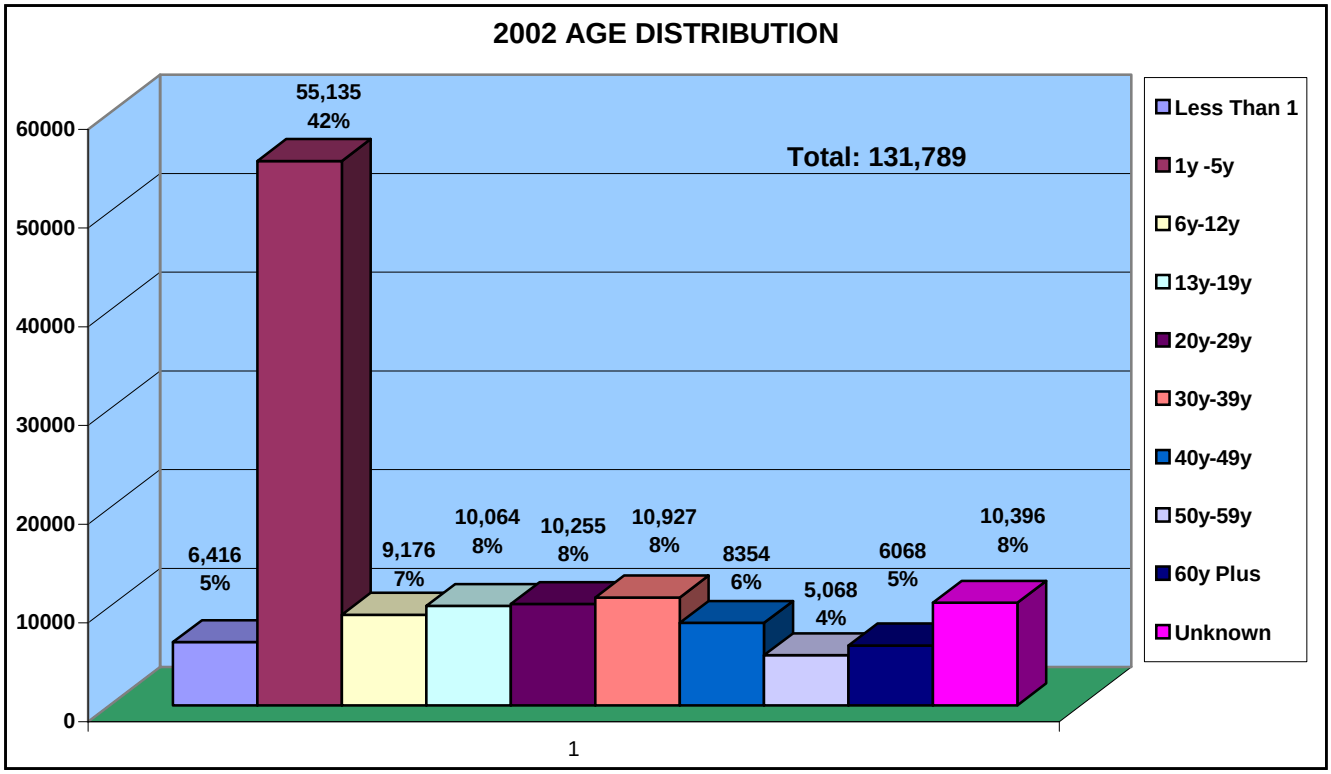
Occupational: Questions about potential job related exposures.

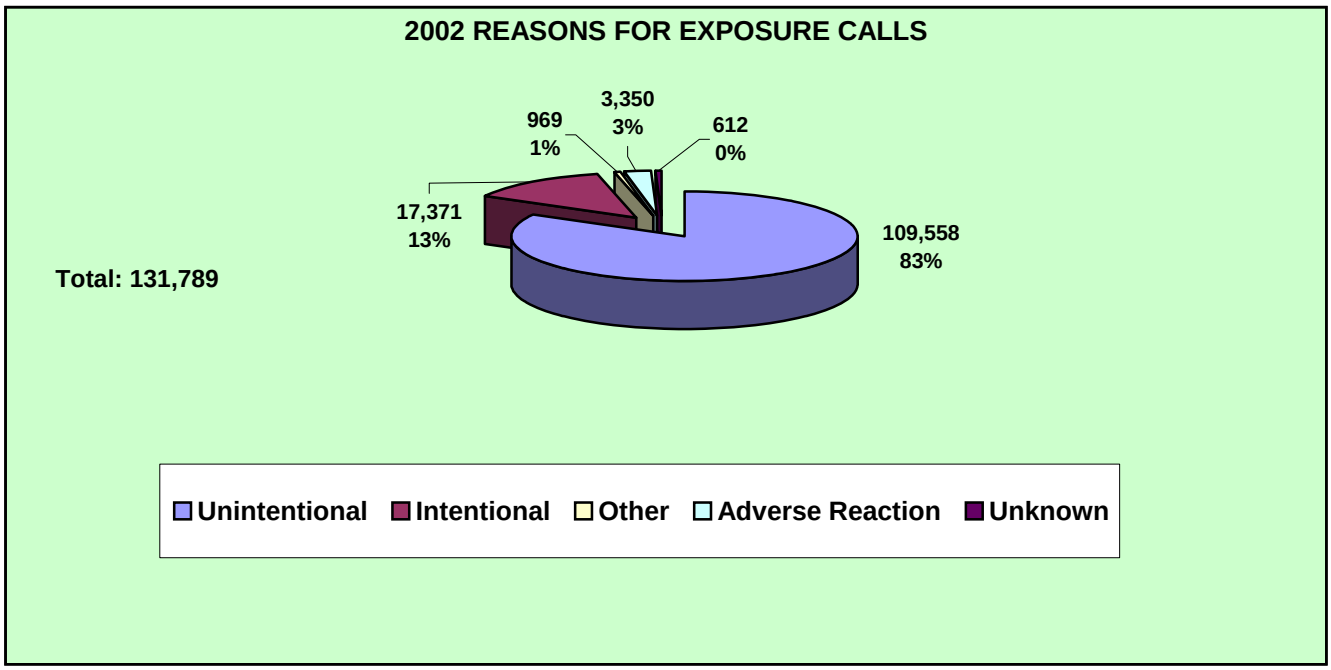
Poison: Questions regarding drugs and substance abuse, unconsumed food that may be spoiled or contaminated, safe food handling, mutagenicity, carcinogenicity, or toxicity of a substance.

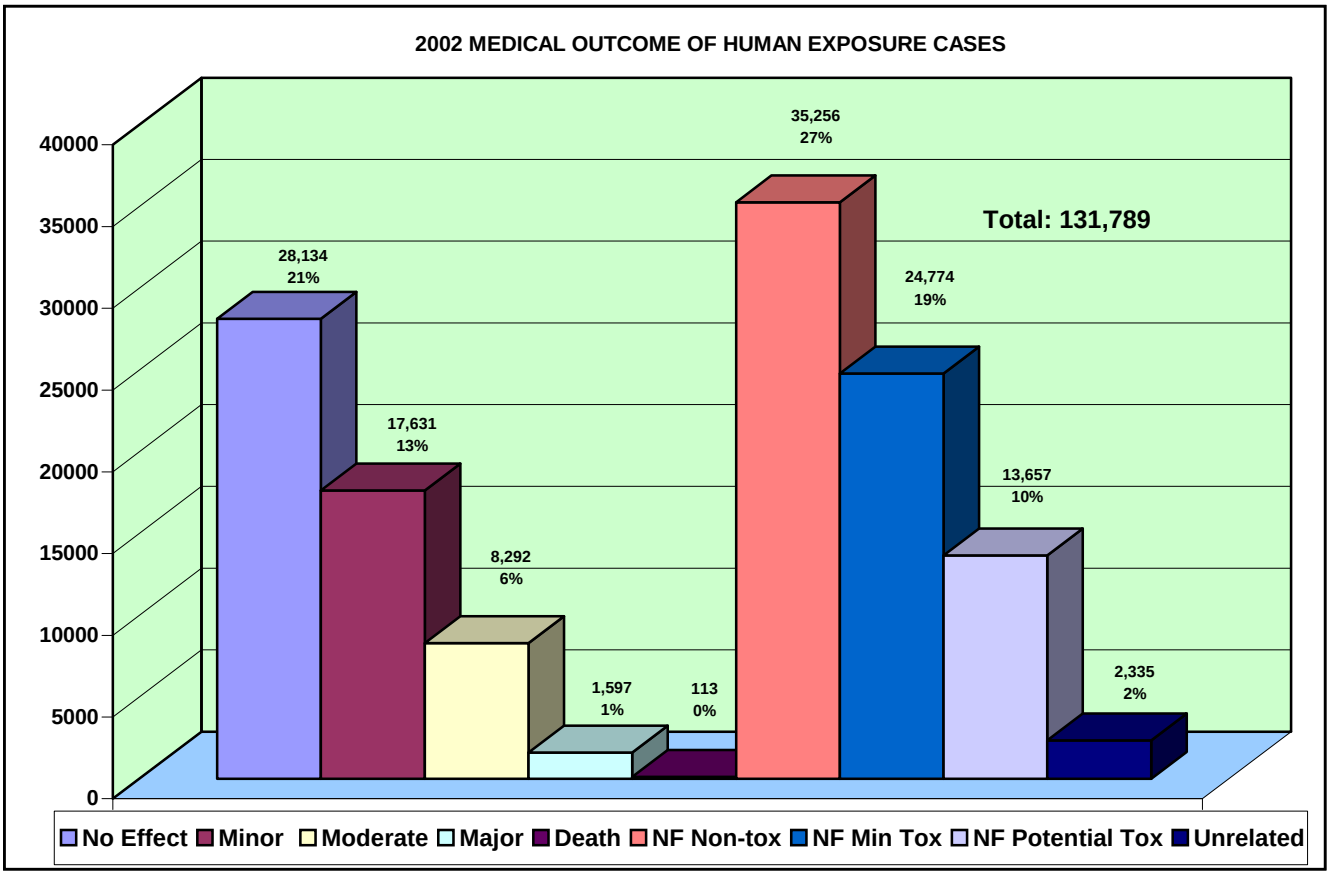
Prevention/Safety: Questions regarding product safety, poison prevention, requests for literature.

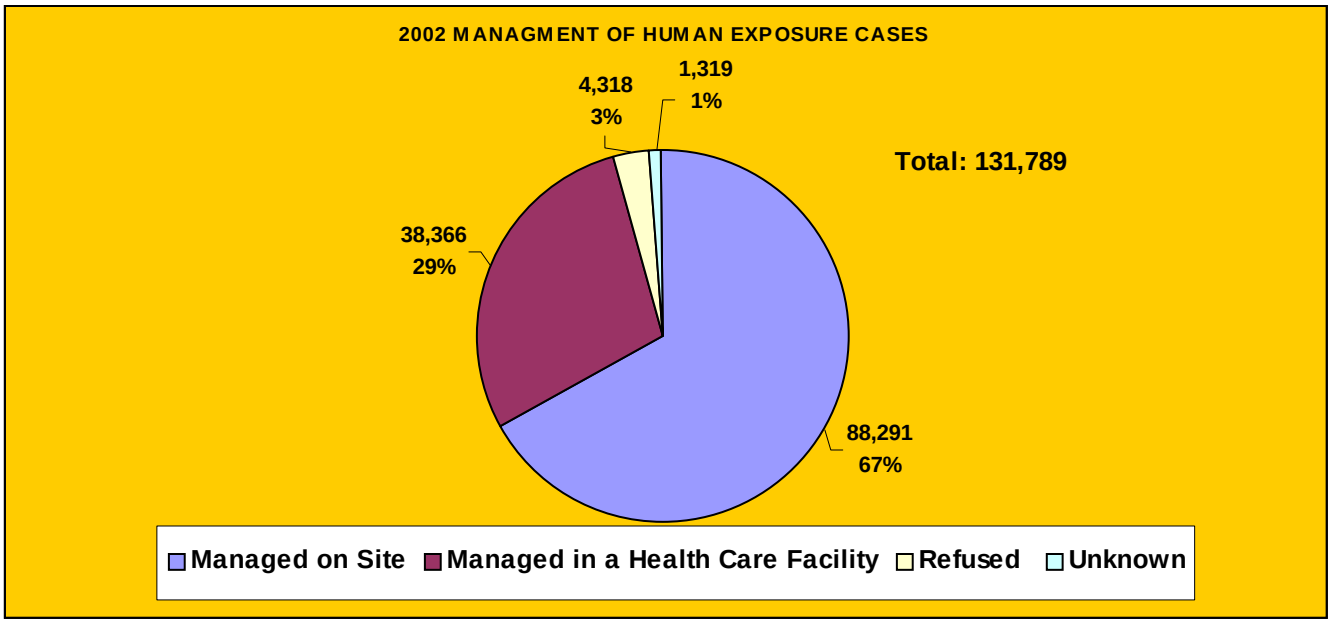
Teratogenicity: Questions regarding fetal effects of drugs or chemicals.

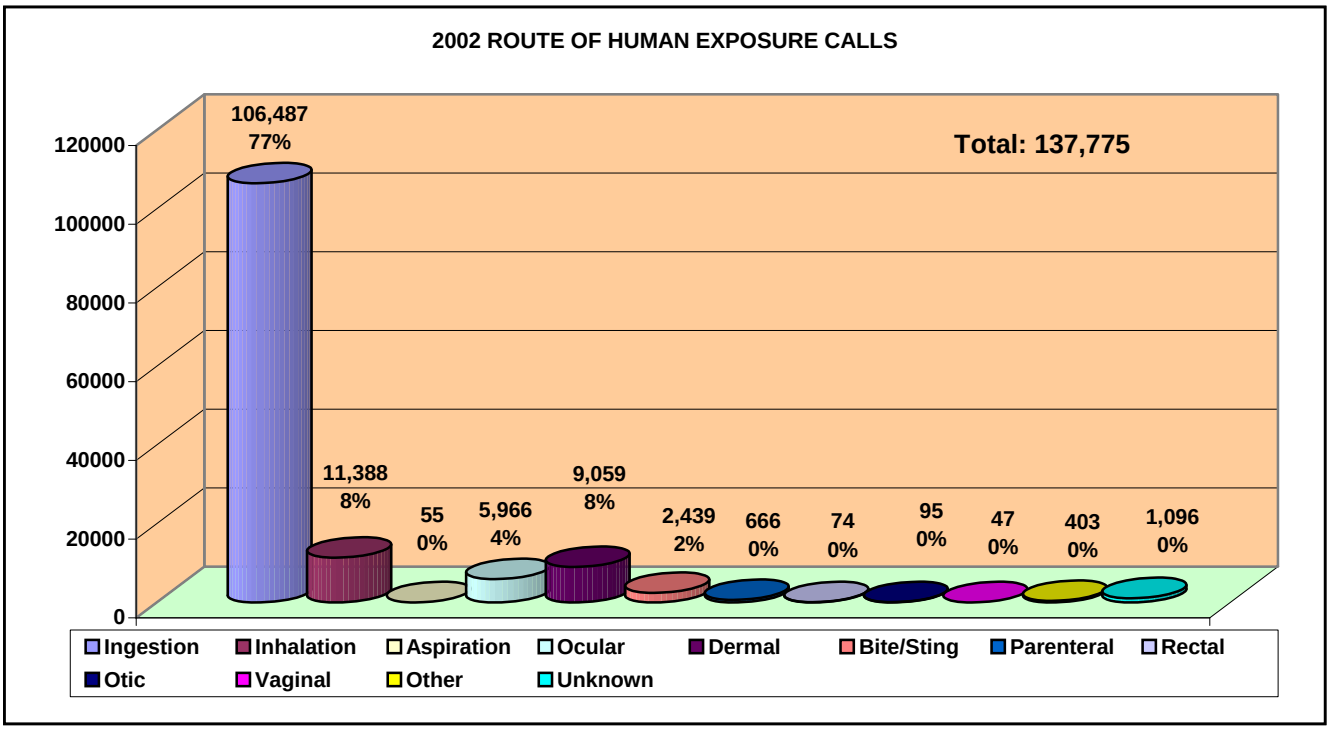
Other: Requests for lectures or media interviews, checking accuracy of the poison center telephone number or any other pertinent questions not included above.

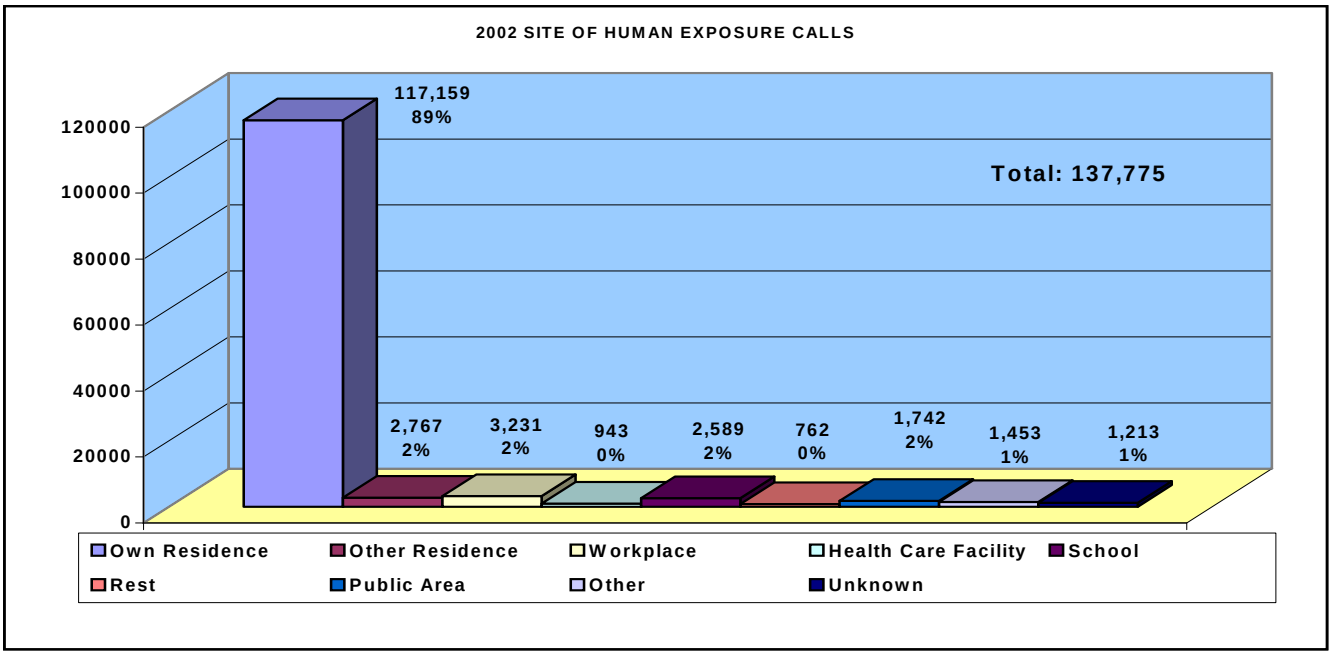

2002 AGE DISTRIBUTION
60000
50000
40000
30000
20000
10000
0
55,135
42%
Total: 131,789
6,416
5%
9,176
7%
10,064
8%
10,255
8%
10,927
8%
8354
6%
5,068
4%
6068
5%
10,396
8%
1
Less Than 1
1y -5y
6y-12y
13y-19y
20y-29y
30y-39y
40y-49y
50y-59y
60y Plus
Unknown


2002 REASONS FOR EXPOSURE CALLS
Total: 131,789
969
1%
3,350
3%
612
0%
17,371
13%
109,558
83%
Unintentional
Intentional
Other
Adverse Reaction
Unknown

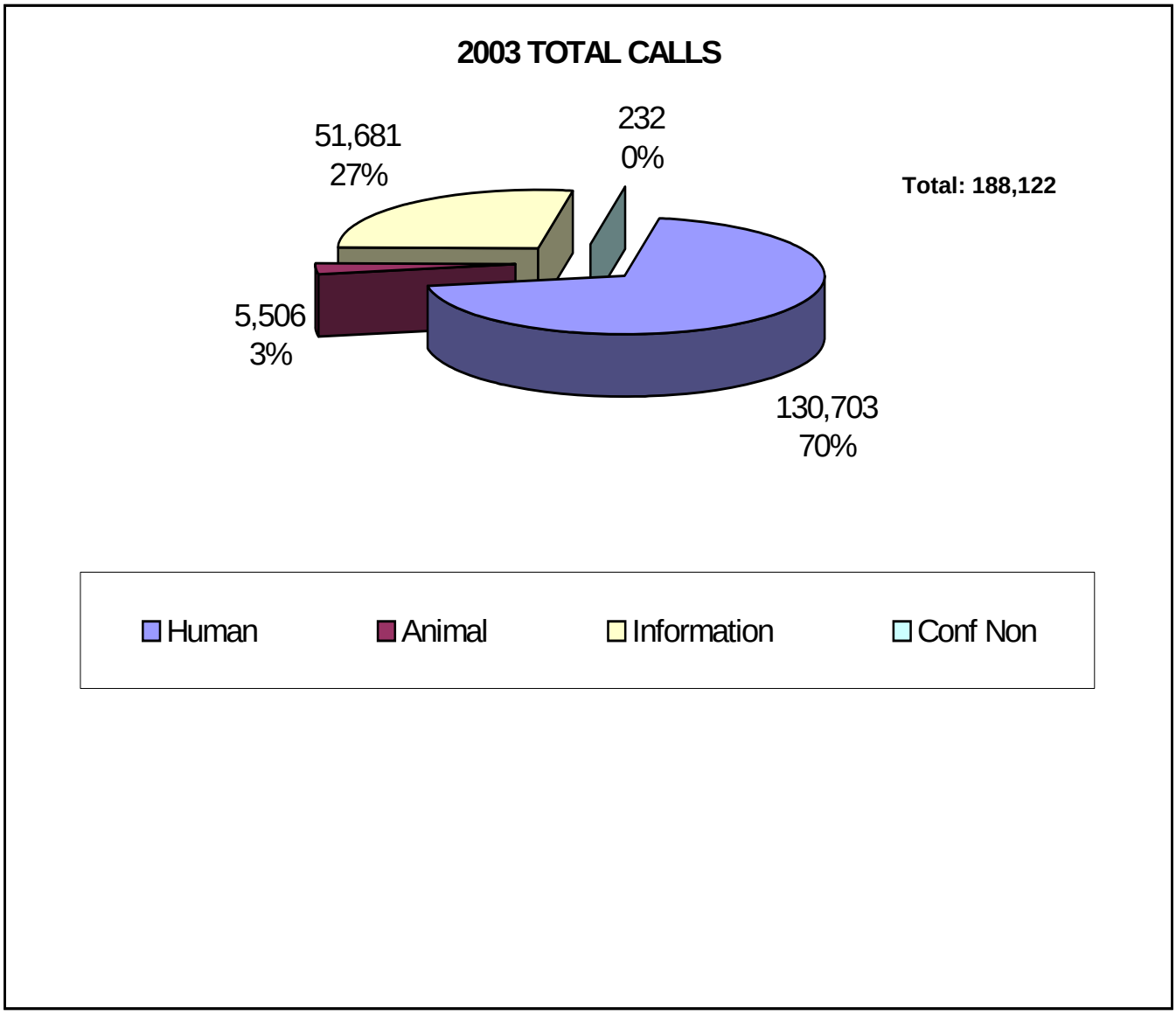

2002 MEDICAL OUTCOME OF HUMAN EXPOSURE CASES
40000
35000
30000
25000
20000
15000
10000
5000
0
28,134
21%
17,631
13%
8,292
6%
1,597
1%
113
0%
35,256
27%
24,774
19%
13,657
10%
2,335
2%
Total: 131,789
No Effect
Minor
Moderate
Major
Death
NF Non-tox
NF Min Tox
NF Potential Tox
Unrelated

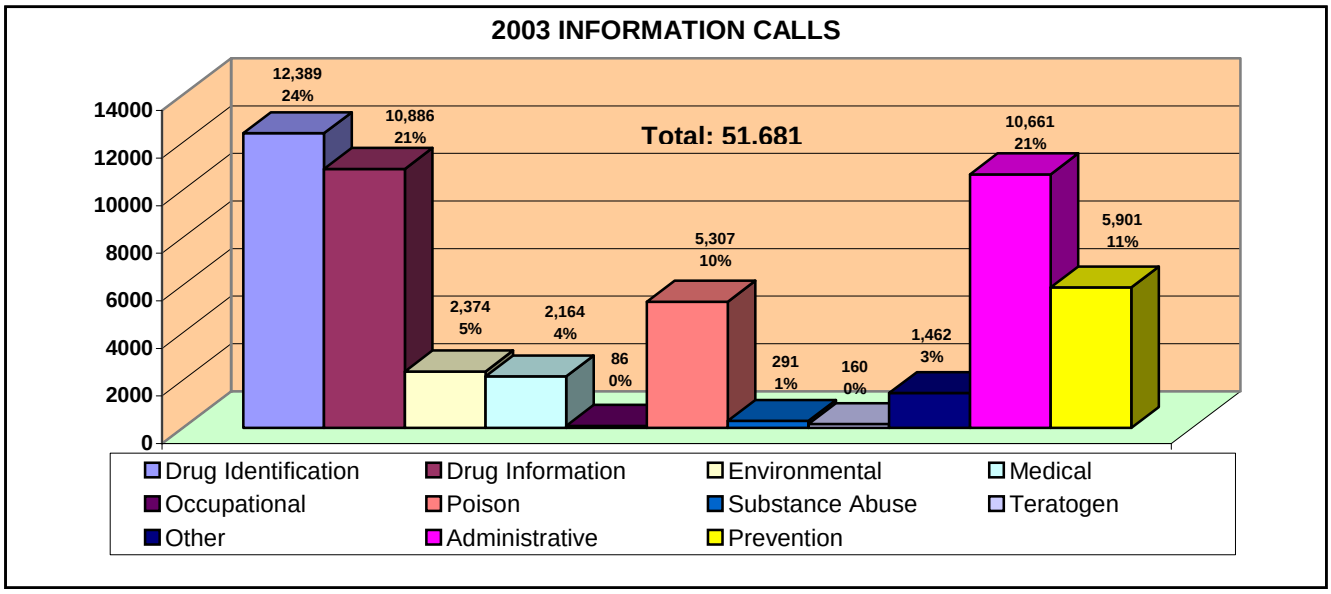

2002 MANAGMENT OF HUMAN EXPOSURE CASES
4,318
3%
1,319
1%
Total: 131,789
38,366
29%
88,291
67%
Managed on Site
Managed in a Health Care Facility
Refused
Unknown


2002 ROUTE OF HUMAN EXPOSURE CALLS
106,487
77%
Total: 137,775
11,388
8%
55
0%
5,966
4%
9,059
8%
2,439
2%
666
0%
74
0%
95
0%
47
0%
403
0%
1,096
0%
120000
100000
80000
60000
40000
20000
0
Ingestion
Inhalation
Aspiration
Ocular
Dermal
Bite/Sting
Parenteral
Rectal
Otic
Vaginal
Other
Unknown


2002 SITE OF HUMAN EXPOSURE CALLS
117,159
89%
Total: 137,775
2,767
2%
3,231
2%
943
0%
2,589
2%
762
0%
1,742
2%
1,453
1%
1,213
1%
120000
100000
80000
60000
40000
20000
0
Own Residence
Other Residence
Workplace
Health Care Facility
School
Rest
Public Area
Other
Unknown

2003 REPORT


2003 TOTAL CALLS
51,681
27%
232
0%
Total: 188,122
5,506
3%
130,703
70%
Human
Animal
Information
Conf Non



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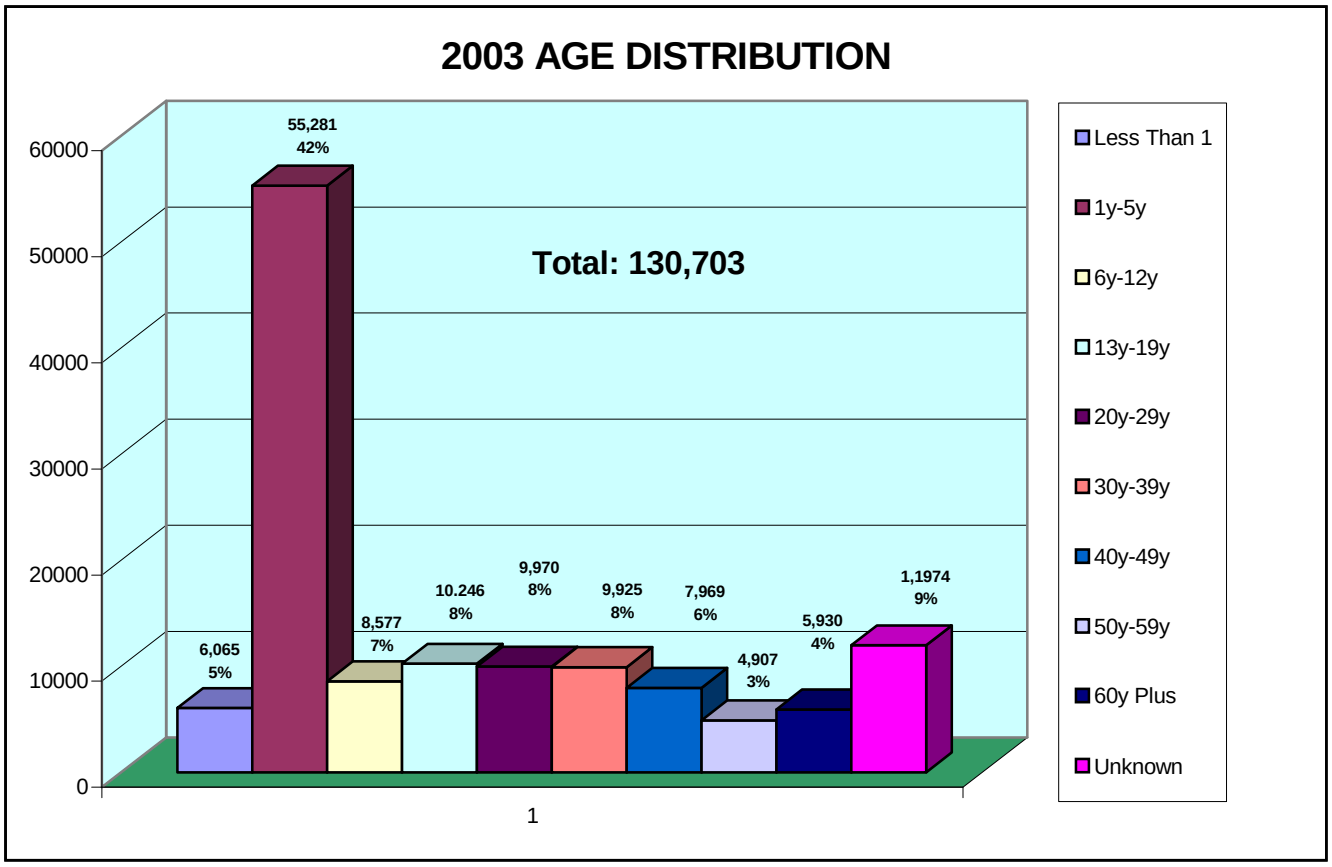
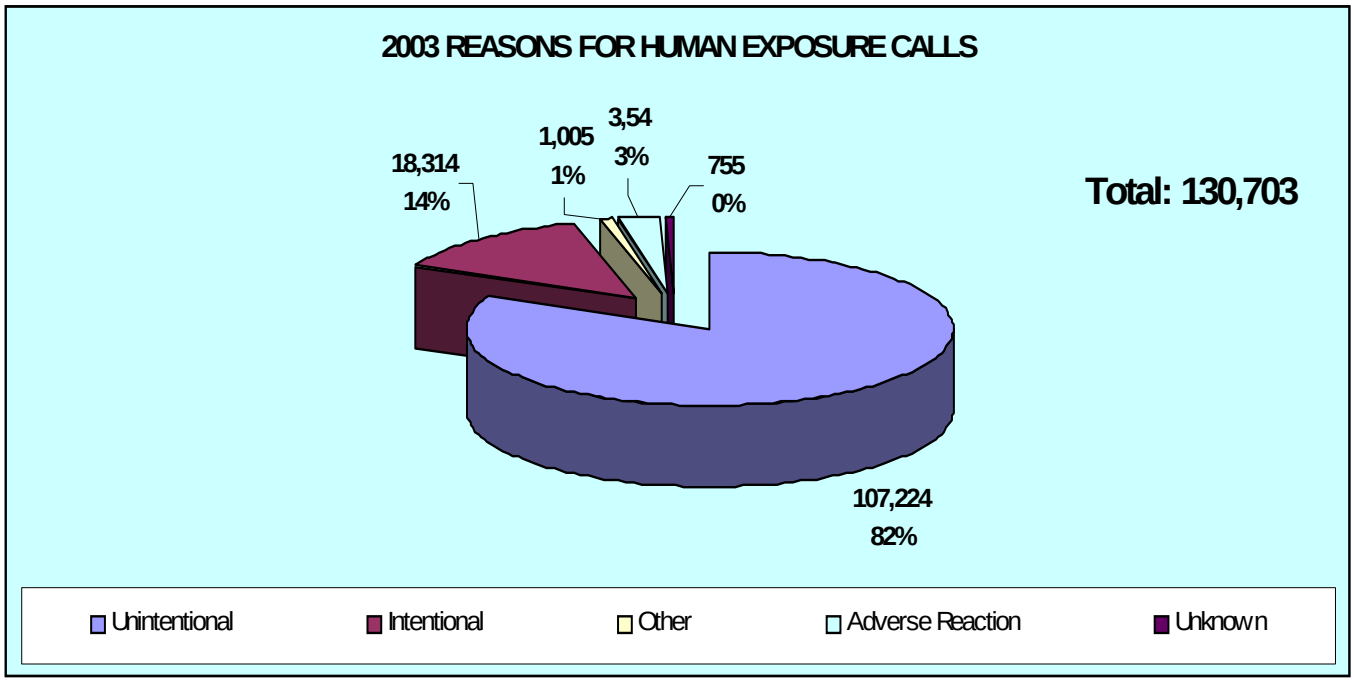
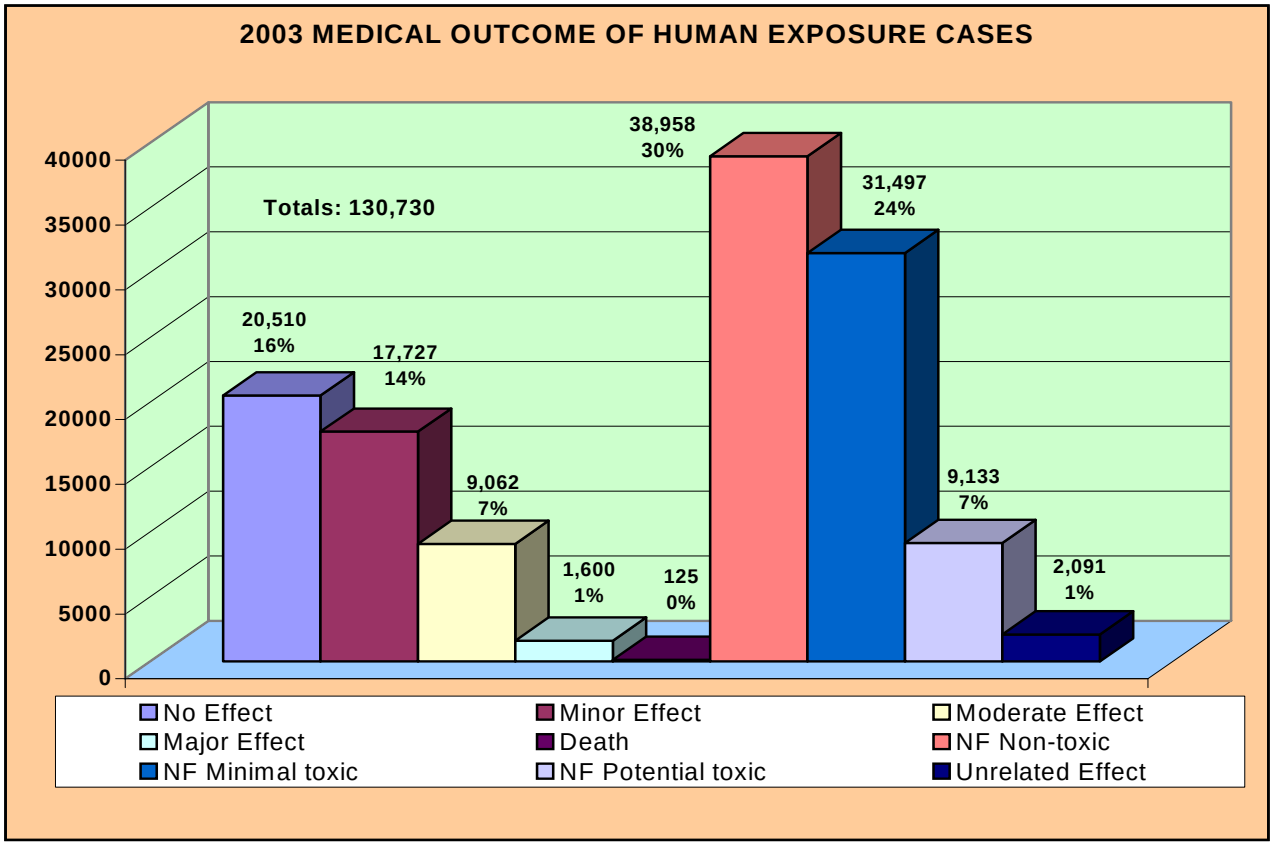
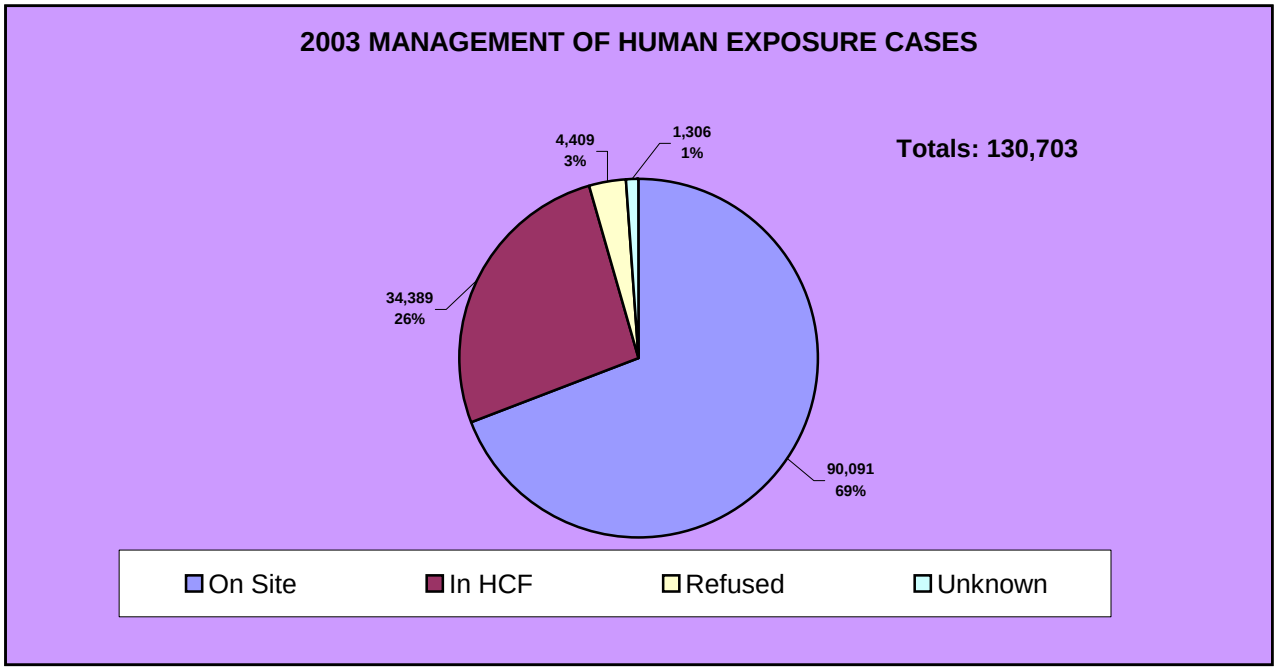
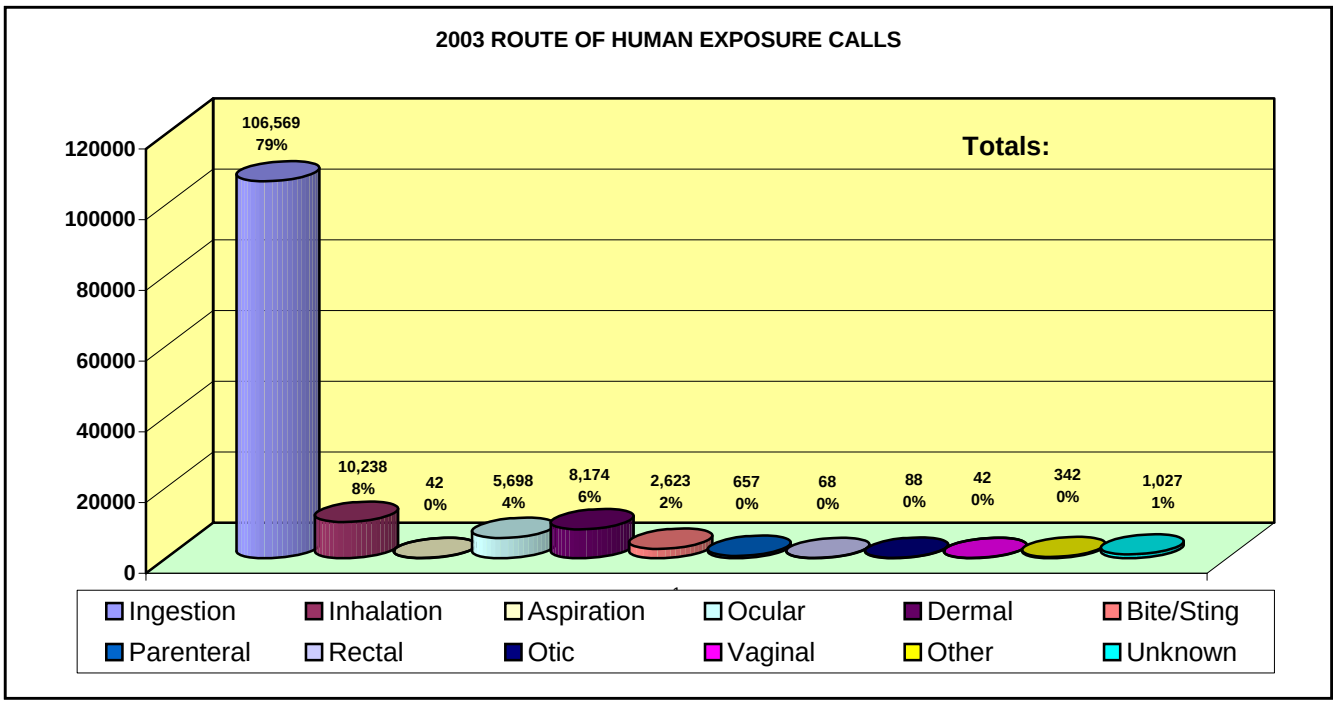
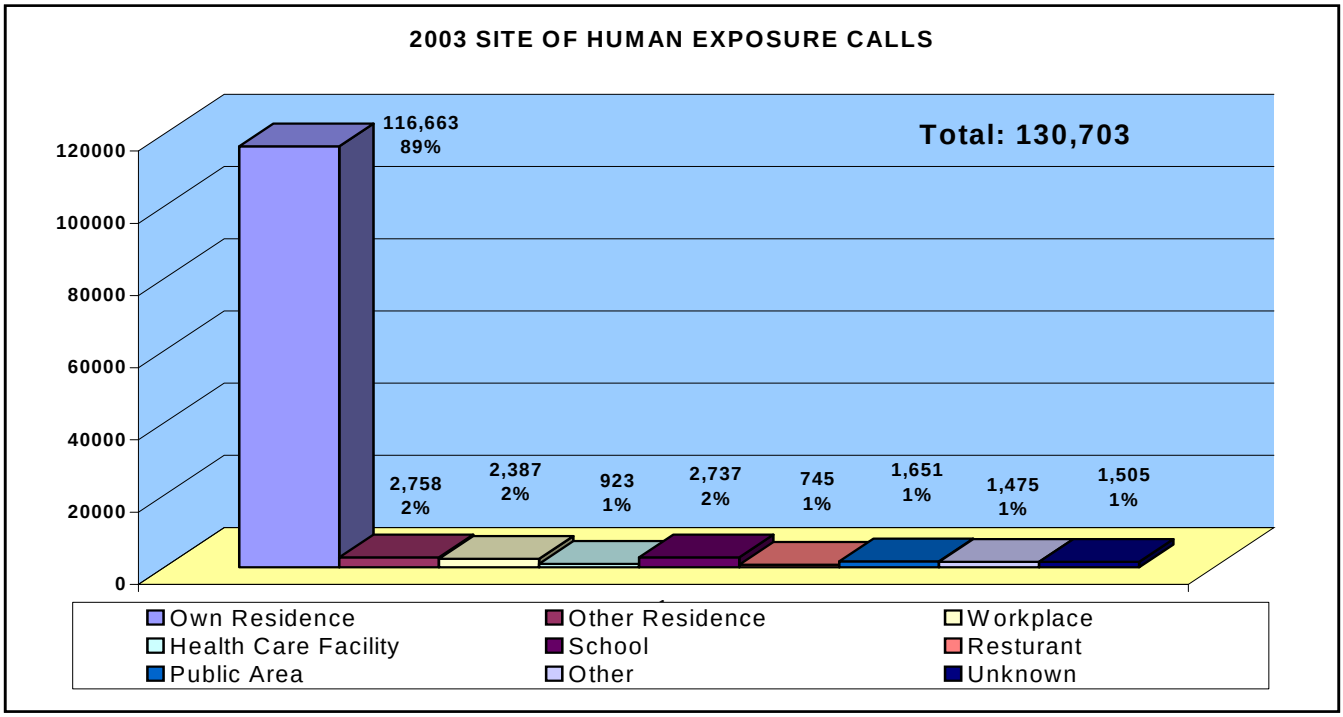

2003 AGE DISTRIBUTION
Total: 130,703
60000
50000
40000
30000
20000
10000
0
55,281
42%
6,065
5%
8,577
7%
10.246
8%
9,970
8%
9,925
8%
7,969
6%
4,907
3%
5,930
4%
1,1974
9%
1
Less Than 1
1y-5y
6y-12y
13y-19y
20y-29y
30y-39y
40y-49y
50y-59y
60y Plus
Unknown


2003 REASONS FOR HUMAN EXPOSURE CALLS
18,314
14%
1,005
1%
3,54
3%
755
0%
107,224
82%
Total: 130,703
Unintentional
Intentional
Other
Adverse Reaction
Unknown


2003 MEDICAL OUTCOME OF HUMAN EXPOSURE CASES
Totals: 130,730
20,510
16%
17,727
14%
9,062
7%
1,600
1%
125
0%
38,958
30%
31,497
24%
9,133
7%
2,091
1%
40000
35000
30000
25000
20000
15000
10000
5000
0
No Effect
Minor Effect
Moderate Effect
Major Effect
Death
NF Non-toxic
NF Minimal toxic
NF Potential toxic
Unrelated Effect

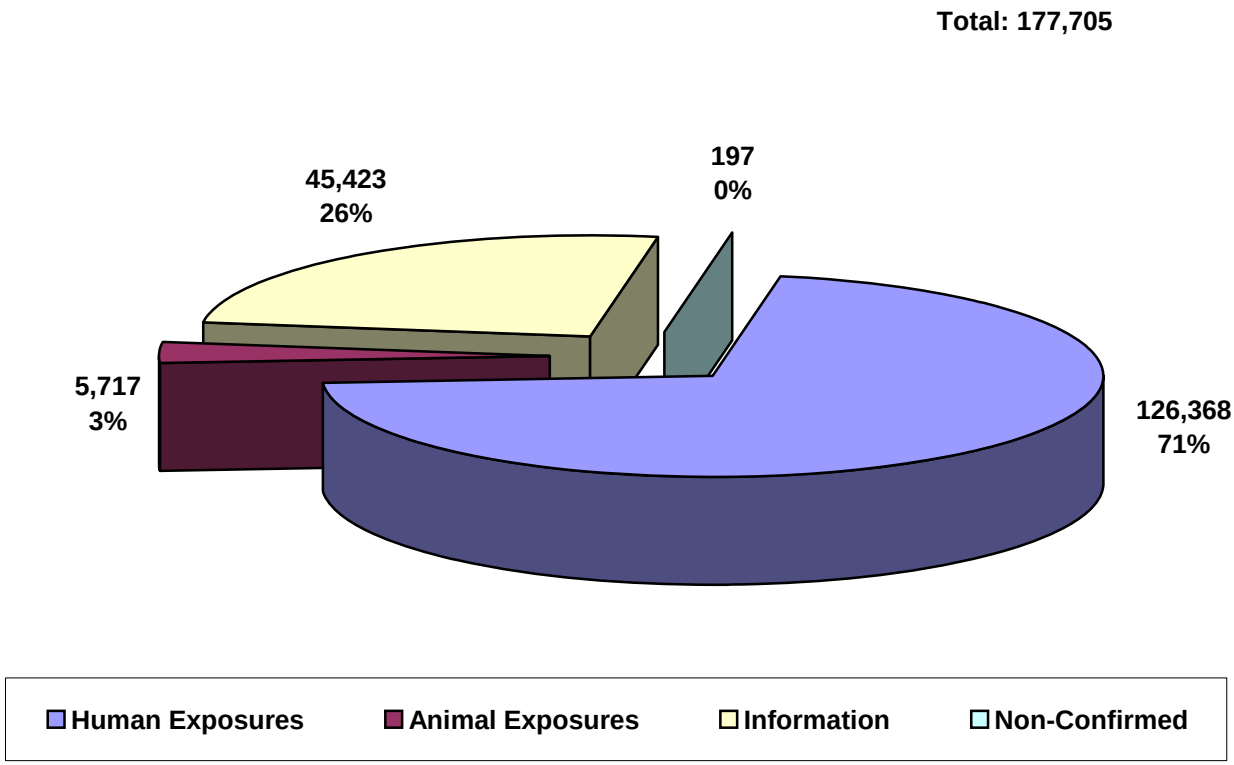

2003 MANAGEMENT OF HUMAN EXPOSURE CASES
Totals: 130,703
4,409
3%
1,306
1%
34,389
26%
90,091
69%
On Site
In HCF
Refused
Unknown

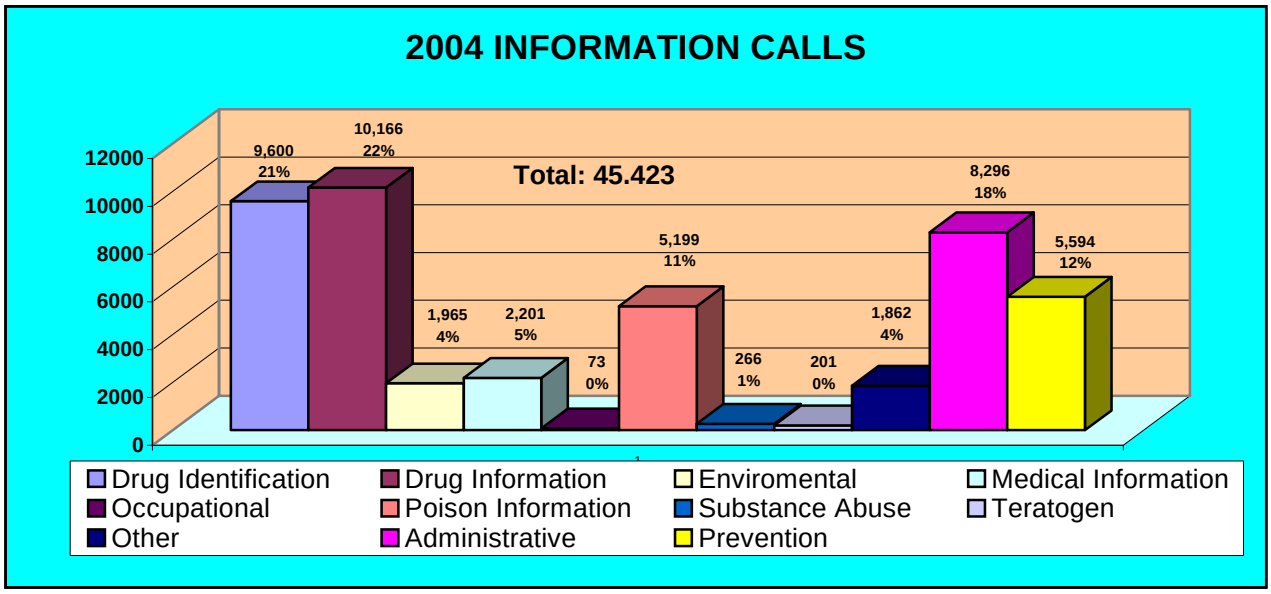

2003 ROUTE OF HUMAN EXPOSURE CALLS
Totals:
106,569
79%
10,238
8%
42
0%
5,698
4%
8,174
6%
2,623
2%
657
0%
68
0%
88
0%
42
0%
342
0%
1,027
1%
120000
100000
80000
60000
40000
20000
0
Ingestion
Inhalation
Aspiration
Ocular
Dermal
Bite/Sting
Parenteral
Rectal
Otic
Vaginal
Other
Unknown


2003 SITE OF HUMAN EXPOSURE CALLS
Total: 130,703
116,663
89%
2,758
2%
2,387
2%
923
1%
2,737
2%
745
1%
1,651
1%
1,475
1%
1,505
1%
120000
100000
80000
60000
40000
20000
0
Own Residence
Other Residence
Workplace
Health Care Facility
School
Resturant
Public Area
Other
Unknown

2004 REPORT

2004 TOTAL CALLS





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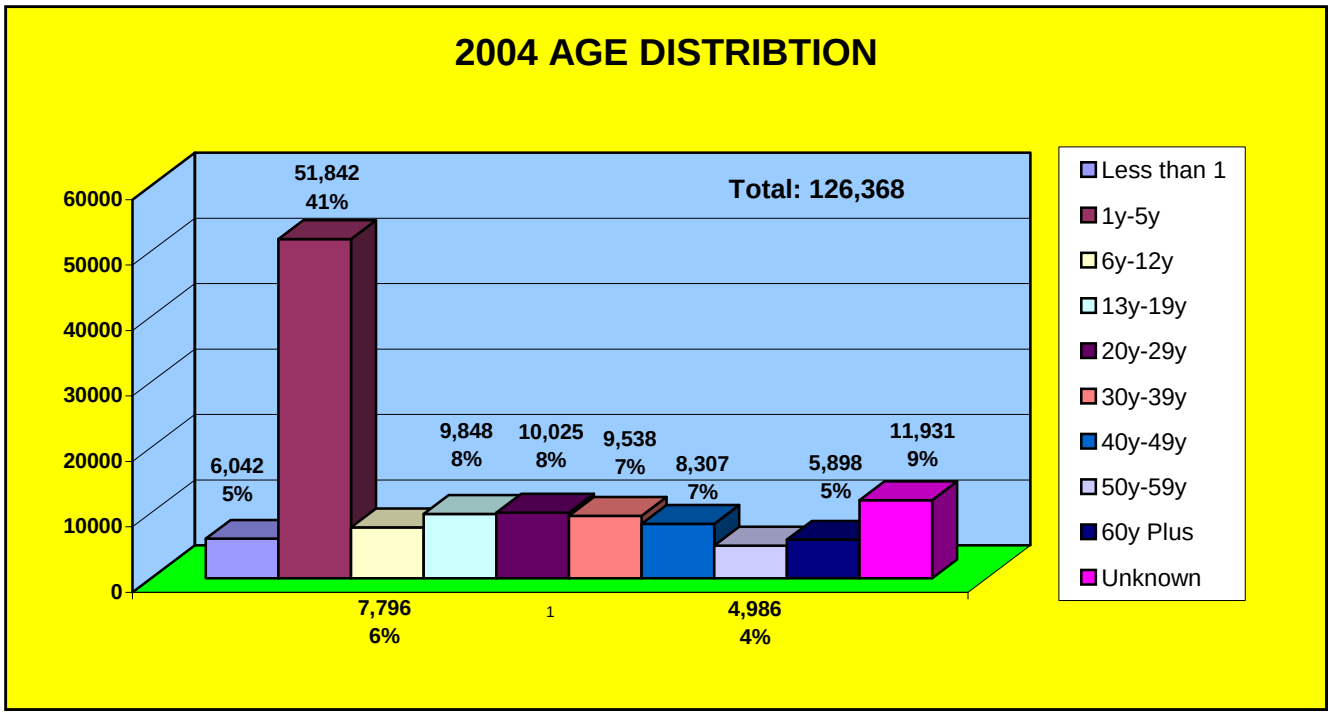
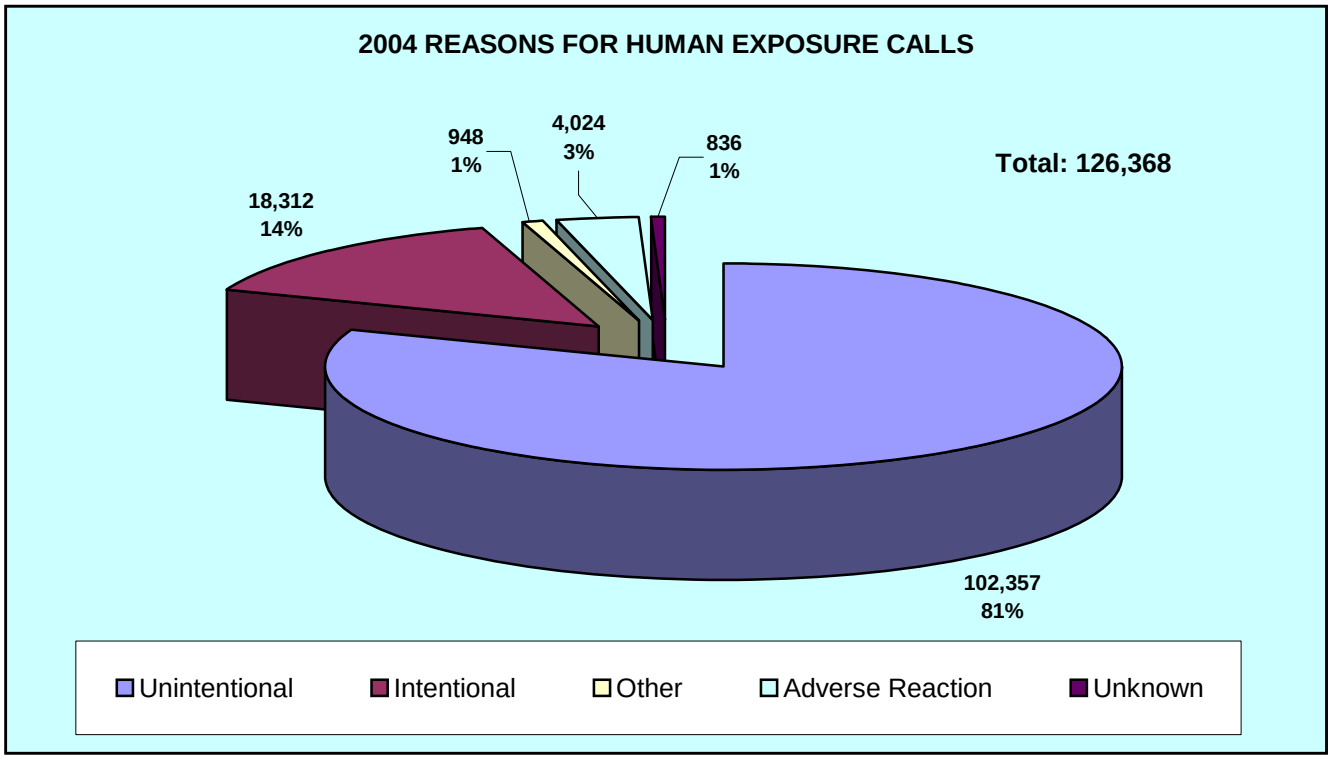
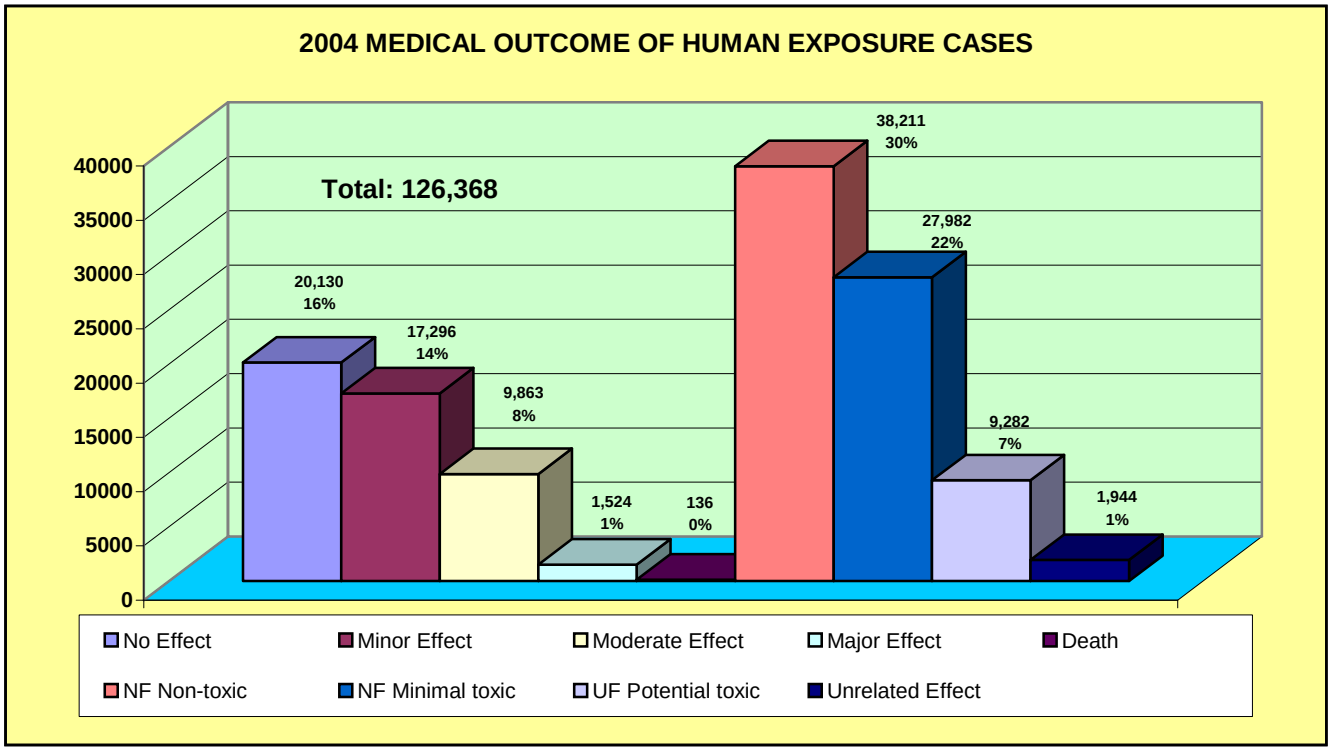
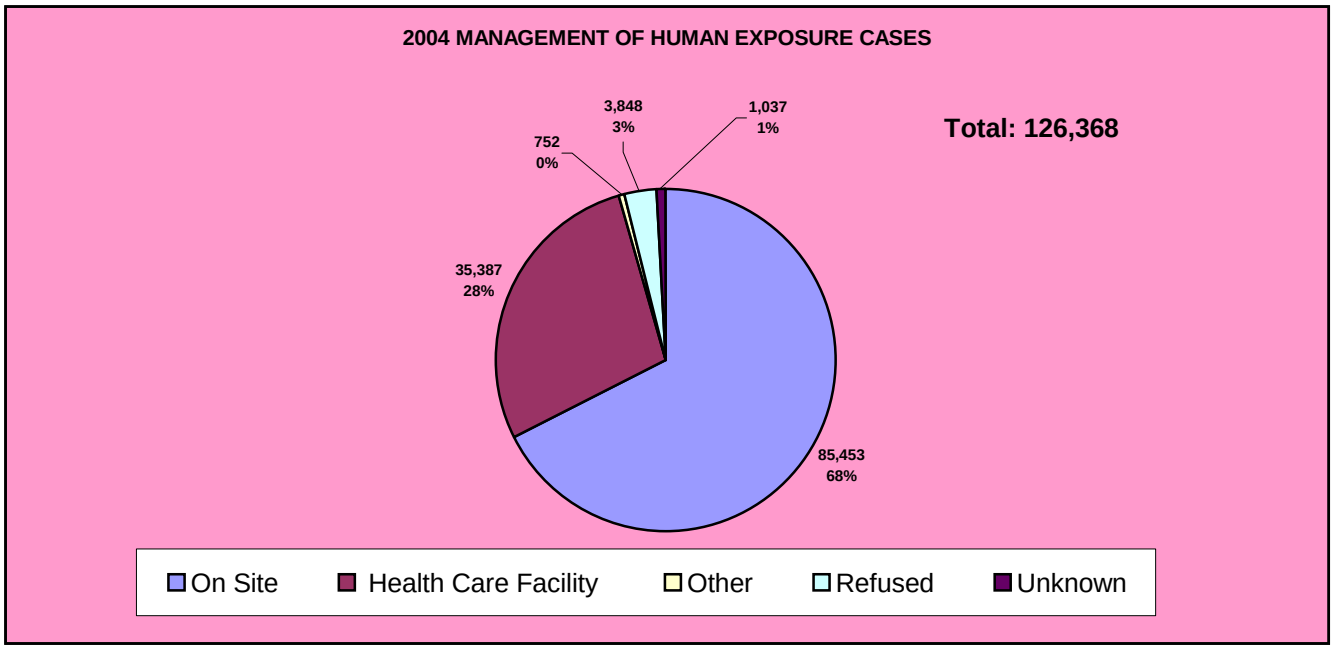
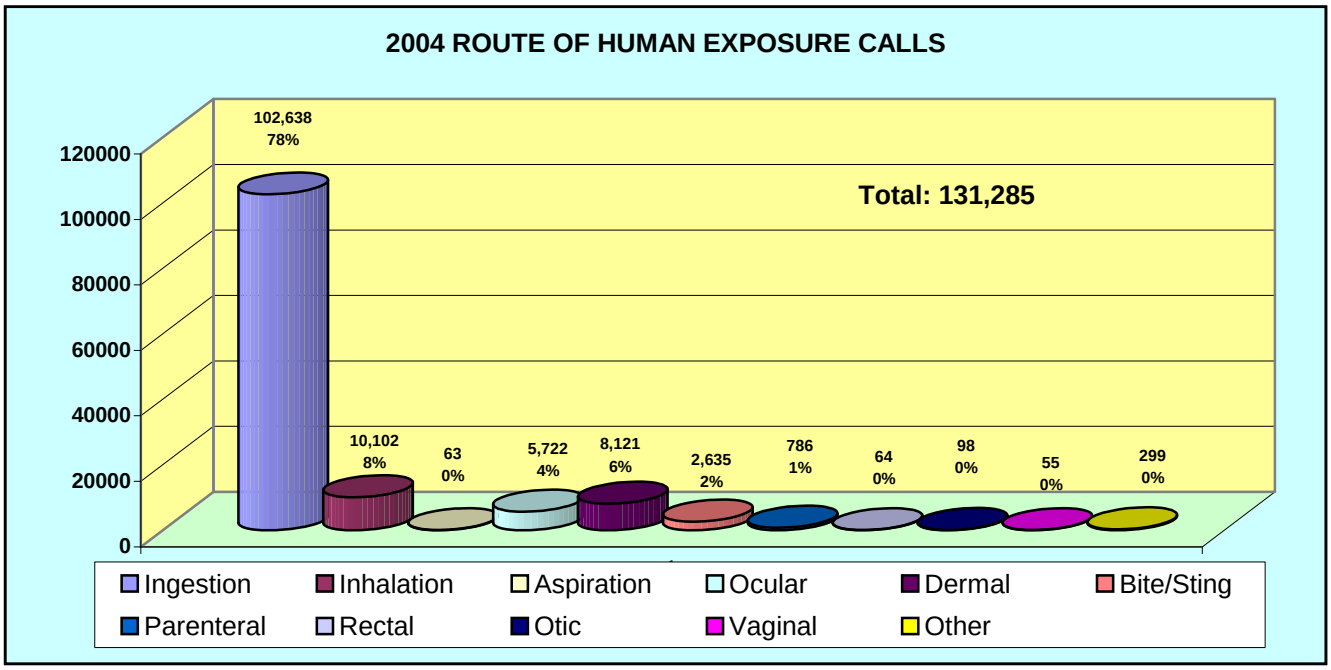
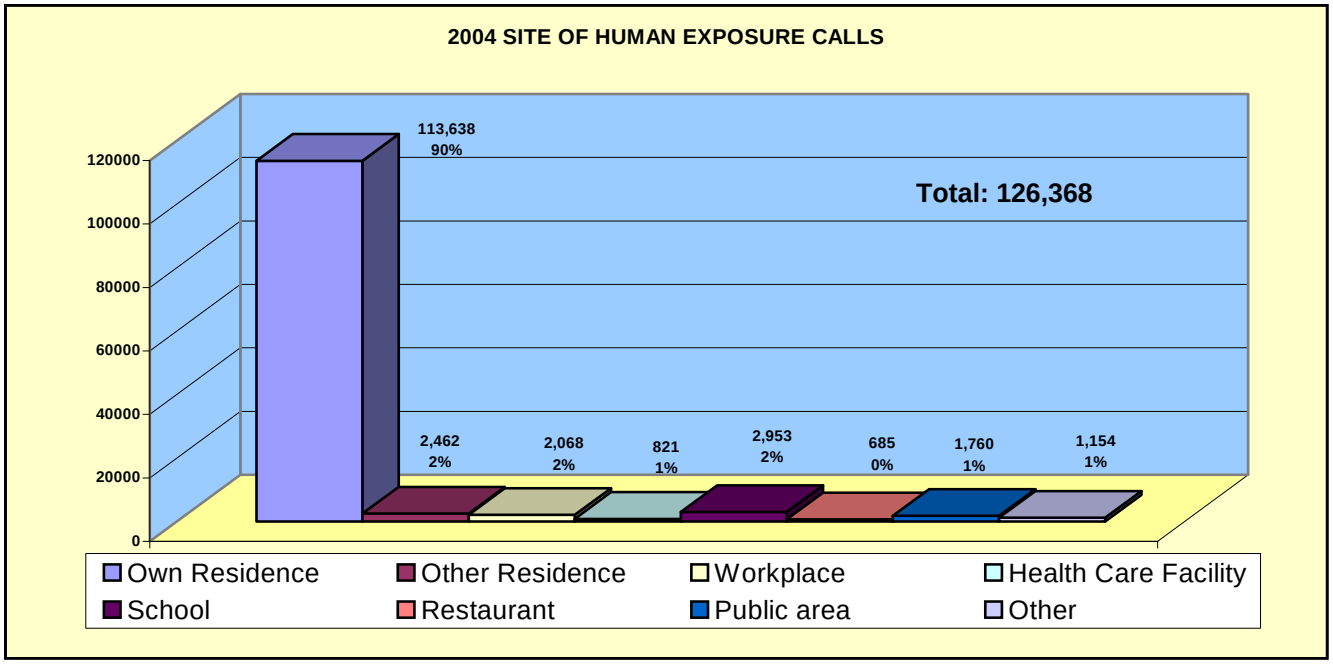

2004 AGE DISTRIBTION
Total: 126,368
60000
50000
40000
30000
20000
10000
0
6,042
5%
51,842
41%
7,796
6%
9,848
8%
10,025
8%
9,538
7%
8,307
7%
4,986
4%
5,898
5%
11,931
9%
Less than 1
1y-5y
6y-12y
13y-19y
20y-29y
30y-39y
40y-49y
50y-59y
60y Plus
Unknown


2004 REASONS FOR HUMAN EXPOSURE CALLS
Total: 126,368
18,312
14%
948
1%
4,024
3%
836
1%
102,357
81%
Unintentional
Intentional
Other
Adverse Reaction
Unknown


2004 MEDICAL OUTCOME OF HUMAN EXPOSURE CASES
Total: 126,368
40000
35000
30000
25000
20000
15000
10000
5000
0
20,130
16%
17,296
14%
9,863
8%
1,524
1%
136
0%
38,211
30%
27,982
22%
9,282
7%
1,944
1%
No Effect
Minor Effect
Moderate Effect
Major Effect
Death
NF Non-toxic
NF Minimal toxic
UF Potential toxic
Unrelated Effect


2004 MANAGEMENT OF HUMAN EXPOSURE CASES
Total: 126,368
3,848
3%
1,037
1%
752
0%
35,387
28%
85,453
68%
On Site
Health Care Facility
Other
Refused
Unknown


2004 ROUTE OF HUMAN EXPOSURE CALLS
120000
100000
80000
60000
40000
20000
0
102,638
78%
10,102
8%
63
0%
5,722
4%
8,121
6%
2,635
2%
786
1%
64
0%
98
0%
55
0%
299
0%
Total: 131,285
Ingestion
Inhalation
Aspiration
Ocular
Dermal
Bite/Sting
Parenteral
Rectal
Otic
Vaginal
Other


2004 SITE OF HUMAN EXPOSURE CALLS
120000
100000
80000
60000
40000
20000
0
113,638
90%
2,462
2%
2,068
2%
821
1%
2,953
2%
685
0%
1,760
1%
1,154
1%
Total: 126,368
Own Residence
Other Residence
Workplace
Health Care Facility
School
Restaurant
Public area
Other

APPENDIX THREE

COMMON SUBSTANCES INVOLVED IN HUMAN EXPOSURES

AND IN

PEDIATRIC HUMAN EXPOSURES

2002

Top Ten Human Exposures in Adults

Ranking	Substances
1	Analgesics
2	Sedative Hypnotics
3	Household Cleaners
4	Antidepressants
5	Food Poisoning
6	Alcohols
7	Cosmetics/Personal Care
8	Cardiac Medications
9	Chemicals
10	Bites/Envenomations

Top Ten Exposures in Pediatric Patients

(Children under 6 years of age)

Ranking	Substances
1	Cosmetics
2	Household Cleaners
3	Foreign Bodies
4	Topicals
5	Anaglesics
6	Vitamins
7	Plants
8	Arts & Crafts
9	Cough & Cold Preperations
10	Pesticide/Insecticides

2003

Top 10 Substances in Adults

Ranking	Substance
1	Anaglesics
2	Sedative/Hypnotics
3	Household Cleaners
4	Antidepressants
5	Food Poisoning
6	Alcohols
7	Cosmetics/Personal Care
8	Cardiovascular
9	Chemicals
10	Bites/Envenom

Top 10 Substances in Children (<5 years old)

Ranking	Substance
1	Cosmetics/Personal Care
2	Household Cleaners
3	Foreign Bodies
4	Topical Preparations
5	Analgesics
6	Cough and Cold Preparations
7	Plants
8	Arts, Crafts, Office Supplies
9	Vitamins
10	Antimicrobials

2004

Top Ten Human Exposures in Adults (2004)

Ranking	Substances
1	Analgesics
2	Sedative/hypnotics
3	Fumes/Gases/Vapors
4	Household Cleaners
5	Antidepressants
6	Food Poisoning
7	Alcohol
8	Cardiovascular
9	Pesticides
10	Cosmetic/Personal Care

Top Ten Human Exposures in Children (<5 years old) (2004)

Ranking	Substances
1	Cosmetics/Personal Care
2	Household Cleaners
3	Foreign Bodies
4	Topical Agents
5	Analgesics
6	Pesticides
7	Cough & Cold Preps
8	Vitamins
9	Arts & Crafts
10	Antimicrobials

APPENDIX FOUR

PUBLIC EDUCATION PROGRAMS

APPENDIX FOUR

PUBLIC EDUCATION PROGRAMS

Children Under Five

Poison Prevention for Preschool/Day Care

A complete teaching package for preschool, day care centers and nursery schools. The kit contains a teacher's manual with suggested activities, an audio-visual and reinforcement activities.

Teacher Guide

A teaching guide for early education and poison prevention.

Look Alike Teaching Kit

Features many poisonous and non-poisonous household items that "look-alike."

Head Start

Standards for home safety and poison prevention for staff, parents and children are taught with activity sheets for children and a video for parents and teachers.

School Children

K-6 Curriculum

Provides the teacher with lessons and activities for each grade K-6. Activity sheets are available that may be photocopied for distribution.

CD Rom

"Poison Awareness" interactive computer software that teaches children about poisons and prevention.

Candy Medicine Poster

An educational tool for clinics, schools, pediatricians' offices and WIC centers which shows similarities between candies and medicines.

Teens and Pre-Teens

Babysitters Workshop

Designed to bring awareness to the baby sitter on the potential poisons found in and around the home. This program includes the forms of poisons, how and why poisonings occur, what to do if an accidental poison exposure occurs while babysitting children and how to contact their local poison control center.

Adults/Parents

Inhalants Awareness for Parents

Promotes awareness about how some common household products are being abused by our children. Identifies common inhalants around the home, who, what, why and when of inhalant use including sign and symptoms, short and long term effects, sudden sniffers death and what to do if you find your child using.

Activated Charcoal in the Home

Home use of charcoal is taught in a variety of written materials.

Herbal Products

Articles have been written for newsletters by network staff to educate both the public and health care professionals on the dangers associated with herbals.

Parent Packets

Contain information literature, phone stickers and a coupon for syrup of ipecac.

School Nurses/Teachers

In –Service Training

Workshop for teachers, nurses, department of health employees, etc., provides a complete background on the poison center and its services. The who, how and why of poisonings and what to do in the event of a poison exposure. Participants receive educational program training and materials for implementing a complete curriculum. Participants become part of the Educator Resource Network.

Educator Resource Network

Consists of trained volunteers who conduct poison prevention awareness and information programs for organized groups in their community.

School Nurses Poison Prevention Programs

A statewide effort to provide poison prevention and education to school nurses through video and specially designed curriculum.

Seniors	Special Groups
Medication Management in the Elderly Designed to teach the growing elderly population how to better manage their medications. It includes information on drug interactions, label reading, poison center services and medication management devices. **Treating Yourself With Care** Teaches seniors about medication logs, common drug interactions and side effects.	**Power Over Poison for the Hearing Impaired** Previously mentioned programs adapted for the hearing impaired student through the use of signed and close-captained video. **Women, Infants, Children Nutrition Program/Public Health Nursing Program/Department of Health** Educational program to educate WIC staff, so they in turn can educate their clients about poison center services and distribute literature and telephone stickers.

Other

Media Packets

News releases and public service announcements distributed to newspapers, television, radio and magazines. Media packets target various poison prevention issues, concerns and trends in an effort to heighten public awareness.

Newsletters

A quarterly publication featuring seasonal topics in poisoning exposures and prevention education. Designed as an educational tool for the public communities.

Tours and Orientations

Tours and orientations are available to both professional and public groups. Public groups are provided an age-related program in poison prevention and a tour of the center. These groups include day care centers, preschools, girl scouts, boy scouts and teachers.

Informational Displays/Fairs

Poison prevention informational displays, literature distribution and prevention education provided at school, community or organizational health and wellness fairs.

Fairs with Presentations

Similar to above mentioned with the inclusion of a scheduled talk or presentation.

Conference/Presentations:

Professional presentation provided at a conference or symposium on poison related topics.

Teaching Days

Poison prevention program delivered to all students in a targeted grade level or multi-grades depending on school size. Half day or whole day programs available and can be tailored for age appropriate, experiential programs.

Pharmacy Network

Centers work with local and chain pharmacies to distribute poison prevention literature to the public and cooperate in advertising poison prevention week.

Video Library

Available for loan to teachers, parents, community groups. Includes “Billie and the Poison Roundup,” “Poisonality.”

Internet Access

Internet access allow**s** public inquiries regarding information about the poison center and allows the public to ask basic information questions (non-exposure) that can be answered on a daily basis.

APPENDIX FIVE

PROFESSIONAL EDUCATION AND PREVENTION PROGRAMS

APPENDIX FIVE

Professional Education and Prevention Program Summaries

Pharmacy and Medical College Preceptorships
Pharmacy and medical students spend a five-week module at the poison center as an elective in their rotational component for their year of study prior to graduation. Drug education, treatment of poisonings, poison center history, facts, protocol, and computer resource training are included in their training. A research paper and oral presentation are required.

In-Service Training
Primarily for poison center staff. Provides current trends in poisoning, new drugs, and review of guidelines for common and uncommon toxicological protocols.

Journal Club and Case Review
Weekly presentations and discussions of advancements and new findings in toxicology and pharmacology. Discussion of new and difficult cases. Open to poison center staff, students and other medical professionals.

Electronic Continuing Education
Sponsored by the American Association of Poison Control Centers. Specialists in Poison Information provide continuing education topics, questions and answers on a daily basis.

Workshops
Workshop for EMT, ambulance, nursing and fire personnel, provides background on the poison center, staff and services. Common and uncommon poison exposures in the field as well as management and treatment protocol. Explores how and when to utilize the services of a poison control center

Professional Newsletter
A professional publication featuring updates in toxicology, pharmacology and poison exposure management. Designed as a communication tool for the professional/medical communities.

Tours and Orientations
Tours and orientations available to professional and public groups. Professional groups receive information on poison exposure treatment protocol, and how and why a poison center can be of assistance to them in their profession.

Conferences/Presentations
Professional presentation at a conference or symposium on poison related topics.

APPENDIX SIX

PUBLICATIONS

AND

PRESENTATIONS

Publications

2002

Books/Book Chapters

1. Goldfrank LR, Flomenbaum NE, Lewin NA, Howland MA, Hoffman RS, Nelson LS (editors): Goldfrank's Toxicologic Emergencies 7th edition McGraw-Hill NY 2002

2. Goldfrank LR, Flomenbaum NE, Lewin NA, Howland MA, Hoffman RS, Nelson LS:Principlesof Managing the Poisoned or Overdosed Patient: An Overview. In: Goldfrank LR, Flomenbaum NE, Lewin NA, Howland MA, Hoffman RS, Nelson LS (editors): Goldfrank's Toxicologic Emergencies 7th edition, McGraw-Hill NY 2002

3. Howland MA: Pharmacokinetic and Toxicokinetic Principles. In: Goldfrank LR, Flomenbaum NE, Lewin NA, Howland MA, Hoffman RS, Nelson LS editors: Goldfrank's Toxicologic Emergencies 7th edition McGraw-Hill NY 2002

4. Goldfrank LR, Flomenbaum NE, Lewin NA, Howland MA, Hoffman RS, Nelson LS: Vital Signs. In: Goldfrank LR, Flomenbaum NE, Lewin NA, Howland MA, Hoffman RS, Nelson LS (editors): Goldfrank's Toxicologic Emergencies, 7th edition, McGraw-Hill NY 2002

5. Hung O, Lewin N, Howland MA: Herbal Preparations. In: Goldfrank LR, Flomenbaum NE, Lewin NA, Howland MA, Hoffman RS, Nelson LS editors: Goldfrank's Toxicologic Emergencies 7th edition, McGraw-Hill NY 2002

6. Ahronheim J, Howland MA: Geriatrics. In: Goldfrank LR, Flomenbaum NE, Lewin NA, Howland MA, Hoffman RS, Nelson LS (editors): Goldfrank's Toxicologic Emergencies 7th edition, McGraw-Hill NY 2002

7. Antidotes in Depth appearing in Goldfrank LR, Flomenbaum NE, Lewin NA, Howland MA, Hoffman RS, Nelson LS editors: Goldfrank's Toxicologic Emergencies 7th edition McGraw-Hill NY 2002:

8. Howland MA: N-Acetylcysteine p502-506.

9. Howland MA: Activated Charcoal p469-474.

10. Howland MA: Calcium p1341-1345.

11. Howland MA: Cathartics p475-477.

12. Howland MA: Deferoxamine p558-562.

13. Howland MA: Digoxin-Specific Antibody Fragments (Fab) P735-740.

14. Howland MA: Dimercaprol (BAL) p1196-1199.

15. Howland MA: Edetate Calcium Disodium p1235-1238.

16. Howland MA: Ethanol p995-998.

17. Howland MA: Flumazenil p946-951.

18. Howland MA: Folic Acid and Leucovorin (Folinic Acid) p991-994.

19. Howland MA: Fomepizole p999-1003

20. Howland MA: Glucagon p758-761.

21. Howland MA: Ipecac, Syrup of p465-468.

22. Howland MA: Methylene Blue p1450-1452.

23. Howland MA: Octreotide p 611-613.

24. Howland MA: Opioid Antagonists p924-928.

25. Howland MA: Physostigmine p544-547.

26. Howland MA: Pralidoxime p1361-1365.

27. Howland MA: Protamine p 651-654.

28. Howland MA: Pyridoxine p667-670.

29. Howland MA: Succimer p1228-1234.

30. Howland MA: Vitamin K p 647-650.

31. Howland MA: Whole-Bowel Irrigation p 478-479.

32. Rao RB, Hoffman RS: Cocaine, Amphetamines, and Other Sympathomimetics. In: Marx JA, Hockberger RS, Walls RM, et al, eds: Rosen's Emergency Medicine: Concepts and Clinical Practice. Mosby, St. Louis, 2002, pp 2119-2126.

33. Nelson LS, Hoffman RS: Inhaled Toxins. In: Marx JA, Hockberger RS, Walls RM, et al, eds: Rosen's Emergency Medicine: Concepts and Clinical Practice. Mosby, St. Louis, 2002, pp 2163-2171.

34. Hoffman RS: Respiratory Principles. In: Goldfrank LR, Flomenbaum NE, Lewin NA, Howland MA, Hoffman RS, Nelson LS (eds): Goldfrank's Toxicologic Emergencies. Seventh Edition. McGraw Hill, New York, 2002, pp 303-314

35. Hoffman RS: Fluid and Electrolyte Principles. In: Goldfrank LR, Flomenbaum NE, Lewin NA, Howland MA, Hoffman RS, Nelson LS (eds): Goldfrank's Toxicologic Emergencies. Seventh Edition. McGraw Hill, New York, 2002, pp 364-380.

36. Su M, Hoffman RS: Anticoagulants. In: Goldfrank LR, Flomenbaum NE, Lewin NA, Howland MA, Hoffman RS, Nelson LS (eds): Goldfrank's Toxicologic Emergencies. Seventh Edition. McGraw Hill, New York, 2002, pp 631-646.

37. Hoffman RS: Thiamine. In: Goldfrank LR, Flomenbaum NE, Lewin NA, Howland MA,

38. Hoffman RS, Nelson LS (eds): Goldfrank's Toxicologic Emergencies. Seventh Edition. McGraw Hill, New York, 2002, pp 966-970.

39. Hollander JE, Hoffman RS: Cocaine. In: Goldfrank LR, Flomenbaum NE, Lewin NA, Howland MA, Hoffman RS, Nelson LS (eds): Goldfrank's Toxicologic Emergencies. Seventh Edition. McGraw Hill, New York, 2002, pp 1004-1019.

40. Rao RB, Hoffman RS: Cocaine, Amphetamines, and Other Sympathomimetics. In: Marx JA, Hockberger RS, Walls RM, et al, eds: Rosen's Emergency Medicine: Concepts and Clinical Practice. Mosby, St. Louis, 2002, pp 2119-2126.(55)
41. Nelson LS, Hoffman RS: Inhaled Toxins. In: Marx JA, Hockberger RS, Walls RM, et al, eds: Rosen's Emergency Medicine: Concepts and Clinical Practice. Mosby, St. Louis, 2002, pp 2163-2171

42. Rao RB, Hoffman RS: Cocaine, Amphetamines, and Other Sympathomimetics. In: Marx JA, Hockberger RS, Walls RM, et al, eds: Rosen's Emergency Medicine: Concepts and Clinical Practice. Mosby, St. Louis, 2002, pp 2119-2126.

43. Nelson LS, Hoffman RS: Inhaled Toxins. In: Marx JA, Hockberger RS, Walls RM, et al, eds: Rosen's Emergency Medicine: Concepts and Clinical Practice. Mosby, St. Louis, 2002, pp 2163-2171.

44. Su M, Hoffman RS: Anticoagulants. In: Goldfrank LR, Flomenbaum NE, Lewin NA, Howland MA, Hoffman RS, Nelson LS (eds): Goldfrank's Toxicologic Emergencies. Seventh Edition. McGraw Hill, New York, 2002, pp 631-646.

45. Hoffman RS: Thiamine. In: Goldfrank LR, Flomenbaum NE, Lewin NA, Howland MA, Hoffman RS, Nelson LS (eds): Goldfrank's Toxicologic Emergencies. Seventh Edition. McGraw Hill, New York, 2002, pp 966-970.

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47. Hoffman RS: Fluid and Electrolyte Principles. In: Goldfrank LR, Flomenbaum NE, Lewin NA, Howland MA, Hoffman RS, Nelson LS (eds): Goldfrank's Toxicologic Emergencies. Seventh Edition. McGraw Hill, New York, 2002, pp 364-380.

48. Hoffman RS: Respiratory Principles. In: Goldfrank LR, Flomenbaum NE, Lewin NA, Howland MA, Hoffman RS, Nelson LS (eds): Goldfrank's Toxicologic Emergencies. Seventh Edition. McGraw Hill, New York, 2002, pp 303-314

49. Traub SJ, Hoffman RS: Cadmium. In: Goldfrank LR, Flomenbaum NE, Lewin NA, Howland MA, Hoffman RS, Nelson LS (eds): Goldfrank's Toxicologic Emergencies. Seventh Edition. McGraw Hill, New York, 2002, pp 1251-1261.

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4. Manikian A, Stone S, Hamilton R, Foltin G, Howland MA, Hoffman RS: Exchange transfusion in severe infant salicylism. Vet Human Tox 2002;44:224-227.

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1. ToxAlert # 1, 2002: 1. Activated Charcoal in the Home 2. Nefazone Warning 3. Droperidol Warning
2. ToxAlert # 2, 2002: 1. Lipokinetix Warning 2. Topiramate Warning 3. Bupropion (Zyban®) Warning
3. ToxAlert # 3, 2002: 1. Kava Kava Warning of Liver Toxicity 2. Ma Huang Warning 3. SPES®, an Herbal Diet Supplement Recall
4. ToxAlert # 4, 2002: 1. Fenfluramine in 2 Chinese herbal diet remedies 3.Ginkgo Seed Poisoning2. Thallium/Arsenic Poisoning 4. Inhalant Abuse
5. ToxAlert # 5, 2002: 1. Metamizole Use by Latino Immigrants: A Common and Potentially Harmful Home Remedy 2. Insect Repellents against Mosquito Bites
6. ToxAlert# 6, 2002: 1. Long-Term Use of Ecstasy; 2. Acute Dystonic Reactions to "Street Xanax" 3. Glow Sticks
7. ToxAlert# 7-02: 1. Bupropion (Wellbutrin®) Induced Acute Dystonia 2. Acute Dystonia Due to Metoclopramide (Reglan®): Increased Risk in AIDS 3. Diabetic Ketoacidosis (DKA) associated with olanzapine (Zyprexa®) in an adolescent patient.
8. ToxAlert# 8-02 How Toxic is Cetirizine in Pediatric Exposures? 2. Deaths from PMA
9. ToxAlert# 9-02 Is Activated Charcoal (AC) and Whole-Bowel Irrigation (WBI) better together for Sustained release tablets (SR) in Overdose (OD)? 2. Abuse of OTC Coricidin products.

Poison Perspective Newsletter

Published on the Poison Center Website www.LIRPDIC.org and sent out as faxes to hospitals and as emails:

1. 2002v20n1: Acetaminophen(APAP) Update
2. 2002v20n2*:* Hydrocarbons: Review and Update
3. 2002v20n3**:** Caustics and Corrosives
4. 2002v20n4: Nephrotoxins

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2. Caraccio TR, McGuigan MA: Over-the-Counter Products; Medical Toxicology, 3rd edition Lippincott Williams & Wilkins; Richard C. Dart, editor 2003, Section 21: Chapter 172, p 1051-1062

3. Caraccio TR, McGuigan MA: Ethylene Oxide; Medical Toxicology, 3rd edition Lippincott Williams & Wilkins; Richard C. Dart, editor 2003, Section 3 Antiseptics and Disinfectants: chapter 194, p 1243-1246

4. Caraccio TR, McGuigan MA: Formaldehyde and Glutaraldehyde;
Medical Toxicology, 3rd edition; Lippincott Williams & Wilkins; Richard C. Dart, editor 2003, Section 3: Antiseptics and Disinfectants: chapter 195, p 1246-1250

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2. McFee RB, Bioterrorism Update Part 2: 2003: Smallpox, Viral Hemorrhagic Fevers, Brucellosis and SARS

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2. Caraccio TR. ToxAlert# 2-03: 1. Recall of Vinarol tablets;;2. FDA Advisory on Topical Lindane Products
3. Liquid filled toy is hazardous to children
4. Caraccio TR. ToxAlert# 3-03: 1. What is Sextasy? ; 2. Xyrem® (Gamma Hydroxybutyrate) approved for narcolepsy 3. Recall of Ancom Antihypertensive Compound Tablets
5. Caraccio TR. ToxAlert# 4-03: 1. Toxic Mercury and Fish; 2. Mercury and the Heart
6. Caraccio TR. ToxAlert# 5-03: 1. SIADH and SSRI; 2. Validation of a Brief Observation Period for Patients with Cocaine-Associate Chest Pain
7. Caraccio TR. ToxAlert# 6-03: Update on Gastro-Intestinal Decontamination (GID)
8. Caraccio TR. ToxAlert# 7-03: 1. Poisoning by an Illegally Imported Chinese Rodenticide; 2. 4-Aminopyridine (4 AP) Poisoning in a child
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19. Caraccio TR, McGuigan M. Analysis of Adverse Drug Reaction Data. Clin Toxicol 2003 Abstract #185
20. Forestro C, Caraccio TR, McGuigan M Atypical presentation of Unisom® (diphenhydramine) toxicity in a 23 year old male. Clin Toxicol 2003 Abstract #159
21. Hoffman R, Ruck B, Caraccio TR et al. Liquid "YO YO" exposures. Clin Toxicol 2003 Abstract #35
22. Kronin K, Caraccio TR Survey on the management of Tricyclic antidepressant poisonings. Clin Toxicol 2003 Abstract #185
23. Vo M, Caraccio, TR, McGuigan M Analysis of exposures in the Elderly population. Clin Toxicol 2003 Abstract #184
24. Yum E, Chang W, Caraccio TR, et al Herbal Soft drinks survey. Clin Toxicol 2003 Abstract #160
25. Yum E, Chang W, Caraccio TR, et al. Prescription Antibiotics available Over the Counter Clin Toxicol 2003 Abstract #159

The Second Mediterranean Emergency Medicine Congress. Sitges, Spain. September 2003.

1. Levy P, Hexdall A, Gordon P, Arafat R, Nelson L. Does lead contaminate Romanian moonshine?

2. Nelson LS. The Clinical Neurotoxicology of Chemical Terrorism. [Lecture]

2004

Books/Book Chapters

1. Caraccio, TR, Mofenson, HC, McFee, RB: Benzodiazepines. *In:* "The Clinical Practice of Emergency Medicine", 4TH Edition. Edited by Harwood-Nuss, Linden, Luten, Sheperd, and Wolfson. Lippincott-Raven Publishers, Philadelphia. 2004.

2. Mofenson HC, Caraccio TR, Greensher, J., McGuigan M.: Medical Toxicology: Ingestions, inhalations, and dermal and ocular absorptions. *In:* "Conn's Current Therapy 2004". Edited by Rakel RE and Bope ET. WB Saunders, Philadelphia, PA 2004, 1190-1252.

3. Hack JB, Hoffman RS: General Management of Poisoned Patients. In: Tintinalli JE, Kelen GD, Stapczynski JS, eds: Emergency Medicine - A Comprehensive Study Guide. Sixth Edition. McGraw Hill, NY, 2004, pp 1015-1022.

4. Perrone J, Hoffman RS: Cocaine, Amphetamines, Caffeine, and Nicotine. In: Tintinalli JE, Kelen GD, Stapczynski JS, eds: Emergency Medicine - A Comprehensive Study Guide. Sixth Edition. McGraw Hill, NY, 2004, pp 1075-1079.

5. Wiener SW, Nelson LS. Incapacitating Agents. In: Roy M. Physician's Guide to Terrorist Attack. Humana Press. Totowa, NJ. 2004

6. Hung O, Nelson LS. Acetaminophen Poisoning. In: Emergency Medicine: A Comprehensive Study Guide, 6th Edition. Editors: Tintinalli JE, Kelen GD, Stapczynski JS. McGraw Hill, New York, 2004.

7. Rella J, Nelson LS. Hypoglycemic Agents. In: Emergency Medicine: A Comprehensive Study Guide, 6th Edition. Editors: Tintinalli JE, Kelen GD, Stapczynski JS. McGraw Hill, New York, 2004.

8. Rella J, Nelson LS. Iron Poisoning. In: Emergency Medicine: A Comprehensive Study Guide, 6th Edition. Editors: Tintinalli JE, Kelen GD, Stapczynski JS. McGraw Hill, New York, 2004.

9. Rees S, Nelson LS. Toxic Hemoglobinopathies. In: Emergency Medicine: A Comprehensive Study Guide, 6th Edition. Editors: Tintinalli JE, Kelen GD, Stapczynski JS. McGraw Hill, New York, 2004.

10. Long H, Nelson LS. Metals. In: Emergency Medicine: A Comprehensive Study Guide, 6th Edition. Editors: Tintinalli JE, Kelen GD, Stapczynski JS. McGraw Hill, New York, 2004.

11. Nelson LS: Florists and Groundskeepers. In: Occupational, Industrial, and Environmental Toxicology, 2nd Edition. Editor: Greenberg M, Hamilton R, Phillips S. Mosby-Year Book, St. Louis, MO. 2004.

12. Stork CM: Thiosulfate. In: Brent J, Burkhart J, Donovan JW, et al Eds: *Critical care toxicology*: *Diagnosis and management of the critically ill poisoned patient*. In Press 2004.

Journal Articles

1. Marraffa JM, Stork CM, Howland MA, McMartin KC, Medicis JJ: Pharmacokinetics of intravenous fomepizole versus oral fomepizole in Healthy Human Volunteers: Preliminary results. J Tox Clin Tox 2004; 42:747. Poster Presentation at the North American Congress of Clinical Toxicology in Seattle, Washington, Sept 9-14, 2004

2. Varella Ml, Howland MA: Single high-dose rectal acetaminophen in children. Ann Pharmacother. 2004; 38(11):1935-41.

3. Chan GM, Nelson LS. More on blue cohosh and perinatal stroke. N Engl J Med 2004 18;351:2239-4 (letter)

4. Tarabar AF, Nelson LS. The gamma-hydroxybutyrate withdrawal syndrome. Toxicol Rev 2004;23:45-9.

5. Mabry B, Greller HA, Nelson LS. Patterns of heroin overdose-induced pulmonary edema (letter). Am J Emerg Med 2004;22:316

6. Schier JG, Ravikumar PR, Nelson LS, Heller MB, Howland MA, Hoffman RS.Preparing for chemical terrorism: stability of injectable atropine sulfate.
7. Acad Emerg Med. 2004 Apr;11(4):329-34.

8. Barrueto F, Howland MA,, Hoffman RS, Nelson LS: The fentanyl tea bag. Vet Human Toxicol 2004; 46:30-31.

9. McFee RB, Caraccio TR, McGuigan MA, Reynolds SA, Bellanger P Dying to be thin: a dinitrophenol related fatality. Vet Human Toxicol 2004;46: 251-254.

10. Yambo CM, McFee RB, Caraccio TR, McGuigan M The Inkjet cleaner “Hurricane”-another GHB recipe. Vet Human Toxicol 2004;46:329-330.

11. McFee RB, Leikin JB, Kierman K. Preparing for an era of weapons of mass destruction (WMD)-are we there yet? Why we should all be concerned. Part 11. Vet Human Toxicol 2004;46:347-351.

12. McFee, RB. Bioterrorism and Weapons of Mass Destruction 2004: Physicians as first responders. Special Supplement Edition of *The DO* 2004; March: 9-23.

13. Hahn IH, Hoffman RS, Nelson LS. EMLA(R)-induced methemoglobinemia and systemic topical anesthetic toxicity. J Emerg Med 2004;26:85-88.

14. Wiener SW, Hoffman RS: Nerve agents: a comprehensive review. J Intensive Care Med 2004;19:22-37.

15. Schier JG, Ravikumar PR, Nelson LS, Heller MB, Howland MA, Hoffman RS: Preparing for chemical terrorism: Stability of injectable atropine sulfate. Acad Emerg Med 2004;11:329-334.

16. Hoffman RJ, Morgenstern S, Hoffman RS, Nelson LS: Extremely elevated relative risk of paraffin lamp oil exposures in orthodox Jewish children. Pediatrics 2004;113:e377-379.

17. Sharma AN, Nelson LS, Hoffman RS: Cerebrospinal fluid analysis in fatal thallium poisoning: evidence for delayed distribution into the central nervous system. Am J Forensic Med Pathol. 2004 Jun;25:156-158.

18. Hoffman RS, Kaplan JL, Hung OL, Golfrank LS: Ecgonine methyl ester protects against cocaine lethality in mice. J Toxicol Clin Toxicol 2004;42:349-354.

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21. Long H, Greller H, Mercurio-Zappala M, Nelson LS, Hoffman RS: Medicinal use of cocaine: a shifting paradigm over 25 years. Laryngoscope 2004;114:1625-1629.

22. Bouchard NC, Chan GM, Hoffman RS: Vietnamese centipede envenomation. Vet Hum Toxicol 2004;46:312-313.

23. Tarabar AF, Khan Y, Nelson LS, Hoffman RS: Antimony toxicity from the use of tartar emetic for the treatment of alcohol abuse. Vet Hum Toxicol 2004;46:331-333

24. Schier JG, Hoffman RS: Treatment of Sarin Exposure. JAMA 2004;291:182.

25. Wiener SW, Liu S, Nelson LS, Hoffman RS: Nutropin or Neupogen? A medication error resulting in leukocytosis. Ann Pharmacother 2004;38:721.

26. Traub SJ, Hoffman RS, Nelson LS: Body packing. N Engl J Med 2004;350:1260-1261.

27. Burillo-Putze G, Hoffman RS, Duenas-Laita A: Cocaina como possible factor emergente de riesgo cardiovascular. Rev Esp Cardiol 2004;57:596-597.

28. Burillo-Putze G, Hoffman RS, Howland MA, Duenas-Laita A: Late administration of pralidoxime in organophosphate (fenitrothion) poisoning. Am J Emerg Med 2004;22:327-328.

29. Greller HA, Hoffman RS: Lead exposure and cognitive outcomes of children with prenatal cocaine exposure. JAMA 2004;292:1021.

30. Collins JD, Hoffman RS, Greller HA: Benzodiazepines versus NTG treatment of cocaine coronary syndromes. Am J Emerg Med 2004;22:433.

31. Chan GM, Hoffman RS, Nelson LS: Get the lead out. Ann Emerg Med 2004;44:551-552.

32. Bouchard N, Hoffman RS: Synephrine is not Neo-synephrine. Mayo Clin Proc 2004;79:1589-1590.

33. Marraffa JM, Stork CM, Medicis JJ, Hodgman MJ. Massive amlodipine overdose successfully treated using high-dose vasopressin. J Toxicol Clin Toxicol 2004;42:732.

34. Marraffa JM, Stork CM, Cantor R. Risk for long-term nephrotoxicity after ethylene glycol poisoning. J Toxicol Clin Toxicol 2004;42:737. Also presented at Ross Poster Session 12/2/2004 Poster number 70.

35. Marraffa JM, Stork CM, Hodgman MJ, Cantor R. Venlafaxine overdose resulting in seizures and QRS widening 16 H after exposure. J Toxicol Clin Toxicol 2004;42:739

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Abstracts

2004 SAEM in Orlando

1. Long H, Nelson LS, Hoffman RS: A rapid qualitative test for suspected ethylene glycol poisoning. Acad Emerg Med. 2004;11:530

2004 EAPCCT in Strasbourg

2. Nelson LS. Out of hospital naloxone: appropriate dose and route. [Lecture] J Toxicol Clin Toxicol 2004;42:404

3. Hoffman RS: The pros and cons of prehospital flumazenil use. J Toxicol Clin Toxicol 2004;42:406-407.

4. Greller HA, Hoffman RS, Nelson LS: Survival after intentional oral ingestion of an ammonium bifluoride containing commercial rust remover. J Toxicol Clin Toxicol 2004;42:485-486.

5. Greller HA, Flomenbaum M, Nelson LS, Hoffman RS: Intestinal ischemia from an ephedra containing ‘‘smoothie’’. J Toxicol Clin Toxicol 2004;42:486.

6. Tarabar AF, Allori L, Hoffman RS, Nelson LS: Infliximab induced critical thrombocytopenia. J Toxicol Clin Toxicol 2004;42:491.

7. Bouchard NC, Hoffman RS: Carvedilol overdose with quantitative confirmation. J Toxicol Clin Toxicol 2004;42:509.

8. Tarabar AF, Jolin S, Trepp R, Nelson LS, Hoffman RS: Phencyclidine (PCP) induced myocardial infarction. J Toxicol Clin Toxicol 2004;42:513-514.

9. Bouchard NC, Hoffman RS. Vietnamese centipede envenomation. J Toxicol Clin Toxicol 2004;42:515.

10. Greller HA, Flomenbaum M, Nelson LS, Hoffman RS: Fatal myocardial infarction from Ephedra—An educational intervention. J Toxicol Clin Toxicol 2004;42:528.

11. Marraffa JM, Wiener SW, Tarabar AF, Nelson LS, Hoffman RS, Stork CM: Reporting hazardous products leads to changes in packaging. J Toxicol Clin Toxicol 2004;42:532.

12. Chan GM, Hoffman RS, Nelson LS: Cocaine induced myocardial ischemia treated with intravenous phentolamine. J Toxicol Clin Toxicol 2004;42:542-543.

13. Greller HA, Hoffman RS, Nelson LS: Chloral hydrate cardiotoxicity treated with amiodarone. J Toxicol Clin Toxicol 2004;42:548-549.

14. Wiener SW, Hexdall A, McStay CM, Nelson LS, Hoffman RS: ‘‘Booty Bumping:’’ A novel route of methamphetamine abuse. J Toxicol Clin Toxicol 2004;42:553.

15. Chu J, Wiener SW, Tu S, Hahn I, Nelson LS, Hoffman RS: Delayed salicylate toxicity despite negative levels five hours post-ingestion. J Toxicol Clin Toxicol 2004;42:553-554.

16. Su M, Chang B, Hoffman RS: Fibrinolytic therapy for cocaine-induced cerebrovascular accident. J Toxicol Clin Toxicol 2004;42:554.

17. Fulton JA, Nelson LS, Hoffman RS: Renal infarction associated with rizatriptan. J Toxicol Clin Toxicol 2004;42:555.

18. Bouchard NC, Greller HA, Hoffman RS, Nelson LS: Ischemic stroke from ‘‘ephedra-free’’ dietary supplement containing synephrine. J Toxicol Clin Toxicol 2004;42:555-556.

19. Wiener SW, Al-Chalabi M, O’Shaughnessy P, Husk G, Howland MA, Nelson LS, Hoffman RS: Severe methemoglobinemia due to a metoclopramide metabolite. J Toxicol Clin Toxicol 2004; 42:558-559.

20. Bouchard NC, Schmidt J, Goldfrank LS, Nelson LS. Jewelry Confusion: The importance of a site visit following toxin-induced injury in the workplace. J Toxicol Clin Toxicol 2004;42: 809

21. Smollin C, Nelson LS. Publication of abstracts presented at NACCT. J Toxicol Clin Toxicol 2004;42:775

22. Wax P, Nelson L, Seifert SA, Kirk M, McKay C, Clark, R, White S, Cetaruk E, Liebelt E, Martin T, Boyer E, Snook CP, Keyes C, Haynes J, Burkhart K, Kosnett M. The ACMT–ATSDR Consultation Network: First year’s experience. J Toxicol Clin Toxicol 2004;42:777

23. Wiener SW, Ravikumar PR, Cotter B, Nelson LS. Variability in methanol content among solid fuel products. J Toxicol Clin Toxicol 2004;42:796

24. Bouchard NC, Weisstuch JM, Hoffman RS, Nelson LS, Howland: MA: Metformin clearance is poor with continuous veno-venous hemodiafiltration (CVVHDF). J Toxicol Clin Toxicol 2004;5:739-740.

25. Mercurio-Zappala M, Hardej D, Hoffman RS, Trombetta L: Diethyldithiocarbamate (ddc) exacerbates thallium toxicity in rat hippocampal astrocytes (RHA). J Toxicol Clin Toxicol 2004;5:741.

26. Bouchard NC, Mercurio-Zappala M, Abreu EM, Mendoza P, Nelson LS, Hoffman RS: Expired 2-PAM effectively reverses cholinergic crisis in humans. J Toxicol Clin Toxicol 2004; 5:742.

27. Schwartz L, Mercurio-Zappala M, Howland MA, Nelson LS, Hoffman RS: Is regional ethnicity related to poison center utilization? J Toxicol Clin Toxicol 2004;5:778.

28. Schwartz L, Mercurio-Zappala M, Howland MA, Nelson LS, Resnick S, Hoffman RS: Using GIS software for planning poison education programs. J Toxicol Clin Toxicol 2004;5:778.

29. Greller HA, Rodriguez C, Hoffman RS: Syndromic surveillance: a novel active approach to detecting mass poisoning. J Toxicol Clin Toxicol 2004;5:791.

30. Greller HA, Henry GC, Hoffman RS: Poison centers and the hospitals they serve: what is the true incidence of poisoning? J Toxicol Clin Toxicol 2004;5:791-792.

31. Wiener SW, Ravikumar PR, Hoffman RS, Nelson LS: Cinnamoylecgonine in the urine of cocaine users. J Toxicol Clin Toxicol 2004;5:797.

32. Mercurio-Zappala M, Hardej D, Hoffman RS, Trombetta L: Using cell culture to assess thallium neurotoxicity: a preliminary study. J Toxicol Clin Toxicol 2004;5:826.

33. Yum Ek, Chiang W, McGuigan M, Caraccio TR : Contents in Asian medicated topical products an unconventiioal source of toxicity Abstract #148 J Toxicol Clin Tox 2004: 42:779

34. Mcfee R, Caraccio,TR, McGuigan M:Comparing Interation and Cytochrome p450 Informationin in Pharmaceutical advertisements Abstract 152 9/13/04 NACCT J Toxicol Clin Tox 2004: 42:781

35. Second Toxic Industrial Chemical and Toxic Industrial Material Symposium. Virginia Commonwealth University. Richmond, VA. July 20-22, 2004.

36. Wax P, Nelson LS. American College Of Medical Toxicology involvement in preparedness training on chemical agents of opportunity for terrorism.

Tox Alert Newsletters

Published on the Poison Center Website *www.LIRPDIC.org* and sent to hospitals

1. Caraccio TR. ToxAlerts 2004 # 1 Special Alert to Emergency Departments and Health Care Professionals:McNeil Consumer & Specialty Pharmaceuticals Has Announced a Nationwide Consumer Alert of Children's Motrin Grape Chewable Tablets

2. Caraccio TR. ToxAlerts 2004 # 2 Paraffin oil lamp toxicity, Fentanyl transdermal system (DURAGESIC) Recall, Green Hornet Warning

Presentations

2002

Course Director & Lectures
(R.S. Hoffman & L. Nelson)

1. An Intensive Review Course in Clinical Toxicology. New York City Poison Control Center in conjunction with Bellevue Hospital Emergency Services and St. John's School of Pharmacy. March 8-9, 2002. Lectures on Heavy Metal Poisoning, and Mushroom Toxicity.(R.S Hoffman)

2. 3rd Annual Spring Conference on Emergency Medicine. Presented by Symposia Medicus. Lectures on Chemical and Biological Terrorism, The Toxicity of Herbal and Dietary Supplements, Visual Toxicology, and Drug Induced Dysrhythmias. May 15-18, 2002, Grand Bahama Island, Bahamas. (R.S Hoffman)

3. New York State ACEP 2002 Scientific Assembly. Lecture: Everything You Need to Know About Nuclear, Chemical and Biological Terrorism in One Hour. July 7-9, 2002 Bolton Landing, NY. (R.S Hoffman)

4. Clinical Toxicology Course: NYC PCC/NYU and Bellevue Hospital Center in conjunction with the Hong Kong College of Emergency Medicine. October 28-31, 2002, United Christian Hospital, Hong Kong. (R.S Hoffman)

5. Medical Toxicology Review Course. Hong Kong College of Emergency Medicine. Hong Kong, China. Introduction to poisoning management; Tricyclic antidepressants; Hydrofluoric acid; Methemoglobinemia; Pesticides and Nerve agents; CPC (Lithium poisoning); Hyperthermic syndromes; Pediatric poisoning. October 28-November 1, 2002. (L. Nelson)

6. ACMT Pre-meeting symposium: Analeptics and Neuroleptics. 2002 North American Congress of Clinical Toxicology. Palm Springs, CA. September 24, 2002. (L. Nelson)

7. ACMT Medical Toxicology CPC Competition. 2002 North American Congress of Clinical Toxicology. Palm Springs, CA. September 24, 2002. (L. Nelson)

8. 22nd Annual Emergency Medicine Seminar: Contemporary Concepts in Clinical Emergency Medicine: A Literature-Based Approach. New York University School of Medicine. Chemical Terrorism: Nerve Agents; M&M Medical Toxicology (Salicylate poisoning). May 29-31, 2002. (L. Nelson)

9. 1st Annual Medical Toxicology Spring Course. American College of Medical Toxicology and ATSDR. Moderator, Fellows' Research Symposium. Phoenix, Az. April 11-13. (L. Nelson)

10. Intensive Review Course in Clinical Toxicology. New York City Poison Control Center, Bellevue Hospital and St. John's University School of Pharmacy. Lectures: Poisoned Limb. March 7-8, 2002. (L. Nelson)

Lectures & Presentations

1. 12th Annual Winter Conference on Emergency Medicine. Presented by Symposia Medicus. Lectures on New Antidotes in Toxicology, Case Studies on Drugs of Abuse, The Toxicity of Herbal and Dietary Supplements, and Visual Toxicology: A chance to see things you've only read about. February 13-16, 2002, Cancun, Mexico. (R.S Hoffman)

2. 14th Annual Emergency Medicine Winter Symposium. Presented by Department of Emergency Medicine, Albany Medical College. Lectures on: Drug Induced Seizures and Herbal Toxicology. March 3-6, 2002, Lake Placid, NY. (R.S Hoffman)

3. The 24th Annual Emergency Care Conference and Annual Meeting. Presented by the New Jersey State Council of ENA. Lectures on Current Drugs of Abuse and New Antidotes in Poisoning. March 14, 2002, Atlantic City, NJ. (R.S Hoffman)

4. 22nd Annual Emergency Medicine Seminar: Contemporary Concepts In Emergency Medicine: A Literature-Based Approach. Department of Emergency Medicine, New York University School of Medicine. May 29-31, 2002. Lecture: Biological Terrorism: Anthrax. (R.S Hoffman)

5. Roadside to Bedside: The Spectrum of Emergency Care, presented by Westchester Medical Center. Lecture on Chemical and Biological Terrorism. June 3, 2002. White Plains, NY.

6. XIV Congreso Nacional de la Sociedad Espa ola de Medicina de Urgencias y Emergencias. Lectures on: The Hospital Response to Mass Casualty Incidents and Cocaine Toxicity. Bilbao, Spain June 5-8, 2002. (R.S Hoffman)

7. Challenges in Emergency Medicine, presented by the emergency programs at York Central Hospital and Brampton Memorial Hospital. Lectures on: Leading Edge Toxicology, and, Resuscitation Pearls in Toxicology Patients. Toronto, Canada, 11/8/02. (R.S Hoffman)

8. Annual Midwest Trauma & Toxicology Symposium, presented by the Cardinal Glennon Children's Hospital. Lecture on Drug Abuse and Trauma. St. Louis, MO, 11/13/02. (R.S Hoffman)

9. Emergencies in Primary Care, presented by Symposia Medicus. Lectures on Basic Poison Management and Antidotes, and, Recognition of Drugs of Abuse. New York, NY, 12/20/02. (R.S Hoffman)

10. Keynote Lecture: Non-pharmacological cardioactive steroids. European Association of Poison Centres and Clinical Toxicologists XXII International Congress. Lisbon, Portugal 5/2002 (R.S Hoffman)

11. New Antidotes in Toxicology. Grand Rounds. Department of Emergency Medicine, Long Island Jewish Medical Center, N.Y. 6/10/2002. (R.S Hoffman)

12. Preparedness for Chemical and Biological Terrorism. Medical Grand Rounds. North Shore Hospital of Glen Cove. Glen Cove, NY, 6/25/2002. (R.S Hoffman)

13. Sixteenth Annual Combined Clinical Conference on Emergency Care. Missouri ACEP. Lectures on New Antidotes in Toxicology and Toxin Induced Cardiovascular Collapse. Lake of the Ozarks, MO, 8/7/2002. (R.S Hoffman)

14. The History Of Toxicology. Second conjoint scientific meeting 2002. Hong Kong College of Emergency Physicians. 10/29/2002, Hong Kong. (R.S Hoffman)

15. Emergency Preparedness for Terrorism. Jacobi Medical Center, Bronx, NY. Sarin and Other Nerve Agents. October 23, 2002.(L. Nelson)

16. Pharmacology Course. New York University School of Medicine. Department of Pharmacology (second year medical students). Pain Management Workshop. October 17, 2002. (L. Nelson)

17. Pharmacology Course. New York University School of Medicine. Department of Pharmacology (second year medical students). Basic Science of Opioid Pharmacology and Clinical Correlation, October 1, 2002. (L. Nelson)

18. Pharmacology Course. New York University School of Medicine. Department of Pharmacology (second year medical students). Basic and Clinical Autonomic Pharmacology, September 30; Workshop on Autonomic Pharmacology, October 14, 2002. (L. Nelson)

19. XXII International Congress, European Association of Poison Centres and Clinical Toxicologists. Lisbon, Portugal. Keynote lecture: Toxins Affecting the Neuromuscular Junction. May 23, 2002. (L. Nelson)

20. XXII International Congress, European Association of Poison Centres and Clinical Toxicologists. Lisbon, Portugal. Session Moderator: Assessment of Risk from Environmental Exposures: Practical Implications in Clinical Toxicology. May 24, 2002.

21. Geisinger Medical Center, Geisinger PA. Grand Rounds, Department of Pediatrics. Opioids: The Good, the Bad and the Ugly. December 17.

22. Our Lady of Mercy. Grand Rounds, Department of Emergency Medicine. New and Unique Drugs of Abuse. November 20.

23. New York University. Grand Rounds, Department of Emergency Medicine. Toxic Hemoglobinopathies. November 6.

24. New York University School of Medicine. Grand Rounds, Department of Neurology. Chemical Terrorism. September 10

25. University of Pennsylvania. Grand Rounds, Department of Emergency Medicine. The Poisoned Limb. August 20.

26. Staten Island University Hospital. Grand Rounds, Department of Pediatrics. New and Unique Drugs of Abuse. May 2.

27. SUNY Stony Brook. Grand Rounds, Department of Emergency Medicine. Chemical Terrorism. April 2.

28. SUNY Downstate/Kings County Hospital. Grand Rounds, Department of Emergency Medicine. Toxicologic Cardiac Arrest. March 20.

29. New York Hospital, Cornell University. Grand Rounds, Department of Pediatrics. New and Unique Drugs of Abuse. February 28.

30. Institute for Economic Botany. Columbia University/New York Botanical Garden. Plant Poisoning. February 27.

31. Babies Hospital, Columbia University. Grand Rounds, Department of Pediatrics. New and Unique Drugs of Abuse. February 6.

32. Greenwich Hospital. Grand Rounds, Department of Internal Medicine. New and Unique Drugs of Abuse. January 25.

33. Howland MA: Analgesics in the Emergency Department Part 2: Bellevue Hospital Emergency Department Staff Education Conference. October, 2002. NY, NY

34. Howland MA: Analgesics in the Emergency Department Part 1: Bellevue Hospital Emergency Department Staff Education Conference. August 14, 2002. NY, NY

35. Howland MA: What is the role of fomepizole in the management of a metabolic acidosis? Contemporary Concepts in Clinical Emergency Medicine: A Literature-Based Approach. NYU Medical Center. May 29, 2002. NY, NY. Regional Meeting.

36. Howland MA: The Serotonin System. An Intensive Review Course in Clinical Toxicology. New York City Poison Control Center and Bellevue Hospital Center in conjunction with St. John's University College of Pharmacy and Allied Health Professions. March 7-8, 2002. Regional Meeting. Also served as a Course Director for this Regional Program

37. Pediatric palliative care: meeting the challenge. 12th Annual Hospice Palliative Care Conference, Toronto, Ontario, May 5-7, 2002. P.Joshi

38. Plant & mushroom toxicity and Iron toxicity. Pediatric Poisons Toxicology Conference, Grand Rapids, Michigan, May 14, 2002. P. Joshi

2003

Course Director & Lectures
(R.S. Hoffman & L. Nelson)

1. An Intensive Review Course in Clinical Toxicology. New York City Poison Control Center in conjunction with Bellevue Hospital Emergency Services and St. John's School of Pharmacy. March 13-14, 2003. Lectures on Withdrawal Syndromes, and Mushroom Toxicity.

2. Clinical Toxicology Course: NYC PCC/NYU and Bellevue Hospital Center in conjunction with the Hong Kong College of Emergency Medicine. November 25-28, 2003, United Christian Hospital, Hong Kong.

3. ACMT Pre-meeting Symposium: Above the Law. 2003 North American Congress of Clinical Toxicology. Chicago, IL. September 4, 2003.

4. Course Director: ACMT Medical Toxicology CPC Competition. 2003 North American Congress of Clinical Toxicology. Chicago, IL. September 4, 2003.

5. 23rd Annual Emergency Medicine Seminar: Contemporary Concepts in Clinical Emergency Medicine: A Literature-Based Approach. Naloxone: A Benign Antidote Or A Dangerous Antagonist? New York University School of Medicine. June 4-6, 2003.

6. 2nd Annual Medical Toxicology Spring Course. Agency for Toxic Substances and Disease Registry (ATSDR) / Centers for Disease Control and Prevention (CDC). Atlanta, GA. Moderator, Fellows' Research Symposium. April 3-5, 2003.

7. Intensive Review Course in Clinical Toxicology. New York City Poison Control Center, Bellevue Hospital and St. John's University School of Pharmacy. Lectures: Poisoned Limb. March 13-14, 2003.

8. Agents of Opportunity. Agency for Toxic Substances and Disease Registry (ATSDR) / Centers for Disease Control and Prevention (CDC). Atlanta, GA. Clinical Neurotoxicology of Chemical Terrorism. January 23, 2003.

Lectures/Presentations
(R.S. Hoffman & L. Nelson)

1. Rocky Mountain Winter Conference On Emergency Medicine. Lectures on Ethanol Withdrawal and Pediatric Poisoning. Copper Mountain Colorado, 2/9/03.

2. 15th Annual Emergency Medicine Winter Symposium. Presented by Department of Emergency Medicine, Albany Medical College. Lectures on: Hyperthermia and Hypothermia. March 2-5, 2003, Lake Placid, NY.

3. Setting the Pace 2003. Presented by NY State ENA. Lecture on Pediatric Poisoning. May 2, 2003, NY, NY.

4. 3rd Annual Caritas Emergency Medicine Conference. Cutting Edge Toxicology: St. Elizabeth's Hospital, Boston, MA, June 3, 2003.

5. 23rd Annual Emergency Medicine Seminar: Contemporary Concepts In Emergency Medicine: A Literature-Based Approach. Department of Emergency Medicine, New York University School of Medicine. June 4-6, 2003. Lecture: Which are the top 10 toxicology articles of the year. New York, NY.

6. Canadian Association of Emergency Physicians Annual Scientific Meeting. Lectures: Advances in Management of Poisoning; and Street Drugs. Winnipeg, Canada, June 14-17, 2003.

7. New York State ACEP 2003 Scientific Assembly. Lectures: Toxicology Literature Review, Cocaine Toxicity, and, Toxicological ACLS. July 6-9, 2003 Bolton Landing, NY.

8. Annual Weekend in Emergency Medicine Conference. William Osler Health Centre. Lectures: Toxicology Literature Review, Toxicological ACLS; Workshops: Case Studies in Toxicology, Toxicology Pearls. July 12-13, 2003. Deerhurst, Canada.

9. 16th Annual Olive View-UCLA National Conference on Advances in Emergency Medicine and Primary Care. Lecture: Update in Toxicology. July 19-20, 2003, Chicago, IL.

10. 16th Annual Olive View-UCLA National Conference on Advances in Emergency Medicine and Primary Care. Lecture: Update in Toxicology. September 12-14, 2003, Boston, MA.

11. 25th Annual Educational Symposium. Presented by the New Jersey Chapter, Society for Critical Care Medicine. Lecture: Toxicology Literature Update. 10/3/03, New Brunswick, New Jersey.

12. 2003 ACEP Scientific Assembly. Lectures: 1) Cold Turkey: Withdrawal Syndromes, and 2) Polypharmacy: Drug Reactions That Kill. 10/12-10/15/2003, Boston, Massachusetts. (R.S Hoffman)

13. Seventh Annual Toxicology Teaching Day: Contemporary Issues in Toxicology. Presented by the Central New York Poison Center and the Department of Emergency Medicine, SUNY Upstate Medical University. Lecture: Toxicology literature update; Workshop: Gastrointestinal decontamination. 10/29/2003, Syracuse, NY. (R.S Hoffman)

14. Medical Dilemmas: 2003, presented by Symposia Medicus. Lectures: 1) Food Poisoning: Adventures in Eating, 2) Marine Envenomations, 3) Drug-Induced Seizures, 4) Toxicology Literature Update. 11/2-11/9/2003 Voyager of The Seas, Royal Caribbean Cruise Lines

15. Emergencies in Primary Care, presented by Symposia Medicus. Lectures on Recognition of Management of Drugs of Abuse. New York, NY, 12/19/2003. (R.S Hoffman)

16. Chemical Agents of Opportunity For Terrorism: The Medical and Psychological Consequences of, and Environmental Response Issues Related to, TICs (Toxic Industrial Chemicals) and TIMs Toxic Industrial Materials. Lecture: Terrorism by Fear and Uncertainty: Delayed Toxins. Presented by ATSDR, New York, NY(R.S Hoffman)

17. Case Studies in Medical Toxicology. Bispebjerg Hospital. Copenhagen Denmark. 1/10-1/11/2003 (R.S Hoffman)

18. Advance Topics In Infectious Disease: Bites and Envenomations. Sloan-Kettering Memorial Hospital, New York, NY, 1/22/03 (R.S Hoffman)

19. Special toxin induced cardiac arrest. Grand rounds. North Shore University Medical Center. Manhasset, NY, 3/19/03 (R.S Hoffman)

20. Chemical and Radiological Terrorism. Department of Infectious Disease, Sloan-Kettering Memorial Hospital, New York, NY, 5/10/03. (R.S Hoffman)

21. Keynote Lecture: Physostigmine: The Pendulum Swings. and treatment. European Association of Poison Centres and Clinical Toxicologists XXIII International Congress. Rome, Italy, 5/21/2003. (R.S Hoffman)

22. Literature Update in Toxicology. Pediatric Grand Rounds. Jamaica Hospital Center, Jamaica, NY, 8/14/2003. (R.S Hoffman)

23. Drug-Induced Bradycardia. Department of Emergency Medicine. Metropolitan Hospital Center. NY, NY, 11/12/03. (R.S Hoffman)

24. Sixth National Environmental Public Health Conference: Preparing for the Environmental Public Health Challenges of the 21st Century. Centers for Disease Control and Prevention (CDC) and Agency for Toxic Substances and Disease Registry (ATSDR), Atlanta, GA. Chemical Agents in Your Community. December 3, 2003.

25. Contemporary Issues in Emergency Medicine: Toxicology Teaching Day. SUNY Upstate Medical Center, Syracuse, NY. Potential Pitfalls in Poisoning. October 29, 2003.

26. Chemical Agents of Opportunity for Terrorism: The Medical and Psychological Consequences of TICs (Toxic Industrial Chemicals) and TIMs (Toxic Industrial Materials). Agency for Toxic Substances and Disease Registry (ATSDR) / Environmental Protection Agency (EPA). The Clinical Neurotoxicology of Chemical Terrorism. Washington, DC. October 28, 2003.

27. Pharmacology Course. New York University School of Medicine. Department of Pharmacology (second year medical students). Basic Science of Opioid Pharmacology and Clinical Correlation, October 14, 2003.

28. Acute Agitation as a Behavioral Emergency. 27th Scientific Assembly of the American College of Emergency Physicians, Boston. Unmet Needs in Treating Acute Agitation. October 11, 2003.

29. Academic Emergency Medicine Forum. New York Academy of Medicine. Medical Toxicology Fellowship Programs. September 24, 2003.

30. Chemical Agents of Terrorism and Mass Destruction: Emergency Preparedness and Response. The Second Mediterranean Emergency Medicine Congress. Sitges, Spain. The Clinical Neurotoxicology of Chemical Terrorism. September 14, 2003.

31. Advanced Seminar in Pain Management: New York University School of Medicine. Opioid Drug Diversion and Misuse. July 23, 2003.

32. Advanced Seminar in Bioterrorism: New York University School of Medicine. Vesicants and Irritants, June 26, 2003 and Agents of Opportunity, June 30, 2003.
33. Roadside to Bedside. Westchester Medical Center. New and Unique Drugs of Abuse. June 3, 2003.

34. XXIII International Congress, European Association of Poison Centres and Clinical Toxicologists. Rome, Italy. Keynote Lecture: Critical Review of Naloxone as an Opioid Antidote. May 21, 2003.

35. Advanced Topics in Clinical Toxicology. International Society for Emergency Care / Pan-American Conference on Emergency Medicine. Puerto Vallarta, Mexico. February 18-19, 2003. Carbon monoxide poisoning; Cyanide poisoning; Chemical Terrorism; Poisoning by Metals.

36. Mount Sinai School of Medicine. Grand Rounds, Department of Pediatrics. New and Unique Drugs of Abuse. May 15

37. St. Vincent's Medical Center. Grand Rounds, Department of Pediatrics. Plant Poisoning. May 6.

38. Jacobi Medical Center. Grand Rounds, Department of Pediatrics. Acetaminophen poisoning. March 21.

39. New York University School of Medicine. Case Conference, Division of Critical Care Medicine. Colchicine. January 7

40. The Clinical Diagnosis of Metal Poisoning. New Challenges in Health Care. Hong Kong Academy of Medicine. Hong Kong, 11/29/2003. (R.S Hoffman)

41. Feinfeld D, Mour G, Caraccio T, McGuigan M Acute renal dysfunction in acetaminophen poisoning International Society of Nephrology Satellite Symposium on Acute Renal Failure. Ghent, Belgium, June 13-15, 2003.

42. Howland MA: Which critical drug interactions should be familiar to all EM physicians? Contemporary Concepts in Clinical Emergency Medicine A Literature Bases Approach NYU Medical Center. June 5, 2003. NY, NY. Regional Meeting.

43. Howland MA: Role of the New York City Poison Control Center in Public Health. Alternative medicine students at NYU. May 2003

44. Howland MA: Acetaminophen poisoning in 2003. NYCPCC staff. Feb 2003

2004

Course Director & Lectures
(R.S. Hoffman & L. Nelson)

1. Clinical Toxicology Review Course: Bispebjerg Hospital, January 19-21, Copenhagen, Denmark.

2. An Intensive Review Course in Clinical Toxicology. New York City Poison Control Center in conjunction with Bellevue Hospital Emergency Services and St. John's School of Pharmacy. March 11-12, 2004. Lectures on Metals, and Mushroom Toxicity.

3. Clinical Toxicology Course: NYC PCC/NYU and Bellevue Hospital Center in conjunction with the Hong Kong College of Emergency Medicine. October 6-7, 2004, United Christian Hospital, Hong Kong.

4. ACMT Medical Toxicology Board Review Course. Cardiovascular Toxins. Dallas, TX. October 1-3, 2004.

5. ACMT Medical Toxicology CPC Competition. 2004 North American Congress of Clinical Toxicology. Seattle, WA. September 9, 2004.

6. ACMT Pre-meeting Symposium: Toxicology: Is it on the Level? 2004 North American Congress of Clinical Toxicology. Seattle, WA. September 9, 2004.

7. Chemical Agents of Opportunity for Terrorism: The Medical and Psychological Consequences of TICs (Toxic Industrial Chemicals) and TIMs (Toxic Industrial Materials). Joint ACMT/ATSDR Conference. Public Health Laboratories. New York, NY. Observed Behaviors During Chemical Events. August 3-4, 2004.

8. 24th Annual Emergency Medicine Seminar: Contemporary Concepts in Clinical Emergency Medicine: A Literature-Based Approach. New York University School of Medicine. Should You Admit All Patients With Cocaine-Associated Chest Pain. June 9-11, 2004.

9. Chemical Agents of Opportunity for Terrorism: The Medical and Psychological Consequences of TICs (Toxic Industrial Chemicals) and TIMs (Toxic Industrial Materials). Joint Environmental Protection Agency/ATSDR Conference. EPA Building, New York, NY. Observed Behaviors During Chemical Events. January 15, 2004.

Lectures & Presentations
(R.S. Hoffman & L. Nelson)

1. 15th Annual Winter Conference on Emergency Medicine, presented by Symposia Medicus. Lectures on: Toxicology Literature Update; Adventures in Eating; Drugs of Abuse. Rio Grande, Puerto Rico, 2/11/04-2/14/04.

2. 24rd Annual Emergency Medicine Seminar: Contemporary Concepts In Emergency Medicine: A Literature-Based Approach. Department of Emergency Medicine, New York University School of Medicine. June 9-11, 2004. Lecture: A Rational Approach to Community Acquired Pneumonia. New York, NY.

3. A Day In Emergency Medicine: Presented by York Central Hospital. Lectures on The ABCs of Street Drugs, and Adventures in Eating: Toxic Food Poisoning. Toronto, Canada, June 23, 2004.

4. New York State ACEP 2004 Scientific Assembly. Lectures: Bites and Envenomations, and Pediatric Poisoning. July 5-7, 2004 Bolton Landing, NY.

5. Toxicology – Is It On The Level. American College of Medical Toxicology Symposium. Lecture: What is the role for ancillary markers in poisoning. Seattle, WA, September 9, 2004.

6. 3rd Asian Conference on Emergency Medicine. Lectures: Cutting edge toxicology: Recent advances that will change your practice, and, Herbals and supplements in the West. October 8-11, 2004, Hong Kong.

7. Emergencies in Primary Care, presented by Symposia Medicus. Lectures on Agents of Opportunity: Chemical Disasters in Your Backyard. New York, NY, 12/17/2004.

8. The History of Toxicology. Danish Pharmacology 2004. Arhus, Denmark, 1/21/2004.

9. Creating a Poison Center. Pannum Institute. Copenhagen, Denmark, 1/22/2004.

10. Toxins That Resemble Communicable Diseases. Infectious disease grand round. National Institute of Allergy and Infectious Diseases, National Institute of Health. Bethesda, MD, 5/14/2004.

11. Carbon Monoxide. Pediatric Grand Rounds. Mount Sinai School of Medicine, NY, NY, 5/27/2004.

12. Toxicology Literature Update. Emergency Medicine Grand Rounds. Westchester County Medical Center, New York, 6/16//2004.

13. Advances in Toxicology. Emergency Medicine Grand Rounds. Hackensack University Medical Center. Hackensack, NJ, 7/9/2004.

14. State of the art pesticide poisoning. Centro Medico Siglo XXI. Instituo Mexicano Del Seguro Social. Mexico City, Mexico, 12/8/2004.

15. Chemical Agents of Opportunity for Terrorism: The Medical and Psychological Consequences of TICs (Toxic Industrial Chemicals) and TIMs (Toxic Industrial Materials). The Clinical Neurotoxicology of Chemical Terrorism; Recognizing Current Vulnerabilities: Threats to Food, Water and Drug Supplies. American College of Occupational and Environmental Medicine Annual State of the Art Conference. San Antonio, TX. November 6, 2004.

16. The Interface of Toxicology and Nephrology. American Society of Nephrology Annual Meeting. Gastrointestinal decontamination; Toxicologic Implications of Anion-gap Metabolic Acidosis; Case Review. St. Louis. October 28, 2004.

17. Masters Scholar Program, Bioterrorism Conference. New York University School of Medicine. Chemical Terrorism. October 25, 2004.

18. Moderator and Speaker. Third Asian Conference on Emergency Medicine. Contemporary Substances of Abuse. Moderated session on Surgical Emergencies. Hong Kong. October 8, 2004.

19. Review Course in Medical Toxicology. Premeeting symposium for the Third Asian Conference onEmergency Medicine Multiple lectures. Hong Kong. October 6&7, 2004.

20. FBI Laboratory Symposium on Forensic Toxicology/Society of Forensic Toxicology. Clinical Neurotoxicology of Chemical Terrorism. Washington, D.C. August 29-30, 2004

21. Chemical Agents of Opportunity for Terrorism: The Medical and Psychological Consequences of TICs (Toxic Industrial Chemicals) and TIMs (Toxic Industrial Materials). The Clinical Neurotoxicology of Chemical Terrorism. Goucher College, Towson (Baltimore), MD. August 24, 2004.

22. Second Toxic Industrial Chemical and Toxic Industrial Material Symposium. Virginia Commonwealth University. Richmond, VA. The Clinical Toxicology of TICs and TIMs: A Medical Perspective. July 20-22, 2004.

23. Advanced Seminar in Drugs of Abuse: New York University School of Medicine. Prescription and Illicit Opioid Abuse. July 2, 2004.

24. Advanced Seminar in Pain Management: New York University School of Medicine. Opioid Drug Diversion and Misuse. June 25, 2004.

25. XXIV International Congress, European Association of Poison Centres and Clinical Toxicologists. Strasbourg, France. Keynote Lecture: Naloxone Use in Prehospital Emergency Care; Co-chair, Symposium on Chemical Toxicity. June 1-4, 2004.

26. 2004 Toxicology and Risk Assessment Conference. Cincinnati, OH. April 26-30, 2004. Toxic Industrial Chemicals (TICs) and Toxic Industrial Materials (TIMs) as Terrorist Threats. The Clinical Toxicology of Chemical Terrorism. April 27, 2004

27. Counterterrorism and Neuroscience Research Workshop. National Institute for Neurologic Disorders and Stroke (NINDS), National Institutes of Health, Washington, DC. The Clinical Neurotoxicology of Chemical Terrorism. April 7-8, 2004.

28. Fred Friendly Seminars Socratic Dialogue. Reporting on Terrorism: The Media and Public Health.. Columbia University Graduate School of Journalism and Mailman School of Public Health. New York, NY. Jan 31, 2004.

29. Southwest Medical Toxicology Conference. Myocardial Sensitization/Human Potassium Channels; Non-digoxin Cardioactive Steroids. Phoenix, AZ. January 20-21, 2004.

30. Chemical Agents of Opportunity for Terrorism: The Medical and Psychological Consequences of TICs (Toxic Industrial Chemicals) and TIMs (Toxic Industrial Materials). Environment and Public Works Committee, US Senate, Dirskin Senate Building, Washington, DC. Recognizing Current Vulnerabilities: Threats to Food and Drug Supplies January 14, 2004.

31. Long Island College Hospital. Grand Rounds, Department of Pediatrics. New and Unique Drugs of Abuse. December 15.

32. New York University School of Medicine. Grand Rounds. Department of Medicine. Chemical Agents Terrorism. August 18.

33. Beth Israel Medical Center. Department of Emergency Medicine. Pitfalls in Poisoning Management. July 28.

34. Agency for Toxic Substances and Disease Registry. Public Meeting, Holley, NY. Diaz Chemical Company release of Chlorofluoropropane. May 20-21.

35. Metropolitan Hospital. Grand Rounds. Department of Pediatrics. New and Unique Drugs of Abuse. March 18.

36. New York University School of Medicine. Department of Internal Medicine. Cardiotoxic Overdoses. March 2.

37. St. Lukes/Roosevelt Hospital Center. Grand Rounds. Department of Pediatrics. New and Unique Drugs of Abuse. February 13.

38. Columbia University/New York Botanical Garden. Graduate Program in Ecology and Economic Botany. Plant Poisoning. February 11.

39. Jacobi Medical Center. Grand Rounds, Department of Emergency Medicine. Toxicologic Cardiac Arrest. February 4.

40. Jacobi Medical Center. Grand Rounds, Department of Pediatrics. New and Unique Drugs of Abuse. January 23.

41. Children's Hospital of Michigan, Detroit Receiving Hospital. Citywide Grand Rounds. Department of Emergency Medicine. Opioid Pharmacology and Toxicology. January 8.

42. Howland MA: Critical Drug Interactions for the Emergency Department Physician. Emergency Department Physicians. Bellevue Hospital. July 2004.

43. Howland MA: Which is the Best Method of GI Decontamination? Contemporarty Concepts inClinical Emergency Medicine A Literature Bases Approach NYU Medical Center. June 9, 2004. NY, NY. Regional Meeting

44. Howland MA: Role of the New York City Poison Control Center in Public Health. Alternative medicine students at NYU. May 2004

45. Howland MA: Poison prevention, antidotes and poison control centers. St. John's University Continuing Education Program: March 4, 2004.

46. Howland MA, Marraffa J: Workshop on drug interactions. An Intensive Review Course in Clinical Toxicology. New York City Poison Control Center and Bellevue Hospital Center in conjunction with St. John's University College of Pharmacy and Allied Health Professions.March 11-12, 2004. Regional Meeting. Also served as a Course Director for this Regional Program