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
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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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.
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.

LEGEND
- Western New York Regional Poison Center
- Finger Lakes Regional Poison and Drug Information Center
- Central New York Regional Poison Control Center
- Educational Programs Provided by the Hudson Valley Poison Education Center
- New York City Regional Poison Control Center
- Long Island Regional Poison and Drug Information Center
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 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:

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<th>Phelps Memorial Hospital Center</th>
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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.

(13)
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 from 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

<table>
<thead>
<tr>
<th>CATEGORY</th>
<th>2002</th>
<th>2003</th>
<th>2004</th>
</tr>
</thead>
<tbody>
<tr>
<td>Literature Distributed</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Brochures</td>
<td>441,667</td>
<td>417,397</td>
<td>445,525</td>
</tr>
<tr>
<td>Telephone Stickers</td>
<td>756,544</td>
<td>756,082</td>
<td>748,538</td>
</tr>
<tr>
<td>Magnets</td>
<td>58,138</td>
<td>51,974</td>
<td>52,467</td>
</tr>
<tr>
<td>Newsletters</td>
<td>21,200</td>
<td>22,500</td>
<td>22,058</td>
</tr>
<tr>
<td>Posters</td>
<td>3,836</td>
<td>6,068</td>
<td>4,250</td>
</tr>
<tr>
<td>Videos</td>
<td>186</td>
<td>215</td>
<td>358</td>
</tr>
<tr>
<td>Curriculum</td>
<td>1,417</td>
<td>1,323</td>
<td>1,157</td>
</tr>
<tr>
<td>Other</td>
<td>79,245</td>
<td>34,746</td>
<td>56,853</td>
</tr>
</tbody>
</table>

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

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.

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

<table>
<thead>
<tr>
<th>Research and Publications</th>
<th>2002</th>
<th>2003</th>
<th>2004</th>
</tr>
</thead>
<tbody>
<tr>
<td>Research Projects</td>
<td>2</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>Book/Book Chapters</td>
<td>65</td>
<td>34</td>
<td>13</td>
</tr>
<tr>
<td>Journal Articles</td>
<td>46</td>
<td>45</td>
<td>36</td>
</tr>
<tr>
<td>Abstracts Presented</td>
<td>33</td>
<td>46</td>
<td>41</td>
</tr>
<tr>
<td>Newsletters</td>
<td>13</td>
<td>11</td>
<td>10</td>
</tr>
</tbody>
</table>
APPENDIX ONE

MANAGEMENT INFORMATION

FOR

THE POISON CONTROL CENTERS IN

NEW YORK STATE

1-800-222-1222
<table>
<thead>
<tr>
<th>Western New York Regional Poison Center</th>
<th>Finger Lakes Regional Poison and Drug Information Center</th>
<th>Central New York Regional Poison Control Center</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Location:</strong></td>
<td><strong>Location:</strong> Strong Memorial Hospital University of Rochester</td>
<td><strong>Location:</strong> University Hospital, Upstate Medical University SUNY Health Science Center</td>
</tr>
<tr>
<td>Children’s Hospital of Buffalo</td>
<td>University of Rochester</td>
<td>750 East Adams Street</td>
</tr>
<tr>
<td>219 Bryant Street</td>
<td>601 Elmwood Avenue</td>
<td>Syracuse, New York</td>
</tr>
<tr>
<td>Buffalo, New York  14222</td>
<td>P.O. Box 321</td>
<td>13210</td>
</tr>
<tr>
<td><strong>Population Served:</strong> 1.6 Million</td>
<td>Rochester, New York 14642</td>
<td><strong>Population Served:</strong> 4.4 Million</td>
</tr>
<tr>
<td><strong>Medical Director:</strong> Prashant Joshi, MD, FRCPC</td>
<td><strong>Medical Director:</strong> Ruth A. Lawrence, MD</td>
<td><strong>Medical Director:</strong> Richard Cantor, MD</td>
</tr>
<tr>
<td><strong>Poison Educator:</strong> Rhonda Collins, RN, CSPI</td>
<td><strong>Associate Medical and Managing Director:</strong> John G. Benitez, MD, M.P.H.</td>
<td><strong>Managing Director:</strong> Christine Stork, Pharm.D., ABAT</td>
</tr>
<tr>
<td><strong>Poison Information Specialists:</strong> 5.5 FTE’s</td>
<td><strong>Health Educator:</strong> Nancy Warburton, R.N., BSN</td>
<td><strong>Education Coordinator:</strong> Gail Banach, MSEd</td>
</tr>
<tr>
<td><strong>Telephone Numbers:</strong> Emergency TOLL-FREE</td>
<td><strong>Secretary/Clerical:</strong> Kristine Mossgraber</td>
<td><strong>Administrative Director:</strong> Michele Caliva, R.N. CSPI</td>
</tr>
<tr>
<td>1-800-222-1222</td>
<td><strong>Drug Information Coordinator:</strong> Sharon Ternullo, Pharm.D.</td>
<td><strong>Secretary/Clerical:</strong> Lauri Foster</td>
</tr>
<tr>
<td><strong>Poison Center:</strong> (716) 878-7654</td>
<td><strong>Poison Information Specialists:</strong> 7.0 FTE’s</td>
<td><strong>Poison Information Specialists:</strong> 10.5 FTE’s</td>
</tr>
<tr>
<td></td>
<td><strong>Telephone Numbers:</strong> Emergency TOLL-FREE</td>
<td><strong>Telephone Numbers:</strong> Emergency TOLL-FREE</td>
</tr>
<tr>
<td></td>
<td>1-800-222-1222</td>
<td>1-800-222-1222</td>
</tr>
<tr>
<td></td>
<td>Office/Administrative: (585) 273-4155</td>
<td>Office/Administrative: (315) 464-7078</td>
</tr>
<tr>
<td></td>
<td>Public Educator: (585) 273-4621</td>
<td>Public Educator: (315) 464-5423</td>
</tr>
<tr>
<td></td>
<td>TTY: (585) 273-3854</td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>Website Address:</strong> <a href="http://www.wnypoison.org">www.wnypoison.org</a></td>
<td><strong>Website Address:</strong> cnypoison.org</td>
</tr>
<tr>
<td></td>
<td><strong>E-Mail Address:</strong> <a href="mailto:John.benitez@rochester.edu">John.benitez@rochester.edu</a></td>
<td></td>
</tr>
<tr>
<td>Hudson Valley Poison Education Center</td>
<td>Long Island Regional Poison and Drug Information Center</td>
<td>New York City Regional Poison Control Center</td>
</tr>
<tr>
<td>---------------------------------------</td>
<td>-------------------------------------------------------</td>
<td>-------------------------------------------</td>
</tr>
<tr>
<td>Location: Phelps Memorial Hospital Center 701 North Broadway Sleepy Hollow, New York 10591</td>
<td>Location: Winthrop University Hospital 107 Mineola Boulevard 2nd Floor Mineola, New York 11501</td>
<td>Location: New York City Dept. of Health &amp; Mental Hygiene 455 First Avenue, Room 123 New York, New York 10016</td>
</tr>
<tr>
<td>Population Served: 3.6 Million</td>
<td>Population Served: 3.7 Million</td>
<td>Population Served: 8 Million</td>
</tr>
<tr>
<td>Medical Director: Emil Nigro, MD, FACEP</td>
<td>Medical Director: Micheal McGuigan, MD</td>
<td>Medical Director: Lewis Goldfrank, MD</td>
</tr>
<tr>
<td>Administrative Director: Bruce B. Davidow</td>
<td>Managing Director: Thomas Caraccio, Pharm.D.,ABAT</td>
<td>Managing Director: Robert S. Hoffman, MD</td>
</tr>
<tr>
<td>Program Manager, Education and Communications: Jonathan Weinstein, MD</td>
<td>Education Coordinator: William Gaffney</td>
<td>Managing Director: Maria Mercurio-Zappala, RPh., M.S., CSPI, DABAT</td>
</tr>
<tr>
<td>Secretary/Clerical: Dennis Jao/Pat Palazzo</td>
<td>Secretary/Clerical: Dennis Jao/Pat Palazzo</td>
<td>Education Coordinator: Lauren Schwartz, M.P.H. Maryann Howland, Pharm.D.</td>
</tr>
<tr>
<td>Website Address: <a href="http://www.PoisonEducation.org">www.PoisonEducation.org</a></td>
<td>Website Address: lirpdic.org/</td>
<td>Website Address: <a href="http://www.nyc.gov/html/doh/html/poison/poison.shtml">www.nyc.gov/html/doh/html/poison/poison.shtml</a></td>
</tr>
</tbody>
</table>
| E-Mail Address: PoisonEducation@yahoo.com | E-Mail Address: Tcaracci@winthrop.org or McGuigan@winthrop.org | *Telephone Inquiries Only. Educational Programs provided by Hudson Valley Poison Education Center.
APPENDIX TWO

GRAPHIC PRESENTATION

OF

STATISTICAL INFORMATION

2002 - 2004
2002 TOTAL CALLS

- 131,791 (70%)
- 51,454 (27%)
- 5,541 (3%)
- 219 (0%)

Total: 189,005

Legend:
- Blue: Human
- Red: Animal
- Gray: Information
- White: Human Non-Confirmed
Definitions of Information Calls Collected by the Poison Centers

**Drug Information:** Questions about drugs such as dosage, indications, contraindications, side effects, interactions and ingredients.

**Drug Identification:** Questions involving the identity of a drug or medication.

**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 MEDICAL OUTCOME OF HUMAN EXPOSURE CASES

- No Effect: 28,134 (21%)
- Minor: 17,631 (13%)
- Moderate: 8,292 (6%)
- Major: 1,597 (1%)
- Death: 113 (0%)
- NF Non-tox: 35,256 (27%)
- NF Min Tox: 24,774 (19%)
- NF Potential Tox: 13,657 (10%)
- Unrelated: 2,335 (2%)

Total: 131,789

2002 MANAGEMENT OF HUMAN EXPOSURE CASES

- Managed on Site: 88,291 (67%)
- Managed in a Health Care Facility: 38,366 (29%)
- Refused: 1,319 (1%)
- Unknown: 4,318 (3%)

Total: 131,789

(29)
2003 TOTAL CALLS

- 130,703: 70% (Human)
- 51,681: 27% (Information)
- 5,506: 3% (Animal)
- 232: 0% (Conf Non)

Total: 188,122
Definitions of Information Calls Collected by the Poison Centers

**Drug Information:** Questions about drugs such as dosage, indications, Contraindications, side effects, interactions and ingredients.

**Drug Identification:** Questions involving the identity of a drug or medication.

**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.
2003 MEDICAL OUTCOME OF HUMAN EXPOSURE CASES

Totals: 130,730

20,510 (16%) No Effect
17,727 (14%) Minor Effect
9,062 (7%) Moderate Effect
1,600 (1%) Death
125 (0%) NF Non-toxic
125 (0%) NF Minimal toxic
31,497 (24%) NF Potential toxic
9,133 (7%) Unrelated Effect
2,091 (1%) Unknown

2003 MANAGEMENT OF HUMAN EXPOSURE CASES

Totals: 130,703

34,389 (26%) On Site
90,091 (69%) In HCF
1,306 (1%) Refused
4,409 (3%) Unknown

(35)
2003 ROUTE OF HUMAN EXPOSURE CALLS

Totals:

- Ingestion: 106,569 (79%)
- Inhalation: 10,238 (8%)
- Aspiration: 5,698 (4%)
- Ocular: 2,623 (2%)
- Dermal: 8,174 (6%)
- Bite/Sting: 2,623 (2%)
- Parenteral: 5,698 (4%)
- Rectal: 2,387 (2%)
- Otic: 68 (0%)
- Vaginal: 68 (0%)
- Other: 342 (0%)
- Unknown: 2,758 (2%)

2003 SITE OF HUMAN EXPOSURE CALLS

Total: 130,703

- Own Residence: 116,663 (89%)
- Other Residence: 2,758 (2%)
- Workplace: 2,387 (2%)
- Health Care Facility: 923 (1%)
- School: 2,737 (2%)
- Restaurant: 745 (1%)
- Public Area: 1,651 (1%)
- Other: 1,475 (1%)
- Unknown: 1,505 (1%)

(36)
2004 REPORT
2004 TOTAL CALLS

Total: 177,705

- Human Exposures: 126,368 (71%)
- Animal Exposures: 5,717 (3%)
- Information: 45,423 (26%)
- Non-Confirmed: 197 (0%)
Definitions of Information Calls Collected by the Poison Centers

**Drug Information:** Questions about drugs such as dosage, indications, Contraindications, side effects, interactions and ingredients.

**Drug Identification:** Questions involving the identity of a drug or medication.

**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.
2004 AGE DISTRIBUTION

Total: 126,368

<table>
<thead>
<tr>
<th>Age Group</th>
<th>Calls</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less than 1</td>
<td></td>
<td>5%</td>
</tr>
<tr>
<td>1y-5y</td>
<td>6,042</td>
<td>4%</td>
</tr>
<tr>
<td>6y-12y</td>
<td>9,848</td>
<td>8%</td>
</tr>
<tr>
<td>13y-19y</td>
<td>10,025</td>
<td>8%</td>
</tr>
<tr>
<td>20y-29y</td>
<td>9,538</td>
<td>8%</td>
</tr>
<tr>
<td>30y-39y</td>
<td>5,898</td>
<td>5%</td>
</tr>
<tr>
<td>40y-49y</td>
<td>11,931</td>
<td>9%</td>
</tr>
<tr>
<td>50y-59y</td>
<td></td>
<td></td>
</tr>
<tr>
<td>60y Plus</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Unknown</td>
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<td></td>
</tr>
</tbody>
</table>

Total: 126,368

2004 REASONS FOR HUMAN EXPOSURE CALLS

Total: 126,368

<table>
<thead>
<tr>
<th>Reason</th>
<th>Calls</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unintentional</td>
<td></td>
<td>81%</td>
</tr>
<tr>
<td>Intentional</td>
<td>18,312</td>
<td>14%</td>
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<tr>
<td>Other</td>
<td>4,024</td>
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<tr>
<td>Adverse Reaction</td>
<td>836</td>
<td>1%</td>
</tr>
<tr>
<td>Unknown</td>
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</tbody>
</table>

Total: 126,368
2004 MEDICAL OUTCOME OF HUMAN EXPOSURE CASES

- Total: 126,368

2004 MANAGEMENT OF HUMAN EXPOSURE CASES

- Total: 126,368

(41)
2004 ROUTE OF HUMAN EXPOSURE CALLS

Total: 131,285

- Ingestion: 102,638 (78%)
- Inhalation: 10,102 (8%)
- Aspiration: 5,722 (4%)
- Ocular: 8,121 (6%)
- Dermal: 2,635 (2%)
- Parenteral: 786 (1%)
- Rectal: 98 (0%)
- Otic: 0 (0%)
- Vaginal: 2,635 (2%)
- Bite/Sting: 0 (0%)

2004 SITE OF HUMAN EXPOSURE CALLS

Total: 126,368

- Own Residence: 113,638 (90%)
- Other Residence: 2,462 (2%)
- Workplace: 2,953 (2%)
- Health Care Facility: 685 (0%)
- School: 0 (0%)
- Restaurant: 64 (0%)
- Public area: 98 (0%)
- Other: 1,154 (1%)

(42)
APPENDIX THREE

COMMON SUBSTANCES INVOLVED IN HUMAN EXPOSURES

AND IN

PEDIATRIC HUMAN EXPOSURES
## 2002

### Top Ten Human Exposures in Adults

<table>
<thead>
<tr>
<th>Ranking</th>
<th>Substances</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Analgesics</td>
</tr>
<tr>
<td>2</td>
<td>Sedative Hypnotics</td>
</tr>
<tr>
<td>3</td>
<td>Household Cleaners</td>
</tr>
<tr>
<td>4</td>
<td>Antidepressants</td>
</tr>
<tr>
<td>5</td>
<td>Food Poisoning</td>
</tr>
<tr>
<td>6</td>
<td>Alcohols</td>
</tr>
<tr>
<td>7</td>
<td>Cosmetics/Personal Care</td>
</tr>
<tr>
<td>8</td>
<td>Cardiac Medications</td>
</tr>
<tr>
<td>9</td>
<td>Chemicals</td>
</tr>
<tr>
<td>10</td>
<td>Bites/Envenomations</td>
</tr>
</tbody>
</table>

### Top Ten Exposures in Pediatric Patients

(Children under 6 years of age)

<table>
<thead>
<tr>
<th>Ranking</th>
<th>Substances</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Cosmetics</td>
</tr>
<tr>
<td>2</td>
<td>Household Cleaners</td>
</tr>
<tr>
<td>3</td>
<td>Foreign Bodies</td>
</tr>
<tr>
<td>4</td>
<td>Topicals</td>
</tr>
<tr>
<td>5</td>
<td>Analgesics</td>
</tr>
<tr>
<td>6</td>
<td>Vitamins</td>
</tr>
<tr>
<td>7</td>
<td>Plants</td>
</tr>
<tr>
<td>8</td>
<td>Arts &amp; Crafts</td>
</tr>
<tr>
<td>9</td>
<td>Cough &amp; Cold Preperations</td>
</tr>
<tr>
<td>10</td>
<td>Pesticide/Insecticides</td>
</tr>
</tbody>
</table>
2003

Top 10 Substances in Adults

<table>
<thead>
<tr>
<th>Ranking</th>
<th>Substance</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Anaglesics</td>
</tr>
<tr>
<td>2</td>
<td>Sedative/Hypnotics</td>
</tr>
<tr>
<td>3</td>
<td>Household Cleaners</td>
</tr>
<tr>
<td>4</td>
<td>Antidepressants</td>
</tr>
<tr>
<td>5</td>
<td>Food Poisoning</td>
</tr>
<tr>
<td>6</td>
<td>Alcohols</td>
</tr>
<tr>
<td>7</td>
<td>Cosmetics/Personal Care</td>
</tr>
<tr>
<td>8</td>
<td>Cardiovascular</td>
</tr>
<tr>
<td>9</td>
<td>Chemicals</td>
</tr>
<tr>
<td>10</td>
<td>Bites/Envenom</td>
</tr>
</tbody>
</table>

Top 10 Substances in Children (<5 years old)

<table>
<thead>
<tr>
<th>Ranking</th>
<th>Substance</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Cosmetics/Personal Care</td>
</tr>
<tr>
<td>2</td>
<td>Household Cleaners</td>
</tr>
<tr>
<td>3</td>
<td>Foreign Bodies</td>
</tr>
<tr>
<td>4</td>
<td>Topical Preparations</td>
</tr>
<tr>
<td>5</td>
<td>Analgesics</td>
</tr>
<tr>
<td>6</td>
<td>Cough and Cold Preparations</td>
</tr>
<tr>
<td>7</td>
<td>Plants</td>
</tr>
<tr>
<td>8</td>
<td>Arts, Crafts, Office Supplies</td>
</tr>
<tr>
<td>9</td>
<td>Vitamins</td>
</tr>
<tr>
<td>10</td>
<td>Antimicrobials</td>
</tr>
</tbody>
</table>
### 2004

**Top Ten Human Exposures in Adults (2004)**

<table>
<thead>
<tr>
<th>Ranking</th>
<th>Substances</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Analgesics</td>
</tr>
<tr>
<td>2</td>
<td>Sedative/hypnotics</td>
</tr>
<tr>
<td>3</td>
<td>Fumes/Gases/Vapors</td>
</tr>
<tr>
<td>4</td>
<td>Household Cleaners</td>
</tr>
<tr>
<td>5</td>
<td>Antidepressants</td>
</tr>
<tr>
<td>6</td>
<td>Food Poisoning</td>
</tr>
<tr>
<td>7</td>
<td>Alcohol</td>
</tr>
<tr>
<td>8</td>
<td>Cardiovascular</td>
</tr>
<tr>
<td>9</td>
<td>Pesticides</td>
</tr>
<tr>
<td>10</td>
<td>Cosmetic/Personal Care</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Ranking</th>
<th>Substances</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Cosmetics/Personal Care</td>
</tr>
<tr>
<td>2</td>
<td>Household Cleaners</td>
</tr>
<tr>
<td>3</td>
<td>Foreign Bodies</td>
</tr>
<tr>
<td>4</td>
<td>Topical Agents</td>
</tr>
<tr>
<td>5</td>
<td>Analgesics</td>
</tr>
<tr>
<td>6</td>
<td>Pesticides</td>
</tr>
<tr>
<td>7</td>
<td>Cough &amp; Cold Preps</td>
</tr>
<tr>
<td>8</td>
<td>Vitamins</td>
</tr>
<tr>
<td>9</td>
<td>Arts &amp; Crafts</td>
</tr>
<tr>
<td>10</td>
<td>Antimicrobials</td>
</tr>
</tbody>
</table>

(46)
APPENDIX FOUR

PUBLIC EDUCATION PROGRAMS
## 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**

**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.

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**Special Groups**

**Power Over Poison for the Hearing Impaired**
Previously mentioned programs adapted for the hearing impaired student through the use of signed and close-captioned 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 allows 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
### Professional Education and Prevention Program Summaries

<table>
<thead>
<tr>
<th>Pharmacy and Medical College Preceptorships</th>
<th>Workshops</th>
</tr>
</thead>
<tbody>
<tr>
<td>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.</td>
<td>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</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>In-Service Training</th>
<th>Professional Newsletter</th>
</tr>
</thead>
<tbody>
<tr>
<td>Primarily for poison center staff. Provides current trends in poisoning, new drugs, and review of guidelines for common and uncommon toxicological protocols.</td>
<td>A professional publication featuring updates in toxicology, pharmacology and poison exposure management. Designed as a communication tool for the professional/medical communities.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Journal Club and Case Review</th>
<th>Tours and Orientations</th>
</tr>
</thead>
<tbody>
<tr>
<td>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.</td>
<td>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.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Electronic Continuing Education</th>
<th>Conferences/Presentations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sponsored by the American Association of Poison Control Centers. Specialists in Poison Information provide continuing education topics, questions and answers on a daily basis.</td>
<td>Professional presentation at a conference or symposium on poison related topics.</td>
</tr>
</tbody>
</table>
APPENDIX SIX

PUBLICATIONS

AND

PRESENTATIONS
Publications

2002

Books/Book Chapters


19. Howland MA: Fomepizole p999-1003


Journal Articles


31. McFee RB Preparing for an era of weapons of mass destruction(WMD) are we there yet? Why we should be concerned. Part 1. Vet Hum Toxicolog 2002;44:193-199


37. Nelson LS. No cause for Ecstasy. 2002 (October);34:49-50


(61)
Abstracts

2002 SAEM Conference in St. Louis:


Presented at European Association of Poison Control Centers and Clinical Toxicologists XXII International Congress May 22-25,2002 Lisbon, Portugal: and published in Clinical Toxicology 2002;40;3:335-397:


2002 ICEM meeting in Edinburgh


15. Caraccio, TR, McGuigan M, Mofenson HC Chronic arsenic (as) toxicity from chitosan® supplement Clin Toxicol 2002; 40 599-698 Abstract # 109


ToxAlerts Newsletters

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

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 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

2003

Book/Book Chapters

1. Brody G, McGuigan MA: Beta Blocking agents; Medical Toxicology, 3rd edition Lippincott Williams & Wilkins; Richard C. Dart, editor 2003; chapter 119, p 679-688
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

(64)

Caraccio TR, McGuigan MA: Hexachloraphene: Medical Toxicology, 3rd edition Lippincott Williams & Wilkins; Richard C. Dart, editor 2003, Section 3: Antiseptics and Disinfectants: chapter 196, p 1251-1252

Caraccio TR, McGuigan MA: Hydrogen Peroxide: Medical Toxicology, 3rd edition Lippincott Williams & Wilkins; Richard C. Dart, editor 2003, Section 3: Antiseptics and Disinfectants: chapter 197, p 1253-1255

Caraccio TR, McGuigan MA: Benzalkonium Chloride: Medical Toxicology, 3rd edition Lippincott Williams & Wilkins; Richard C. Dart, editor 2003, Section 3: Antiseptics and Disinfectants: chapter 198, p 1255-1257

Lee D, McGuigan MA: Cisapride: Medical Toxicology, 3rd edition Lippincott Williams & Wilkins; Richard C. Dart, editor 2003; chapter 152, p 938-939

McFee RM, McGuigan MA: Antiemetic drugs: Medical Toxicology, 3rd edition Lippincott Williams & Wilkins; Richard C. Dart, editor 2003; chapter 151, p 930-937

McFee RM, McGuigan MA: Proton Pump Inhibitors: Medical Toxicology, 3rd edition Lippincott Williams & Wilkins; Richard C. Dart, editor 2003; chapter 154, p 942-945

McGuigan MA: Antacids: Medical Toxicology, 3rd edition Lippincott Williams & Wilkins; Richard C. Dart, editor 2003; chapter 1149, p 925-926

McGuigan MA: Antidiarrhea drugs: Medical Toxicology, 3rd edition Lippincott Williams & Wilkins; Richard C. Dart, editor 2003; chapter 150, p 927-929

McGuigan MA: Digestants: Medical Toxicology, 3rd edition Lippincott Williams & Wilkins; Richard C. Dart, editor 2003; chapter 153, p 940-941

McGuigan MA: Miscellaneous GI Drugs: Medical Toxicology, 3rd edition Lippincott Williams & Wilkins; Richard C. Dart, editor 2003; chapter 155, p 946-949.

McGuigan MA: Antituberculosis: Medical Toxicology, 3rd edition Lippincott Williams & Wilkins; Richard C. Dart, editor 2003; chapter 91, p 434.


**Tox Alert Newsletters:**

Published on the Poison Center Website [www.LIRPDIC.org](http://www.LIRPDIC.org) and sent out as faxes to hospitals and as emails.

1. Caraccio TR. ToxAlert# 1-03: Update on Management of TCA Overdose
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
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
9. Caraccio TR. ToxAlert# 8-03: Dangerous Drugs

**Journal Articles**


15. Caraccio TR, Mofenson HC: Role of Carnitine in valproic acid toxicity J Toxicology Clinical Toxicology 2003: 41: 897(Letter to Editor)


(67)


42. Banch, G. “Inhalant Abuse Awareness” School Nursing News April, 2003
Abstracts

2003 SAEM Conference in Boston


2003 EAPCCT Conference in Rome


(69)


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

2004

Books/Book Chapters


Journal Articles


(73)


Abstracts

2004 SAEM in Orlando


2004 EAPCCT in Strasbourg


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](http://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)


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)


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


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)


(78)


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


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.


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


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


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

(81)


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


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


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


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.


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


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


46. Howland MA, Maraffa 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.