



New York City's Poison Control Center

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THE NEW YORK CITY Poison Control Center was established in 1955 to comply with the public's and professional societies' demands for a source of readily available information about the treatment of acute intoxications and to serve the department of health by collecting statistics on poisoning. The center, which started with one employee, a few reference books, and several telephones, is now staffed with the equivalent of 16 full-time employees and uses the services of most other departmental units in carrying out its responsibilities. The center is probably the largest service of its kind in existence.

To implement the accumulation of data, the New York City Health Code which made all types of poisoning reportable was publicized. Each hospital in the city designated a poison control medical officer to maintain liaison with the center. Procedures were established for sending specimens to laboratories or other facilities for examination. Investigations and followups are conducted by appropriate units of the health department.

Operation of a poison control center involves maintaining two separate but related information systems. One entails recording of poisonings and culminates in statistical summaries. The other system is for accumulating information pertaining to specific poisonous agents or

ingredients, toxicity, and treatment. Although each system could exist independently and be operated by separate departmental units, each must be considered in relation to the other because their contents and functions are interdependent.

Resources and Operation

The primary justification for operating a poison control center is the public service rendered 24 hours a day. Two-thirds of the staff's work-time is devoted to answering requests for information about exposures of persons to poisons. If most of the personnel did not have several years' experience at the center and were not capable of handling most requests, the manpower needs would be greater because the number of inquiries is increasing continually.

Although figures for 1966 show 27,430 cases of poisoning reported, no record is kept on the number of requests for information received by the center. These requests increase the total number of telephone calls to approximately 50,000. Many questions are answered immediately from the knowledge of whomever answers the phone. The next most important source of information during the day is the technical director of the center.

The backbone of the operation is the center's card catalog with approximately 26,000 entries. This catalog is an alphabetical index which contains information concerning drugs and chemicals, and the chemical and trade names are cross referenced.

The National Clearinghouse for Poison Con-

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tol Centers, Public Health Service, sends out 5- by 8-inch cards on which various substances are described. The descriptions include name, ingredients, toxicity, symptoms or effects, and treatment data. These cards form a base of information on which the New York City center has expanded over the years. Information is routinely abstracted from the various professional and trade journals, drug inserts, Food and Drug Abstracts, newspapers, and a listing of flammable commercial products sold in New York City which must be registered and licensed by the fire department.

Special inquiries are made to obtain product information from manufacturers of chemicals and drugs. Whenever an inquiry is made about a potentially hazardous substance not recorded in the catalog, a card for that substance is made and immediately inserted in the file. Since 5,000 new chemicals are produced each year, the updating is never complete. The center also maintains an extensive library of textbooks, reference works, and technical publications and has other special sources of information.

A call for information which the center does not have may prompt inquiries to persons anywhere in the United States to obtain a satisfactory answer. If a call is for information only, the person will be referred to the proper source. However, if there has been a potentially hazardous exposure to a toxicant, the poison control center will take the initiative in gathering the needed information. Should a question of adequate treatment arise, physicians are consulted. At times several hurried telephone inquiries to major medical facilities are placed to ascertain the most recent concepts of therapy.

Reporting and Recording Poisonings

The vast majority of poisonings are reported to the center by telephone, but about 10 percent of the reports are received by mail, especially those reported by hospitals. Private citizens report about 45 percent of all cases; hospitals, 25 percent, including those reported by mail. Physicians report 15 percent of the poisonings, and the remaining 15 percent are reported by police, druggists, representatives of industry, or unknown persons.

The basic information obtained from every call or abstracted from the hospital report is

noted on a standard form. Data recorded on the form include the name of the caller or institution submitting the report; name, address, and age of the victim; the specific agent involved and estimated dose; time and date of the report and the poisoning; and any signs, symptoms, or outcome.

The report is made in triplicate. One copy is filed alphabetically according to the surname of the victim, and the second is filed by address with all other incidents of poisoning at that location for the calendar year. The address file enables the center to compile a summary of reported poisonings by place of residence, such as the borough or health district, and to show total poisonings in proportion to the population.

The third copy is coded on marked sense paper and, with any request for followup, sent to other units of the health department. The marked sense information is converted to punchcards which are used in compiling semi-annual and annual statistics. These statistics are transposed to special study charts for use within the department. Following is a listing of major categories of toxic agents and the number of poisonings attributed to each during 1966.

<i>Category</i>	<i>Reported cases</i>
Total.....	27, 430
External medicine.....	1, 854
Internal medicine.....	10, 513
Rodenticide.....	104
Insecticide.....	1, 024
Disinfectant.....	390
Detergent.....	1, 273
Lye.....	291
Polishes.....	145
Bleaches.....	1, 167
Solvents.....	286
Cosmetics.....	1, 434
Lead (confirmed).....	596
Lead (possible).....	1, 566
Miscellaneous.....	6, 787

Use of specific statistical information is continuous. Potential dangers can be pinpointed rapidly because incidents of poisoning are reported to a central office. The general public, industrial firms, and professional groups are alerted to any special hazards, such as the extreme dangers of youngsters swallowing relatively small doses of common prescription medicines, the special perils of solvents aspirated by young children, or an outbreak of

insecticide poisonings due to importation of unregistered and improperly labeled parathion.

Special studies often are revealing and surprising. A summary of poisonings by age indicates that about 70 percent of the reported poisonings are in children under 16 years old. A runoff of data on all deaths due to poisonings in children under 4 years of age during a 10-year period showed that 67 percent of the deaths were due to lead poisoning and less than 4 percent were attributed to aspirin.

Problems and Comments

The procedures used at the center work, but to present them as excellent examples on which to base similar systems for accumulating information would be wrong. Many problems and deficiencies at the center must be corrected.

Although our sources of information are numerous, they are not adequate. Information about products should be available before an emergency occurs so that problems in diagnosis and treatment can be worked out before a crisis.

Treatment information usually is derived from an individual report or small groups of cases rather than on comparative evaluations of large numbers of cases and selected control groups. If the poison control center had adequate staff and planning, such evaluations could be undertaken. Efficient use of the information system is hampered by irrelevant data because of insufficient time for abstracting pertinent material and the lack of medical specialists to cull out the unnecessary data.

A major problem in accumulating statistics is the definition of a poisoning. Many reported poisonings probably are no more than minor exposures. The reports do not reflect actual poisonings because, except for exposures of children to lead, criteria have not been set for determining when the intake is an overdose and is thus considered a poisoning.

Reporting of poisoning depends on the knowledge of the parents and physicians. Sophisticated parents may report exposure to many

household products but may not call if a child takes a few aspirin tablets or vitamin pills. A pediatrician knowing what to do will seldom call to report a child has taken excessive amounts of aspirin or other medicines for children because he does not need the center's help. Other physicians might call concerning children's exposures to poisons but not when adults have ingested toxicants. Iatrogenic overdoses, although quite common, very rarely are reported.

The center's statistics have huge gaps concerning poisonings of adults attempting suicide. Approximately 800 to 900 deaths from overdoses of drugs or chemicals occur in New York City each year, which probably means there are several thousand attempted suicides. Because of the many problems confronting the physician managing the patient who has attempted suicide and the breakdown of communications between the poison control center and the hospital poison control officers, the center is notified of only a fraction of such attempted suicides.

Conclusion

The specific problems mentioned probably characterize only New York City's poison control center, but they are representative of deficiencies common to all information systems. The constant demand for information leaves too little time for updating resource material, checking validity of data, recognizing under- and over-reporting, avoiding misuse of information while using it effectively, and planning periodic evaluations of supportive functions.

Ideally, information systems should be carefully planned before they are used. When such planning has not been done, periodic reviews are imperative. A service-oriented unit can easily become so busy that research and administrative objectives are overlooked, and the accumulation of raw data will outpace the system's capacity for using it effectively.