American Association of Poison Control Centers

Near real-time database supports potential life-saving actions

The American Association of Poison Control Centers (AAPCC) supports the nation's 55 regional poison centers where poison information specialists are available 24/7 to respond to public, health-care provider and emergency medical service personnel phone requests for assistance. Built using the case files created by the poison centers, the AAPCC maintains the National Poison Data System (NPDS), which is the only poison information and surveillance database in the United States. Real-time, national poison information provided by NPDS is integral to the global evaluation of the poison centers' efforts, especially in regional emergency events.

One central repository from multiple data sources

Operating a database that aggregates information from 55 poison centers spread across the United States and its territories is no easy task. The AAPCC needed the ability to consolidate the poison center information in order to evaluate national events. They also needed statistical tools to identify historical trends and anomalies across the boundaries of the individual poison centers. The organization turned to Ciber for help.

The AAPCC wanted a system that represented the entire nation and was able to be expanded and enhanced as new needs arose. Where the data would come from was another key consideration. The regional centers receive inquiries via telephone, which are documented using the center's client server desktop application. Each center has their own local database and uses one of four applications from four different vendors. The new data repository needed to work effectively with all four applications.

A near real-time window into critical information

Ciber worked closely with the AAPCC and the Center for Disease Control (CDC) to create a managed services solution that includes application development, ongoing enhancement, support and reporting services. Ciber's NPDS solution is a robust data system that allows complex reports to filter and evaluate the national data and a data warehouse that is used for identifying anomalies based on historical trends or specific national events..

A web-based application provides access to the cases collected by each of the 55 poison center systems around the country. Once the details of a call are logged into a poison center's local system, the data is automatically uploaded to NPDS. A built-in gatekeeper helps guarantee the database is populated with clean, useable data by returning unacceptable files for correction and resubmission. This all happens in near real time, with the average case being added to NPDS within eight minutes of case file creation.

Various surveillance engines were added to provide data evaluation and anomaly detection capabilities. User defined filters flag data that may be of possible public health significance and trigger automatic alerts for review. The near real-time case upload allows for earlier identification of potential public health issues, such as outbreaks, contaminated consumer products and possible national security incidents. NPDS also allows for faster identification of affected areas and more accurate tracking of incident spread, which allow for better informed decisions and more appropriate response.

The resultant NPDS solution delivers a fully integrated system with superior service continuity that is optimized around AAPCC's needs. AAPCC owns and operates the NPDS application, which is hosted by Ciber. Ciber also manages the data repository associated with the application. Everything is backed by the expert support of Ciber's team of experts.

The future of public health driven by data

NPDS is ever evolving with Ciber constantly adding new modules and capabilities in order to expand the ways the system can be used and by whom. In addition to supporting regional poison centers, NPDS has become a valuable resource for various state health departments and the CDC. The system's data and surveillance capabilities have been utilized to shape disaster response during major catastrophes including the Gulf of Mexico Deepwater Horizon oil spill in 2010 and Hurricane Sandy in 2012, and to help identify emerging public health threats such as poisonings from laundry pod ingestion.

Ciber is currently working with the AAPCC to find a way to map emergency room coding systems to NPDS. This would add another crucial source for real-time information about exposures to poisons and chemicals, and it's just one way Ciber is helping the AAPCC take NPDS to the next level.

About Ciber

Ciber is a global IT consulting company with approximately 6,000 employees in North America, Europe and Asia/Pacific. Ciber partners with organizations to develop technology strategies and solutions that deliver tangible business value. Founded in 1974, the company trades on the New York Stock Exchange (CBR). For more information, visit www.ciber.com