KY-CHILD: A Star Is Born

Kentucky's innovative system streamlines reporting and sharing of birth records and newborn health data.

By Kathy Frye, CIO/Deputy Executive Director, Kentucky Cabinet for Health and Family Services

IN 2004, THE LEADERSHIP OF THE KENTUCKY Cabinet for Health and Family Services (CHFS) focused on a broad initiative to gain efficiencies by improving collaboration and streamlining business processes across various program areas. As a result, in 2005, the Office of Information Technology (OIT), working with business partners, launched a massive effort to modernize and integrate disparate legacy systems in the health and human services arena.

A by product of one such effort was the collaboration of CHFS OIT with other program areas associated with health care within the cabinet. These program areas included the Office of Vital Statistics, the Commission for Children With Special Health Care Needs, the Kentucky State Laboratory, and the Division for Adult and Child Health. Together, these entities undertook the challenges of reviewing and analyzing their existing business practices.

Various hospitals and other public and private organizations across the state collaborated on this effort as well, serving in effect as external business partners. This exercise identified shortcomings of existing business processes and established business functions to be consolidated, automated and/or otherwise modernized.

It became evident that an integrated solution with a single point of entry was needed to accommodate diverse data-collection requirements, transmit data securely to other appropriate agencies and streamline related business processes, speeding data processing and reducing redundant and erroneous data entry.

Seamless Data Transmission

The result: KY-CHILD (Kentucky certificate of birth, hearing, immunization and lab data), a Web-based application that allows patient demographics to be stored in a central database and shared seamlessly where appropriate among Kentucky's myriad health and human services programs. The program allows for electronic collection and submission of data related to certificates of live and still births and newborn metabolic and hearing screenings.

Developed by OIT staff, the program went live in December 2006 and is now used by all birthing facilities statewide as well as numerous program areas of the CHFS. Data is transmitted seamlessly from the central repository to various processing points, such as the Office of Vital Statistics, Commission for Children with Special Health Care Needs and KY State Lab. It has eliminated many redundant data-collection systems and tedious manual data-entry processes formally necessitated by birthing facilities and public health programs.

Tech Talk: KY-CHILD

The Web-based KY-CHILD is an N-tier application built on a Microsoft .Net framework. It was developed in C# using SQL Server 2005 as the back-end database. Microsoft's BizTalk is the middleware used to transmit data across the various heath and human service systems.

The application uses a state-of-the-art, robust and scalable infrastructure. Sophisticated matching algorithms are used to establish uniqueness of information gathered. SQL reports are used for Web-based reporting and printing of all necessary forms and certificates. Business Objects provides business intelligence to internal health and human service users.

The KY-CHILD implementation has resulted in improved data quality and efficiencies in birthing facilities statewide as well as in various program areas within the CHFS. Birthing facilities statewide now have an automated way to track all metabolic and hearing screenings for children admitted in their facilities as well as collect data for certificates of birth. Automatic data collection and transmission have improved quality and accuracy of data collected as well as timeliness of data submission.

This application further provides ad-hoc intelligent reporting capabilities for statistical analysis of data collected. It also fulfills state and federal public health reporting requirements—for example, it aids the Department for Public Health in submission of aggregate health data reports to the Centers for Disease Control and Prevention as well as the National Center for Health Statistics.

Still to Come

KY-CHILD is planned to be the foundation for many other automated systems. Near-term, it will serve as the gateway to the envisioned statewide Immunization Registry application as well as the statewide Electronic Death Registration System.

Justifying the notion "identity begins at birth," KY-CHILD assigns a unique identity to each child during birth registration. This identity positions the application as a potential candidate to become the master record used by other cabinet systems as well as systems across various public and private agencies.

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