Improving Patient Safety for the Province of Prince Edward Island

The Issue

Establishing an electronic health record was viewed as a critical step in improving patient safety for the Province of Prince Edward Island (PEI), and in 2004 the provincial government prioritized the creation of a centralized Drug Information System (DIS). Before this, each hospital, pharmacy, physician's office, long-term care facility or other entity managed its own medication records independently with no way to share information. As a result, it was difficult for pharmacists, physicians and other prescribers to know exactly what medications patients were taking.

The Challenge

Late in 2004, DeltaWare Systems (DeltaWare) initiated an "All Drugs All People" (ADAP) project with the Province. A gap analysis between its program requirements and the Canada Health Infoway interoperable Electronic Health Record Blueprint led to a decision to develop and implement a next generation Drug Information System as a new module to DeltaWare's Medigent® suite.

The challenge for DeltaWare was to ensure a seamless integration process for the vendor community in a timely manner when the Point-of-Service (POS) vendors were struggling with the integration efforts. To smooth the transition, DeltaWare's Health Level 7 (HL7) architects worked with the vendor community and POS vendors to help them strengthen and accelerate integration efforts. DeltaWare led the development and execution of the conformance testing process which continued until the last POS vendor completed the process. By September 2008, all retail pharmacies were fully integrated with the Medigent DIS and the project was officially transitioned to operations in November.

The Solution

DeltaWare's Medigent DIS manages the medication portion of a patient's health record. The system electronically links all healthcare sites, including community pharmacies, hospital wards, long-term care facilities and emergency rooms with a database that maintains patient medication records for all residents. The system provides complete, up-to-date and accurate medication profiles for improved health planning, evaluation and research. The system also includes a comprehensive Drug Utilization Review (DUR) and flags potential interactions within the patient's medication profile, immunization record, and various attributes of his/her clinical history, such as allergies, intolerances, medical conditions and general observations.

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Through the use of HL7 version 3 messaging standards developed in Canada, the DIS seamlessly integrated with pharmacy POS systems, physician EMR products and hospital-based Clinical Information Systems. To date, the Medigent DIS has been integrated successfully with major POS systems, such as Kroll, ProPharm and Emergis. A web-based Medigent Provider Portal may also be deployed in Emergency Rooms, Family Health Centres, Addiction Centres or other healthcare centres.

The Outcome

As the first of its kind in Canada, the Medigent DIS meets Canada Health Infoway Generation 3 DIS guidelines. Since implementation, PEI residents benefit from greater patient safety, convenience and efficiency when they get a prescription filled. Patients also benefit from the reduced potential for harmful drug interactions, reactions and prescription errors and the elimination of the need to repeat medication history each time they visit a physician or pharmacist. As well, pharmacists can more easily report adverse drug reactions to Health Canada.

Since its introduction in PEI, the Medigent DIS has also been delivered to the Province of New Brunswick and is currently being implemented in the Province of Nova Scotia.