

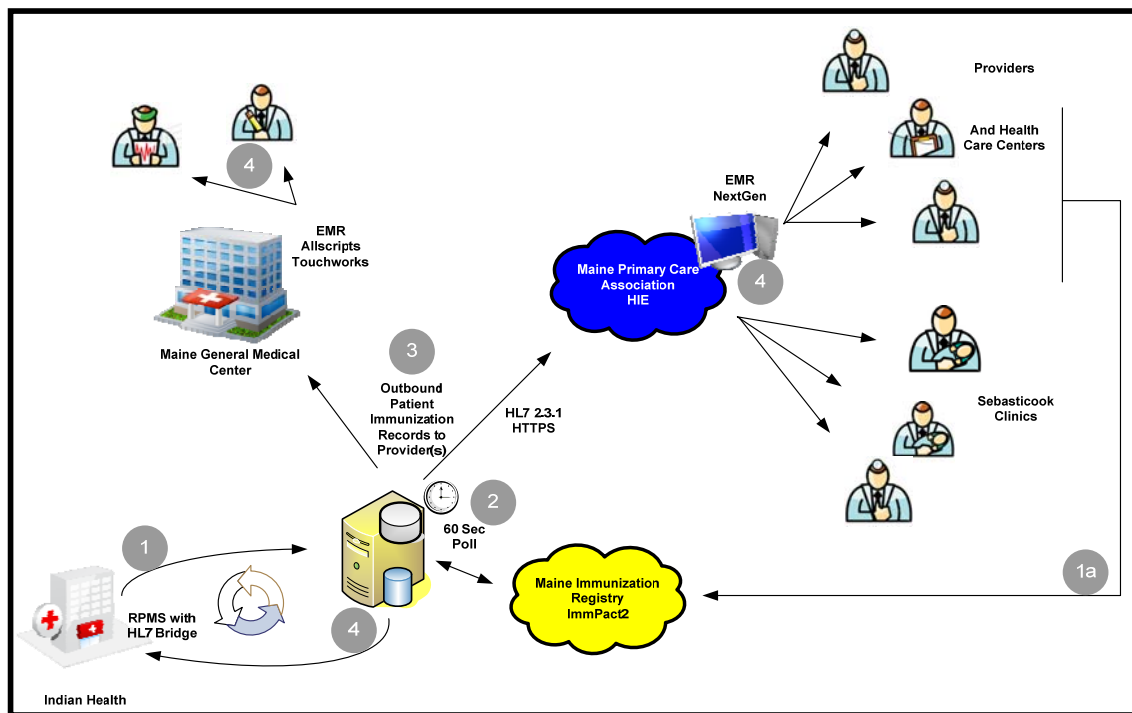
## Maine Immunization Record Exchange in Support of Meaningful Use – A Case Study

**Background** – In 2005 Scientific Technologies Corporation (STC), working with the Maine Department of Health and Human Services, established ImmPact2, a population-based registry to capture immunization encounters of state residents. ImmPact2 uses the Wisconsin Immunization Registry (WIR) solution supported by STC. To date, ImmPact2 consists of over 1.1 million patient records and 4.68 million immunization records. This centralized population-based registry is updated by providers throughout the state with secure provider access allowed through a web-based application.

In 2008 the state initiated extensions to the ImmPact2 registry including the electronic exchange of immunization records from provider and clinic-based electronic medical record (EMR) systems. Since 2009 Maine’s ImmPact2 immunization registry has had in operation an electronic record exchange that supports today’s Meaningful Use criteria for public health.

**Meaningful Use Case Example** – As illustrated in the figure below, this electronic record exchange is currently receiving inbound immunization encounters from clinical systems as well as sending outbound updates to patients’ records. The specific public health Meaningful Use criteria that establishes the requirement to demonstrate patient immunization record exchange is fully operational.

### Maine Immunization Record Exchange for Meaningful Use – July 2010



- 1 Electronic exchange to IIS
- 2 60 Second DB poll to look for updates
- 3 Real time patient updates electronically sent to Med Center and HIE
- 4 Electronic exchange to provider EMR
- 1a Providers input patient immunization + vaccine inventory data into IIS

The ImmPact2 immunization record exchange currently interfaces with three unique provider EMR implementations:

- The Maine Primary Care Association (MPCA) Health Information Exchange (HIE) includes seventeen independent providers and clinics. This HIE provider network, which utilizes **NextGen** as a centralized EMR system with independent provider-based patient medical record systems, captures immunization encounters including vaccine inventory through a web-based user application (see 1a in the figure).
- The MaineGeneral Medical Center uses the Touchworks EMR from **Allscripts**. Currently this provider network consists of four independent clinics and is expanding to all the MaineGeneral provider community. Immunization encounters are also captured through the web user interface.
- The Indian Health Service exchange is an electronic link from the IHS-**RPMS** medical record system, augmented with the STC HL7 communication bridge. In this case patient immunization encounters are captured through an inbound secure HL7 message to the state registry.

On August 13, STC launched ImmPact2's first bi-directional data exchange with the Micmac Indian Health Service site located in Presque Isle, Maine. The exchange is a standards-based solution using HL7 V2.3.1 that sends shot updates from the Micmac RPMS system and receives updates for the patients they sent from ImmPact2. "This is excellent" commented Shawn Box, Assistant Program Director of the Maine Immunization Program and ImmPact2 Manager. More than 7,000 immunizations from Micmac were received in the first hour that the interface was live. Immunization data from ImmPact2 will be sent back to the Micmac RPMS system by reciprocal batch update. This means that the inbound immunization record received into ImmPact2 prompts a search within ImmPact2 for additional information that Micmac may not have on that patient and sends it back.

Throughout the state of Maine, as patients and immunizations are added daily to the existing millions of patient and immunization records in ImmPact2, there is opportunity to send outbound patient updates to the EMRs of all the providers for these patients. To accomplish this in real time STC integrated a process that polls the state system every 60 seconds querying for newly entered records (see 2 in the figure).

When a new immunization is encountered, the system identifies all patient provider affiliations. A real time HL7 immunization administration message is then created and sent across a secure link to the appropriate organization (MPCA HIE, MaineGeneral, or IHS). If the patient has been seen by a provider associated within these networks, the EMR of the appropriate provider will be updated. These real time updates are often added into the patient record of the appropriate EMR before the patient leaves the clinic.

Patients are protected from vaccine preventable disease when they are current with the immunizations that are designed to reduce the risk of disease. Providers in the state of Maine benefit from knowing at the time of each visit the full patient immunization history. The Maine ImmPact2 immunization registry offers to the providers a centralized data resource to capture patient information regardless of where the patient encounter occurred. The Meaningful Use immunization record electronic exchange that has been established facilitates information sharing of this vital health data. As a result cost savings and improved population healthcare can be achieved.