



# Implementing Pan-Canadian HL7 v3 Standards in Prince Edward Island

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# Topics

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# DeltaWare Background

- ❑ IT consulting and product development company.
- ❑ Located in Charlottetown, Prince Edward Island (Canada).
- ❑ Privately owned and operated.
- ❑ In business since 1992.
- ❑ Two primary focuses:
  - Oracle/Peoplesoft implementation, consulting, development, and support services.
  - Healthcare consulting and product development services, primarily for the Medigent Suite of products.

# Medigent Background

- ❑ Suite of healthcare application modules for program management, claims processing, clinical patient care, and vital statistics.
- ❑ Primary client base is provincial/territorial healthcare programs in Canada (currently servicing 8 of 13 provinces/territories).
- ❑ Program management and claims processing modules for Medicare, Pharmacare, Dental, and Medical Travel.
- ❑ Clinical patient care modules include a physician practice management solution and a Drug Information System (DIS).

# DIS Project Overview

- ❑ Develop a standards-based DIS to be implemented by the Province of Prince Edward Island.
- ❑ Legislative scope includes medication events for every resident of the Province.
- ❑ Develop an Implementation Guide to direct Rx POS, EMR, and HIS vendor integration.
- ❑ Support the vendor integration process.
- ❑ Perform formal certification tests of vendor products prior to their implementation.
- ❑ Support physician, pharmacy, and hospital operations during the go-live process.

# Standards Compliance

- ❑ Integration is via the Canadian Electronic Drug (CeRx) Messaging Standard (HL7 v3).
- ❑ Developed by Canada Health Infoway's (CHI) Standards Collaborative through HL7 Canada.
- ❑ Set of 78 messages.
- ❑ Deemed "Stable for Use" in Canada (V01R04.2 + Addendum).



Canada  
Health  
Infoway

Inforoute  
Santé  
du Canada



# Lessons Learned

- ❑ Stay in constant communications with stakeholder orgs (Advisory and Technical Implementation Groups).
- ❑ Provide training and support mechanisms for integrating vendors.
- ❑ Train business analysts in HL7 vs. architects and developers only.
- ❑ Respond in a timely fashion and positively to all vendor questions and requests.
- ❑ Remain compliant with the standard where at all possible – have this statement influence every design decision.
- ❑ Thoroughly map out your OID strategy.
- ❑ Spend a lot of time on vocabulary – mappings, issues, impacts, etc.

## ...Lessons Learned

- ❑ Build a sufficient pilot period for each vendor into your roll-out schedule.
- ❑ Plan for vendor-related issues during the roll-out – develop a tracking, communications, and resolution strategy.
- ❑ Support your vendor dev/test environments 24x7, if possible.
- ❑ Spend a lot of time mapping out your conformance testing approach.
- ❑ Develop/obtain conformance testing tools...and make them available to everyone.

# Conformance Testing Approach

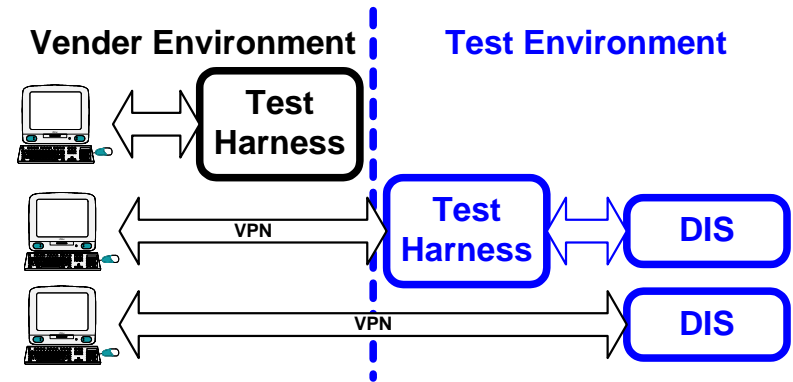
Three primary testing stages:

- ❑ Localized testing (Using HL7 Test Harness):
  - Demonstrate able to send valid messages.
  - Demonstrate some understanding of the HL7 standard.
- ❑ Unstructured testing (Using Test Environment):
  - Vendors given access to the Test Environment.
  - Vendors allowed to run their own test cases.
- ❑ Official conformance testing (Using HL7 Test Harness and Test Environment):
  - Test cases developed by Department of Health.
  - Vendors demonstrated the usage of the application.
  - Validation that messages conform to the HL7 standard and to the Implementation Guide.

# Conformance Testing Tools

## Test setup:

- ❑ Localized test setup:
  - Local use of the Test Harness.
- ❑ Pre-Certification test setup:
  - VPN access to the Test Environment.
  - Used Test Harness to monitor messaging.
  - Limited and scheduled direct access to Test DIS was allowed.
  - Test Harness reports were used for trouble shooting of vender issues.
- ❑ Certification test setup:
  - VPN access to the Test Environment.
  - Used Test Harness to monitor messaging.
  - Used Test Harness to analyze results and generate report.
  - Direct access to DIS was include in the test cases.
  - Test Harness reports were used as part of the conformance documentation as well as a review of process and user interface.



# ...Conformance Testing Tools

What the tool provided us:

- ❑ HL7 Test Harness:
  - Large amounts of automated testing:
    - Validation of message structure, code sets, vocabulary, OID, etc.
  - Ability to generate many types of reports:
    - Standard Pass/Fail reports.
    - Test coverage reports.
    - Detailed message testing reports.
- ❑ HL7 Test Harness integrated with the Test DIS:
  - HL7 Test Harness provided the ability to monitor and record all messaging:
    - Troubleshooting of issues with vendors.
    - Post automated message validation was possible.
  - Test DIS provided live response messaging.
- ❑ Direct connection to Test DIS:
  - Final validation of transportation communication layer.
  - Allowed final testing multi-threaded query requirements.

# Conformance Lessons Learned

- ❑ Discovered early on the need for access to a live DIS system was required (need to maintain some control over the access).
- ❑ Checks prior to Test Environment access was very useful:
  - Help to keep bad data out of Test environment.
  - Provided a picture of what state each vender was in.
- ❑ Official Certification process took longer then expected:
  - Certification process took multiple days and required fixes to be deployed during the process.
- ❑ More vender checkpoints would be better. Having more checkpoints in pre-conformance time may have reduced the amount of fixes required during conformance.

# Contacts and Additional Information

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HL7 Test Harness

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# Questions

