

Transporting Immunization Data Using HL7 Protocol

STC's Immunization Information System (IIS), known as IWEB, sends and receives Health Level Seven (HL7) immunization messages. External systems can send updates to or query from IWEB. IWEB is also able to send updates and queries to other state and local IIS.

IWeb provides a fully functional interface that actualizes CDC's vision of having state IIS communicate and exchange immunization data using HL7 messages.

All immunization messages sent by IWEB conform to HL7 specification version 2.3, and specifically to CDC's Implementation Guide for Immunization Transactions version 2.1. *Although CDC standards are preferred, IWEB also accepts common hospital and billing system HL7 messages such as Admission/Discharge/Transfer (ADT) and Post Detail Financial (DFT^PO3) messages.*

WEB HL7 Capabilities include:

- ➔ Accepts VXU, ADT and DFT patient update messages.
- ➔ Responds to VXQ immunization record query messages.
- ➔ Able to send VXQ queries to external IIS.
- ➔ Sends VXU vaccination record updates to external IIS or electronic patient centric systems such as electronic medical record (EMR) applications or regional Health Information (RHIO) systems.

Integration Tools

IIS such as IWEB are generally not configured to accept connections directly from hospital or clinic information systems because most hospital and billing systems use the unsecured Minimum Lower Level Protocol (MLLP) to send and receive HL7 messages. To comply with HIPAA security, IWEB only supports connections using HTTPS. To allow electronic information exchange for systems that cannot send data natively via HTTPS, STC has developed a product that "bridges" the insecure system to a secure link.

HL7 Communication Platform (HL7cp) – Connects directly to an IIS to provide a sophisticated HL7 interface. When fully installed, it allows all the HL7 communication functionality offered by STC's IWeb product while leveraging previous technology investments.

The HL7 Test Platform includes the following tools:

- ➔ Accepts VXU, ADT and DFT messages.
- ➔ Accepts and responds to HL7 queries.
- ➔ Real-time HTTPS interface.
- ➔ Cross-reference to CDC Standards.
- ➔ Message Log, Message Quick-View.
- ➔ Transaction Debugger.
- ➔ Message Constructor and Documentation.
- ➔ Code Table Viewer.
- ➔ Allows users to query other HL7 enabled IIS.

HL7 Connection Bridge – Listens for an incoming HL7 message and immediately forwards it to the IIS. After processing the message, the registry responds with an acknowledgement message. The Bridge in turn forwards the message to the originating system using the original connection. It is an optimal solution for hospital and billing systems and EMRs that cannot send messages via HTTPS as it does not require special network setup or costly changes to implement.

DIPLOMAT (Data Interrogation, Parsing & Linking of Multiple Abstruse Type) – A Java-based program to convert an exported ASCII text file from connecting systems into HL7 messages using version 2.3z of the HL7 standard. DIPLOMAT is customized for each installation to read the unique "pipe-delimited" ASCII text file representing patient data. STC's DIPLOMAT application developers work with your IT personnel to help define and customize the required export record layout. Once this record layout is defined, STC's DIPLOMAT developers customize the program to accept files meeting your specifications.

HL7 Filter – The HL7 Filter was developed to streamline HL7 messages, removing unnecessary FT1 segments. For example, if a provider is exporting billing data and wants to ensure that only immunization information is sent to the state IIS, the HL7 Filter is configured to sift out all non-immunization CPT codes. The HL7 filter is completely configurable and can be set to filter out any message type or code using an XML-based properties file.

For more information or a demonstration,
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