



Infor Care Workloads HL7 Interface Guide

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General

The Infor Care Workloads HL7 Interface is part of the Infor Care Workloads software system that automates the collection of workload data and provides management data for decision-making. The HL7 Interface utilizes HL7 TCP/IP methods to transmit information between Infor Care Workloads and other systems which support the HL7 Encoding Rules. The interface supports a subset of Messages from the HL7 Messaging Standard Version 2.5 and is customizable to be backwards compatible for previous versions of the HL7 Standard.

Architecture

The Infor Care Workloads HL7 Interface consists of two Windows Services:

- Infor Care Workloads HL7 Controller Service – allows remote clients to start and stop the HL7 Service
- Infor Care Workloads HL7 Service – Creates TCP listeners that listen for connections from external HL7 engines and requests by local clients through the Infor Care Workloads Administration Console

The Infor Care Workloads HL7 Interface is setup and administered via the Infor Care Workloads Administration Console.

Server Configurations

The Infor Care Workloads HL7 Interface is a separate listener application that may be installed on the database or another server. Each instance of the database requires a unique instance of the HL7 Service (provided that an ADT system will use the HL7 Service to feed the Infor Care Workloads database). An HL7 Service can feed only one database at a time, but multiple HL7 Services can be installed on the same server. The following sample scenarios are supported:

- Single Server
 - Server 1: 1 database hosted by SQL Server
1 HL7 Service

General

- Single Server with test database
 - Server 1: 2 databases hosted by SQL Server
2 HL7 Services, pointing to the respective databases
- Distributed
 - Server 1: 1 database hosted by SQL Server
 - Server 2: 1 HL7 Service
- Distributed with test database
 - Server 1: 2 databases hosted by SQL Server
 - Server 2: 2 HL7 Services, pointing to the respective databases
- Distributed with test environment
 - Server 1: 1 database hosted by SQL Server (production)
 - Server 2: 1 database hosted by SQL Server (test)
 - Server 3: 1 HL7 Service (points to production)
1 HL7 Service (points to test)

If required, additional servers can be added in any combinations.

The Infor Care Workloads Administration Console can connect to any available Infor Care Workloads database and change the HL7 Service settings such as the IP address, Listener and Administration Ports that will be used by the HL7 Interface that points to this database.

HL7 Standard

The Infor Care Workloads HL7 Interface supports a subset of Messages from the HL7 Messaging Standard Version 2.5. Message formats prescribed in the HL7 encoding rules consist of data fields that are of variable length and separated by a field separator character. Rules describe how the various data types are encoded within a field and when an individual field may be repeated. The data fields are combined into logical groupings called Segments. Segments are separated by Segment separator characters. Each Segment begins with a three-character literal value that identifies it within a Message. Segments may be defined as required or optional and may be permitted to repeat. Individual data fields are found in the Message by their position within their associated Segments.

The HL7 Standard defines the following characters as Message, Segment, Element, and Component delimiters. A Message must contain these characters to be processed properly:

Hex Character	Definition	Position	Remarks
<0x0b>	Indicates the beginning of a Message	At the beginning of every Message	
<0x1c><0x0d>	Indicates the end of a Message	At the end of every Message	

<0x0a> (linefeed)	Delimits Segments	Between two Segments	Either one of these characters can delimit Segments
<0x0d> (carriage return)			
<0x0a><0x0d> (linefeed / carriage return combination)			
(pipe)	Delimits Elements	Between two Elements	These characters may vary based on the ADT System. The values may be read from the MSH Segment or statically set on the "Configuration" tab.
^ (carrot)	Delimits Components	Between two Components	
~ (tilde)	Delimits Repeated Fields		

A standard Message contains all of these characters and might look like the following:

```
MSH|^~\&|FacADT|FacName|ICW|FacName|200704271204||ADT^A01|20070427120415|P|2.5
EVN||200704271204
PID||00251864|000333333|^SMITH^JOHN^M||19791013|M|||||BUDHIST|444444444
PV1||OT^113^01|||||SUR|||||IP|||||200408111015
```

Some of the characters are not visible but can be viewed in a hexadecimal editor. The Message above contains four Segments (MSH, EVN, PID, & PV1). Each Segment contains several Elements (e.g. the PID Segments contains "00251864" & "^SMITH^JOHN^M"). Some of the Elements contain several Components (e.g. "SMITH", "JOHN", & "M"). Section **3.2. Mappings** will describe how to setup the Infor Care Workloads HL7 Interface to map to individual Elements and Components of a Message.

Communication

The HL7 Interface uses TCP/IP as its main communication channel. The Infor Care Workloads HL7 Controller Service listens on one port (1966 by default) for requests to stop and start the HL7 Service. Infor Care Workloads sets up two listeners, one on port 1965 for connections by the external HL7 engine and one on port 1967 for connections by the Infor Care Workloads Administration Console. Only one external HL7 engine can connect to the Infor Care Workloads HL7 Interface at a time while virtually unlimited Infor Care Workloads Administration Consoles can connect to resend Messages. The default port numbers can be changed in the Infor Care Workloads Administration Console.

In case the external HL7 engine disconnects, the Infor Care Workloads HL7 Interface drops the connection, processes all outstanding Messages, and starts listening for new connections.

General

On occasion the Infor Care Workloads HL7 Interface will lose communication with the Database Server. This can be caused by the Database Server being taken offline, a maintenance process placing the Database in "Single-User Mode", etc. When this occurs the interface will attempt to process the received message 10 times. A delay of 60 seconds will occur between each attempt to process the message to give the Database Server a chance to recover. If the error persists after 10 attempts to process the message the Infor Care Workloads HL7 Interface will respond to the HL7 engine with an "AR" (Reject) instead of an "AA" (Accept) in the MSA-1 Element. This indicates that the HL7 Interface was unable to add the message to the Infor Care Workloads Database and that the HL7 engine will need to resend this message once the Database Server issue has been resolved.

Infor Care Workloads HL7 Service Manager

The Infor Care Workloads HL7 Service Manager is a configuration utility installed as part of the Infor Care Workloads HL7 Interface. It can be used to create or remove individual HL7 Service instances and to create, modify, or remove database connections which can be mapped to the individual instances.

The Infor Care Workloads HL7 Service Manager has a configuration file in the application directory called "hl7_connection.xml" which stores the mapping information of each installed HL7 Service and its respective database connection.

Connections

The **Connections** tab is found on the **Infor Care Workloads HL7 Service Manager** screen.

The **Connection Wizard** can be accessed by right-clicking on this screen. It can be used to create a database connection and set up the default database connection for the Infor Care Workloads HL7 Interface.

Services

The Services tab is found on the **Infor Care Workloads HL7 Service Manager** screen.

A new instance can be installed by using the **Add** menu item from the right-click context menu. The user has the option to install a default instance or a named instance when adding a new HL7 Service instance. Only one default instance can be installed per server. For every new HL7 Service instance, Infor Care Workloads HL7 Service Manager adds two windows services which can be accessed through the Windows Services management console. Every HL7 Service instance consists of a controller (Infor Care Workloads HL7 Controller) and a listener (Infor Care Workloads HL7 Listener). The **Windows Services management** console can be accessed directly through **the Tools... Windows Service Manager** menu item.

Every installed HL7 Service instance must point to a valid database connection to startup successfully. As the database stores the IP address and port numbers to be used by the HL7

Service, each instance should point to a different database, so that no two HL7 Service instances attempt to run on the same IP Address/Port combination.

Every installed HL7 Service instance creates two log files in the application directory:

- MIStroClef_HL7_Controller\$InstanceName.log and
- MIStroClef_HL7_Interface\$InstanceName.log.

The log files provide valuable information on the progress of the installed HL7 Service instances.

Infor Care Workloads Administration Console

The Infor Care Workloads HL7 Controller Service and Infor Care Workloads HL7 Service both have to be running for the HL7 interface to work properly. Once installed, the services can be fully controlled from the Infor Care Workloads Administration Console.

Configuration

The Configuration tab of the HL7 Interface workspace allows configuration of the settings for the HL7 Interface Service.

Service Address

The Service Address is the IP Address of the machine that hosts the Infor Care Workloads HL7 Interface Service. While the HL7 Interface service will usually be installed on one computer only, the HL7 Interface workspace can be available on multiple computers that can connect to the HL7 Interface Service. When multiple network interfaces are installed on the hosting server, the desired IP address can be specified to be used by the HL7 Interface.

Listener Port

The Listener Port is the port at which the HL7 Interface Service listens for incoming connections from the external HL7 Engine (the system that dispatches HL7 Messages). This port is set by default to 1965 but can be changed to any other available port. Once the HL7 Interface Service is started, the port is opened and available for one and only one connection by an external HL7 engine. Both the Service Address and the Listener port will be needed by the external HL7 engine to connect properly. The listener port should be unique for every HL7 Service instance on the same server.

Control Port

The Control Port is the port at which the HL7 Controller Service listens for connections by the HL7 Interface workspace to manage the state of the service. These connections are used to remotely start and stop the service. The port is set to 1966 by default. The control port should be unique for every HL7 Service instance on the same server.

Administration Port

The Administration Port is the port at which the HL7 Interface Service listens for connections by the HL7 Interface workspace to manage Failed Messages. The port is set to 1967 by default. The Administration Port should be unique for every HL7 Service instance on the same server.

Log Service Information to the Event Log

The Log Service Information to the Event Log is used if the administrator would like to have more detailed information about the services entered into the Windows Event Log. Normal service activity will be logged into the Application Event Log. If this setting is “True” then a separate Event Log will be created. A text log file is always maintained in the application directory with a high level of detail about individual Message processing.

Archive Failed Messages

The Archive Failed Messages setting is used to determine how long “Failed Messages” are kept in the database. The “MISroClef_Log_Archive” DTS package uses this setting to evaluate when there are Messages that should be archived to a text file and removed from the database. This setting is important to maintain the size of the database.

Archive Activity Log

The Archive Activity Log setting is used to determine how long “HL7 Messages” are kept in the database. The “MISroClef_Log_Archive” DTS package uses this setting to evaluate when there are Messages that should be archived to a text file and removed from the database. This setting is important to maintain the size of the database.

Read Element and Component Separator from MSH Segment

The **Read Element and Component Separator** from MSH Segment setting is used to determine whether the HL7 Element and Component Separators should be read from the HL7 Message in their standard locations or whether the administrator would prefer to “Hard Code” these values. By default Infor Care Workloads “Hard Codes” this information as specified on this screen.

Maximum Number of Automatic Failed Message Reprocess Attempts

The **Maximum Number of Automatic Failed Message Reprocess Attempts** setting is used to limit how many times a Message that failed to process correctly will be automatically resent after a subsequent successful Message for the Patient & Encounter specified in the Message that failed to process. This value may be set to zero so that Messages are never automatically reprocessed. The administrator may always manually resubmit Failed Messages by using the **Failed Messages** screen.

The header will indicate the status of the HL7 Interface service. This information is initiated after the user views the **Configuration** tab.

If the status is either of the following, then the user may click the “Service” button to perform the indicated action:

- Running

If the status is “Running” then the “Service” button will read:

- Stop Service

- Stopped

If the status is “Stopped” then the “Service” button will read:

- Start Service

If the HL7 Interface service cannot be located then the status will read:

- Monitor Unavailable: ...

A description of the reason that the service could not be contacted will then be listed if available. Reasons that the HL7 Interface workspace may not connect to the HL7 Interface service include:

- Infor Care Workloads HL7 Controller is not started
- Incorrect IP Address
- Incorrect Port Number
- Server Unavailable
- Firewall / Network Availability

The HL7 Interface service requires a restart every time a Mapping or Translation or any of the configuration settings are changed.

Mappings

The **Mappings** tab is essential to configuring the Infor Care Workloads HL7 Interface properly. Before a Message can be processed by the HL7 Interface, all mappings have to be setup correctly. During initial installation the database was populated with default mappings. However, these mappings might require modifications if customized HL7 Messages are sent by the external HL7 Engine.

Every incoming Message contains values for Elements and Components that need to be mapped to the internal fields of the HL7 Interface. The **References** section lists the required fields for all supported incoming HL7 Messages.

The **Mapping** screen is divided into two sections. The left-hand side displays all internal fields of the HL7 system, while the right-hand side contains all Messages, Segments, Elements and Components defined by the HL7 Standard.

Furthermore, the internal fields are broken down into “Standard Fields” and “Custom Fields”. Every Standard Field needs to be mapped to an HL7 Location. The HL7 Location represents the location of the Element or Component within a Message. The tool tip indicates the “Position” of that Element or Component.

After updating the Translations tab remember to go to the **Configuration** tab and restart the HL7 Service so that the changes are refreshed by the service.

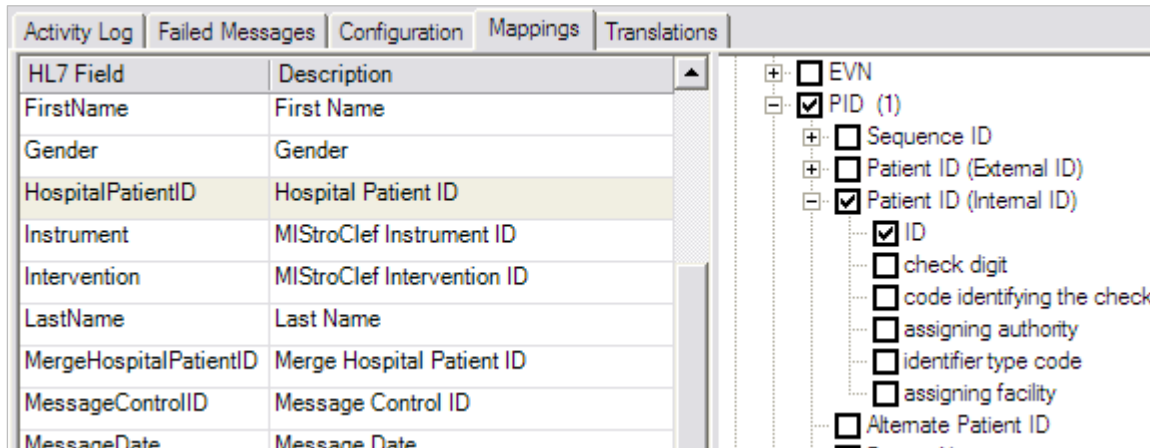
Mapping a Sample Message

The following Message is used as an example to display how mapping should be done for some of the fields:

```
MSH|^~\&|FacADT|FacName|ICW|FacName|200704271204||ADT^A01|20070427120415|P|2.5
EVN||200704271204
PID||00251864|000333333|^SMITH^JOHN^M||19791013|M|||||BUDHIST|4444444444
PV1||OT^113^01|||||SUR|||||IP|||||||||||||||||200408111015
```

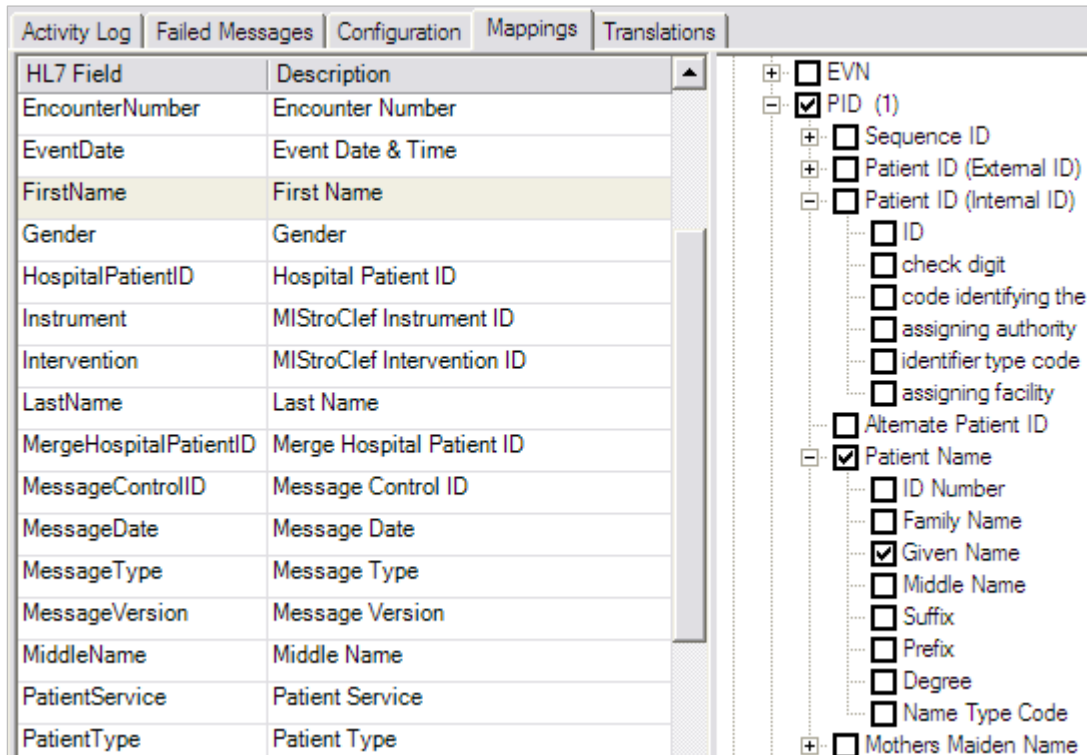
In this sample Message, the “HospitalPatientID” is located in the PID Segment, as the 3rd Element, as the 1st Component. Therefore, the “HospitalPatientID” should be mapped to the PID Segment, at the 3rd Element (which is “Patient ID (Internal ID)”, as the 1st Component (which is “ID”).

Field:	HospitalPatientID		
Sample Value:	000333333		
Position in Message:	Segment:		PID
	Element:		3
	Component:		1
Mapped Location:	PID – Patient ID – ID		



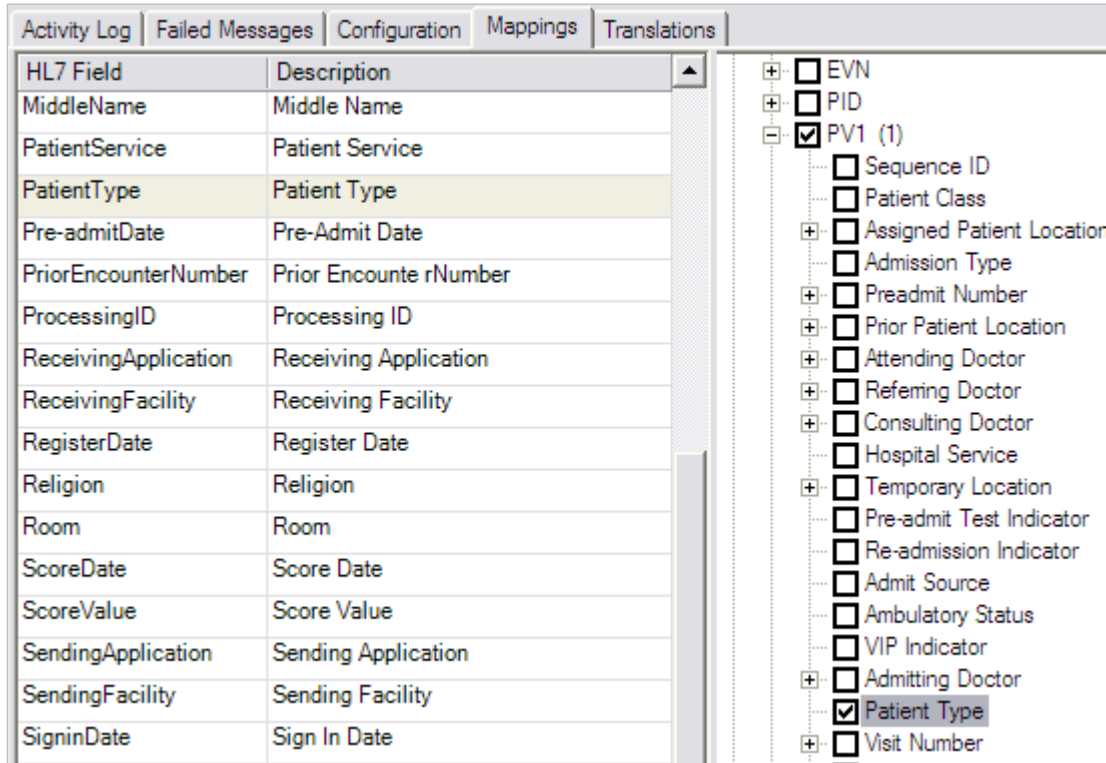
In this sample Message, the “FirstName” is located in the PID Segment, as the 5th Element, as the 3rd Component. Therefore, the “FirstName” should be mapped to the PID Segment, at the 5th Element (which is “Patient Name”), as the 3rd Component (which is “Given Name”)

Field: FirstName
 Sample Value: JOHN
 Position in Message: Segment: PID
 Element: 5
 Component: 3
 Mapped Location: PID – Patient Name – Given Name



In this sample Message, the “PatientType” is located in the PV1 Segment, as the 18th Element, and does not have any Components. Therefore, the “PatientType” should be mapped to the PV1 Segment, at the 18th position (which is “Patient Type”).

Field: PatientType
 Sample Value: IP
 Position in Message: Segment: PV1
 Element Position: 18
 Mapped Location: PID – Patient Name



Mapping Locations for Multiple Messages

All required fields have to be mapped to the matching locations before a Message can be processed. The HL7 Interface also allows matching different locations to the same field for different Messages. As a default, the mappings have been set up for all Messages. A specific mapping can be changed for a particular Message. For example, if Message A08 contained “HospitalPatientID” in the PID Segment as the 18th Element as the 1st Component, the mapping could be established by expanding the A08 Message node and clicking the particular Component. Locations mapped within the different Message types will always override “All Messages”.

Changing the order and content of Elements and Components

The Infor Care Workloads HL7 Interface allows the user to change the order and content of Elements and Components. A context menu is accessible through a right click on any of the Elements or Components of the “All Messages” node. This menu provides the functionality to insert, rename, and delete Elements and Components, and change the location of the Elements and Components. Changing the order will not affect the established process of mapping. For example, when a “Patient Type” that used to be the 18th Element within PV1 is moved up to become the 17th Element the result would be that the HL7 Interface looks for the Patient Type in the 17th Element within PV1 in any incoming Message.

* The order and content of Elements and Components can only be changed for the “All Messages” type. Once changed, all other Messages inherit the specified order and content.

Multiple Segments of the Same Segment Type

Some Messages might contain multiple Segments of the same Segment type. For example, an A17 Message contains two PID and two PV1 Segments, to represent both patients. To properly map the fields in this Message, a sequence number has to be used. By default, sequence numbers are set to 1. By clicking the **Set Sequence...** menu item in the locations context menu, a specific sequence value can be entered. For example, the sequence should be set to 2 to map to the “14567897” value in this sample Message because the Message contains two PID Segments:

```
MSH|^~\&|FacADT|FacName|ICW|FacName|200704271204||ADT^A17|20070427120436|P|2.5
EVN||200704271204
PID|||2874892||^Jared^Smith^Q||19730927|M|||||||33207704
PV1|||H7P1^204^2|L||H8TH^103^1|||GYN|1||D||SE||IP|10207704|||||||||||||Y|OCC|||200603130851
PID|||14567897||^Deere^Jane^R||19750302|F|||||||10207704
PV1|2||H8TH^101^1|L||H7P1^204^2|||GYN|1||D||SE||IP|10207704^^^Y|A|||||||||||||Y|OCC|||2006031309
31
```

Custom Fields

The Infor Care Workloads HL7 Interface supports mapping of custom fields. A user can create, modify, and rename items in the Custom Fields list and map these fields to any Elements &/or Components within a Message.

Mapping errors

Mapping errors usually occur for one of three reasons:

- A field has not been mapped to a location
- A field has been mapped to the wrong location
- A field has been mapped to a location that does not exist in the file*

* Mapping to a location that does not exist in the file will result in an error if the value is required. If a value for that field is not required, the value will automatically be set to blank.

The Failed Messages will display the error for failure in processing a Message. Infor Care Workloads HL7 Activities displays which fields have to be mapped for specific Messages and which fields require a value.

The Infor Care Workloads HL7 Interface is able to create Message templates based on the mappings that have been created for the fields in individual Messages. After right-clicking on a Message (such as “A01” or “All Messages”) in the locations tree on the **Mappings** tab, select **Show template**. A text document will open displaying a sample Message that contains information about the current mappings. This template can be compared to the incoming HL7 Messages to verify that all fields have been mapped at the proper locations. The template Message will also show whether the fields have been broken up into Components.

Translations

The Translations tab must be configured before any incoming Messages can be processed. Certain fields require translations from the external HL7 name to the internal Infor Care Workloads Name. These fields include:

- PatientService
- PatientType
- DepartingUnit
- Unit
- TempReceivingUnit
- TempDepartingUnit

All incoming values for these fields must be assigned to internal names used by the HL7 Interface Service and Infor Care Workloads. For example, if a Message comes in with a PatientType value of “IN”, an entry in the translation table must exist that specifies what “IN” means to the HL7 Interface Service. All possible values for the fields must be setup in the translation table for Messages to be processed correctly.

After updating the Translations tab remember to go to the **Configuration** tab and Restart the HL7 Service so that the changes are refreshed by the service.

Multiple Field Translations

If a Message comes in with a value of “IN” for Patient Type, two different translations for “IN” exist: “IN” can either be translated to “Inpatient or “Inpatient Pediatrics”. The value provided in the Message for the secondary field (in this case Patient Service) is looked up and dependent on that value the HL7 Name is translated to the proper Infor Care Workloads name. A Message with an HL7 Name of “IN” and a secondary HL7 Name of “PED” for “PatientService” would translate to the

Patient Type “Inpatient Pediatrics”. A Message with an HL7 Name of “IN” and a secondary HL7 Name of “MED” for “PatientService” would translate the HL7 Name “IN” to the Patient Type “Inpatient”.

Catch-All Translations

The Infor Care Workloads HL7 Interface provides support for catch-all translations. Catch-all translations define a default Infor Care Workloads Name for all incoming values that do not have individual translations. Catch-all translations are created by using a star (*) for the HL7 name.

The Infor Care Workloads Unit “Holding” has a star (*) for its **HL7 Name**. As a result, all incoming Unit names that do not exist in the translations list will be assigned to the “Holding” Unit. If an HL7 Message comes in with a value of “5C” for Unit, it will be translated to “5 Center”. If an HL7 Message comes in with a value of “4C” for Unit, and no translation exists for the “4C” Unit, it will be translated to “Holding”.

Translation Validation

The Infor Care Workloads Administration Console is able to validate translations by comparing existing translations against all existing values for fields that require translations, such as “Units”, “Patient Types”, and “Patient Services”. After right-clicking on the data grid on the **Translations** tab and selecting **Validate** a text document will open displaying which internal “Units”, “Patient Types” and “Patient Services” still require a Translation.

HL7 Messages may also be validated for missing translations. On the **Failed Messages** tab right-click in the grid and select **Validate**. If any HL7 values do not have translations a notification will indicate that these need to be added.

Activity Log

The Activity Log tab displays the activity of the HL7 Interface service. It shows both failed and successful Messages with the Date Received, Date Processed, Activity, and the Status of the Messages.

The HL7 interface uniquely identifies Messages using the entire Message. Every Message is stored in the database only once.

The Filter Criteria can be used to limit the data displayed in the Activity Log. The date filters correspond to the Date Processed value. This may differ from the Date Received if the Message initially failed and was reprocessed either manually or automatically. The option to Automatically Refresh this screen can be valuable while testing.

The user may view the complete message by double-clicking the message or right-clicking and selecting **View HL7 Message**. This is particularly useful for examining why a message failed to process.

If a message has the status of “Fail”, but the item has been removed from the **Failed Messages** tab either by the archive process or manually, the user may re-add the item to the Failed Message tab by right-clicking and selecting **Re-Add to Failed Messages Log**.

Failed Messages

The Failed Messages tab displays all Messages that the HL7 Interface Service failed to process. The tab shows the Date Received, Date Processed, Message ID, Activity, and the reason for Failure. In most cases, the Messages will have failed due to an incorrect Mapping or a missing Translation. In that case, the user may correct the reason for Failure then select one or more Messages, Restart the HL7 Service via the **Configuration** tab, and click **Resend** to resend the Messages to the HL7 Interface Service for processing.

After every successful processing of a newly arrived Message the HL7 interface looks up the “Hospital Patient Number” & “Encounter Number” and checks for any other existing Messages for that “Hospital Patient Number” & “Encounter Number”. The HL7 interface then attempts to reprocess any existing Messages for that specific Hospital Patient Number” & “Encounter Number”. This can be limited or turned off by setting the **Maximum Number of Automatic Failed Message Reprocess Attempts** on the **Configuration** tab.

Once a failed Message is processed successfully, it will be removed from the **Failed Messages** queue and the status of that Message in the **Activity Log** is updated to display “Success”. The Message will still be visible on the **Failed Messages** tab; however no further attempts will be made to reprocess this Message. If a Message is deleted from the **Failed Messages** queue, it will still be accessible through the **Activity Log** but it will not be reprocessed when new Messages arrive.

The color of the Date Processed field on the **Failed Messages** tab indicates the status of the message:

Green	=	Message has been processed successfully.
Gray	=	The Maximum Number of Automatic Failed Message Reprocess attempts has been reached. The user may still manually reprocess this message.
Blue	=	Message is not the most recent failure and may not be processed again.
Black	=	Active Failed Message.

The **Filter Criteria** can be used to limit the data displayed in the **Failed Messages** tab. The date filters correspond to the failure **Date Processed** value. This may differ from the **Date Received** because the Message was reprocessed either manually or automatically. This may also differ from the Date Processed on the **Activity Log** tab.

Each instance of a Message’s failure is captured and logged. Using the options on the Left-Hand side of the screen the user can filter the visible Messages to show:

- **Active Failed Messages** - This option will filter the list of Messages to display only those Messages currently having the status of “Fail”.

- **Most Recent Failure** - This option will filter the list of Messages to display only the most recent failure. If there is more than one failure for a Message then this will list that Message only once.

The option to **Automatically Refresh** this screen can be valuable while testing.

The user also may view the complete message by double-clicking the message or right-clicking and selecting View HL7 Message just as is available in the Activity Log. This is particularly useful for examining why a message failed to process.

HL7 Messages may also be validated for missing translations. Right-click in the grid and select Validate Translations. If any HL7 values do not have translations a notification will indicate that these need to be added.

General HL7 Specifications

Each trigger event is listed below, along with the applicable form of the Message exchange. The trigger events that follow are all served by the ADT unsolicited update and the ACK response. The information that is included in any of these trigger event transactions is the minimum necessary to communicate the event. Any of the fields can be used that are in the Segments listed for the Message. In order to alleviate this ambiguity, we recommend (but do not require) that the A08 (update patient information) transaction be used to update fields that are not necessarily related to any of the other trigger events. For example, if a Patient Administration system allows the patient's medical service and attending doctor to be changed in the transfer function, the Patient Administration system should send two HL7 Messages. It should send an A02 (transfer a patient) event to reflect the location change, followed by an A08 (update patient information) event to reflect the change in the medical service and the attending doctor.

- The Infor Care Workloads Field Name is the field that is internally used by the HL7 Interface Service.
- The HL7 Name is the location that the Infor Care Workloads Field Name will be mapped to.
- The Location is the physical location of the value for the mapped Infor Care Workloads Field Name. For example, MSH-11-1 would indicate the 1st Component of the 11th Element within the MSH Segment.
- Value Required indicates whether a value for that standard location must exist. If the value is "Yes" then the Element or Component within the Message must not be blank. For example, if an A01 Message is sent that does not contain a field for "DischargeDate", the "DischargeDate" will automatically be set to blank. Translation indicates whether the values for the mapped field will be translated before processing continues. If the value is "Yes" then there must be a translation for the incoming value.

All Messages

All incoming Messages must contain the following fields to be processed correctly:

Infor Care Workloads			
Field Name	HL7 Field Name	Default Location	Required
SendingApplication	Sending Application	MSH-3	No

SendingFacility	Sending Facility	MSH-4	No
ReceivingApplication	Receiving Application	MSH-5	No
ReceivingFacility	Receiving Facility	MSH-6	No
MessageDate	Date/Time of Message	MSH-7	No
MessageType	Message Type	MSH-8-2	Yes
MessageControlID	Message Control ID	MSH-9	Yes
ProcessingID	Processing ID	MSH-10	No
MessageVersion	Version ID	MSH-11	No
HospitalPatientID	Patient ID (Internal ID)	PID-3-1	Yes
EncounterNumber	Patient Account Number	PID-18-1	Yes

MSH|^~\&|FacADT|FacName|ICW|FacName|200704271204||ADT^A01|20070427120415|P|2.5

This sample MSH Segment would be mapped as:

Infor Care Workloads Field Name	Value
SendingApplication	FacADT
SendingFacility	FacName
ReceivingApplication	ICW
ReceivingFacility	FacName
MessageDate	200704271204
MessageType	A01
MessageControlID	20070427120415
ProcessingID	P
MessageVersion	2.5

Every HL7 Message should be uniquely identified by the “MessageControlID”. This will allow Failed Messages to be more quickly researched and resolved. However, Infor Care Workloads will accept duplicate values and process the Messages independently.

Extended Information

The HL7 Interface supports extended information that can be attributed to individual patients. Any of the custom fields can be mapped to any Elements or Components of the Message and will be displayed in the **Extended Information** tab of **Infor Care Workloads... Workload... Patient Workload... View/Update... Patient Information**. The HL7 Administration Console can be used to set up these mappings. See the **Mappings** section for more details. Mapping custom fields is optional.

Infor Care Workloads HL7 Activities

The Infor Care Workloads HL7 Interface utilizes a subset of the available HL7 Messages to maintain patients. For full information on each of these Messages please refer to Chapter 3 of the Health Level Seven Standard.

Admit / Update Patient Information

Message Types

- **A01** – Admit / Visit Information
- **A04** – Register a Patient
- **A05** – Pre-Admit a Patient
- **A08** – Update Patient Information
- **A28** – Add Person or Patient Information

Fields

Infor Care Workloads Field Name	HL7 Field Name	Default Location	Required	Translation Required
EventDate	Event Date	EVN-2	Yes	
HospitalPatientID	Patient ID (Internal ID) – ID	PID-3-1	Yes	
LastName	Family Name	PID-5-2	A01	
FirstName	Given Name	PID-5-3	A01	
MiddleInitial	Middle Name	PID-5-4		
BirthDate	Date of Birth	PID-7	A01	

Gender	Gender	PID-8		
Religion	Religion	PID-17		
EncounterNumber	Patient Account Number – ID	PID-18-1	Yes	
Unit	Assigned Patient Location – Point of Care	PV1-3-1	A01	Yes
Room	Room	PV1-3-2		
Bed	Bed	PV1-3-3		
PatientService	Hospital Service	PV1-10		Yes
PatientType	Patient Type	PV1-18	Yes	Yes
VisitNumber	VisitNumber	PV1-19		
AdmitDate	Admit Date/Time	PV1-44	A01	
DischargeDate	Discharge Date/Time	PV1-45		

Activity Description

When this activity occurs the Infor Care Workloads HL7 Interface will look for this Patient in the database. If this Patient does not exist then the Patient will be added to the database. If the Patient does exist then their information will be updated.

The HL7 Interface will then look for this Patient’s Encounter in the database. If the Encounter does not exist then it will be added. If the Patient’s Encounter does exist then it will be examined and updated if necessary. If the “AdmitDate” is prior to the existing “AdmitDate” then the “AdmitDate” will be updated. Likewise, if the “DischargeDate” is after the existing “DischargeDate” then the “DischargeDate” will be updated. If the Encounter currently has a “DischargeDate” and the Message provides a blank or NULL “DischargeDate”, the “DischargeDate” will not be updated. A Cancel Discharge (A13) Message must be sent to reset the “DischargeDate” to be NULL.

The HL7 Interface will then examine the information provided in the Message. If the “Unit” is provided then the HL7 Interface will attempt to place the Patient’s Encounter on this Unit as of the “EventDate”. If the Patient’s Encounter already exists on the Unit then the information will be updated. If the “EventDate” is prior to the existing Transfer-In date then the Transfer-In date will be updated. If the Patient’s Encounter exists on another Unit, that information will not be updated. This process will not perform a Transfer though it will add the Patient to the new Unit. A Transfer (A02) may be sent after this process to close the Patient’s Encounter in the pre-existing Unit.

If information such as the “Unit” is not provided part of this process may complete successfully, but the Patient will not display on the Patient Workload screen. For example, a Pre-Admit (A05) often does not include the Unit. In this case the Patient would be entered into the database but will not display to Users because there is no Unit or Instrument assigned. A second Message, typically an Update Patient (A08) would be required to add the Unit information for the Patient and complete the Admit process.

The HL7 Interface will also attempt to attach the proper Instrument at this time. If no Unit or Instrument is defined for the specified information or no Instrument is assigned for the Patient's "PatientType" then the attempt to attach the Instrument will fail causing the Admit process to fail.

If the Infor Care Workloads HL7 Interface encounters a problem at any time during this process the process will be rolled back and logged to the "HL7 Failed Messages" log. A description of the reason for failure will be provided so that the Administrator may rectify the issue and reprocess the Message.

Sample Messages

A01

```
MSH|^~\&|FacADT|FacName|ICW|FacName|200704271204||ADT^A01|20070427120416|P|2.5
EVN||200704271204
PID||00251864|000333333|^SMITH^JOHN^M||19791013|M|||||||BUDHIST|4444444444
PV1||OT^113^01|||||SUR|||||IP|||||||||||||||||200408111015
```

A04

```
MSH|^~\&|FacADT|FacName|ICW|FacName|200704271204||ADT^A04|20070427120417|P|2.5
EVN||200704271204
PID||00251864|000333333|^SMITH^JOHN^M||19791013|M|||||||BUDHIST|4444444444
PV1||OT^113^01|||||SUR|||||IP|||||||||||||||||200408131130
```

A05

```
MSH|^~\&|FacADT|FacName|ICW|FacName|200704271204||ADT^A05|20070427120418|P|2.5
EVN||200704271204
PID||00251864|000333333|^SMITH^JOHN^M||19791013|M|||||||BUDHIST|4444444444
PV1||OT^113^01|||||SUR|||||IP|||||||||||||||||200408131130
```

A08

```
MSH|^~\&|FacADT|FacName|ICW|FacName|200704271204||ADT^A08|20070427120419|P|2.5
EVN||200704271204
PID||000333333|^SMITH^JOHNNY^M||19791013|M|||||||CATHOLIC
```

Update Patient Information with extended properties:

```
MSH|^~\&|FacADT|FacName|ICW|FacName|200704271204||ADT^A08|20070427120420|P|2.5
EVN||200704271204
```

```
PID|||000333333|^SMITH^JOHNNY^M||19791013|M|||||||CATHOLIC
AL1||Bleeding nose
PD1|||||Water
```

Create Patient if Encounter does not exist yet:

```
MSH|^~\&|FacADT|FacName|ICW|FacName|200704271204||ADT^A08|20070427120421|P|2.5
EVN||200704271204
PID||00251864|000333333|^SMITH^JOHNNY^M||19791013|M|||||||BUDHIST|4444444444
PV1|||3C^113^01|||||SUR|||||IP|||||20041002113000
```

A28

```
MSH|^~\&|FacADT|FacName|ICW|FacName|200704271204||ADT^A28|20070427120422|P|2.5
EVN||200704271204
PID||00251864|000333333|^SMITH^JOHNNY^M||19791013|M|||||||BUDHIST|4444444444
PV1|||3C^113^01|||||SUR|||||IP|||||20041002113000
```

Repeated Unit Fields

The A01 Message Type is capable of processing admissions into more than one Unit if the “repeated field” character of tilde (~) is present in the **Unit** Component. This is only valid for Outpatient type admissions where no Room and Bed information is provided. If the Room and Bed is provided then the same Room and Bed will be applied to all admissions.

Sample Messages

A01

```
MSH|^~\&|FacADT|FacName|ICW|FacName|200704271204||ADT^A01|20070427120416|P|2.5
EVN||200704271204
PID||00251864|000333333|^SMITH^JOHN^M||19791013|M|||||||BUDHIST|4444444444
PV1|||OT~PT~ER|||||SUR|||||IP|||||200408111015
```


Change Patient Type

Message Types

- **A06** – Change an Outpatient to an Inpatient
- **A07** – Change an Inpatient to an Outpatient

Fields

Infor Care Workloads Field Name	HL7 Field Name	Default Location	Required	Translation Required
HospitalPatientID	Patient ID (Internal ID) – ID	PID-3-1	Yes	
EncounterNumber	Patient Account Number – ID	PID-18-1	Yes	
FirstName	Given Name	PID-5-3		
MiddleInitial	Middle Name	PID-5-4		
LastName	Family Name	PID-5-2		
BirthDate	Date of Birth	PID-7		
Gender	Gender	PID-8		
Religion	Religion	PID-17		
AdmitDate	Admit Date/Time	PV1-44		
DischargeDate	Discharge Date/Time	PV1-45		
EventDate	Event Date	EVN-2	Yes	
Unit	Assigned Patient Location – Point of Care	PV1-3-1		Yes
Room	Room	PV1-3-2		
Bed	Bed	PV1-3-3		
PatientType	Patient Type	PV1-18	Yes	Yes
PatientService	Hospital Service	PV1-10		Yes
PriorEncounterNumber	Patient Account Number – ID	MRG-3		
DepartingUnit	Prior Patient Location	PV1-6-1		Yes

Activity Description

When this activity occurs the Infor Care Workloads HL7 Interface will examine the provided information to determine what action should occur. If the “PriorEncounterNumber” is provided and the value is different from the value provided in the “EncounterNumber” field then the Prior Encounter will be Discharged and a new Encounter will be created. If the “PriorEncounterNumber” is not provided or it matches the “EncounterNumber” and if the “DepartingUnit” is provided then the HL7 Interface will transfer the Patient to the “Unit”. Otherwise the HL7 Interface will change the Patient’s “PatientType”. During this process a new Instrument may be attached if a different Instrument is assigned to the new “PatientType”. If no active Unit or Instrument is available on the “EventDate” or no Instrument is assigned for the Patient’s “PatientType” then the attempt to attach the Instrument will fail.

If the Infor Care Workloads HL7 Interface encounters a problem at any time during this process the process will be rolled back and logged to the “HL7 Failed Messages” log. A description of the reason for failure will be provided so that the Administrator may rectify the issue and reprocess the Message.

Sample Messages

A06

Change PatientType for existing Encounter:

```
MSH|^~\&|FacADT|FacName|ICW|FacName|200704271204||ADT^A06|20070427120423|P|2.5
EVN||200704271204
PID||000333333|||||||4444444444
PV1|||||||P
```

Discharge Patient from Encounter 4444444444. Create new encounter 4444444445 and admit patient to unit 3C:

```
MSH|^~\&|FacADT|FacName|ICW|FacName|200704271204||ADT^A06|20070427120424|P|2.5
EVN||200704271204
PID||000333333|||||||4444444445
PV1||3C^113^01||5C^113^01|||||||P|||||||20041001110000
MRG||4444444444
```

A07

```
MSH|^~\&|FacADT|FacName|ICW|FacName|200704271204||ADT^A07|20070427120425|P|2.5
EVN||200704271204
PID||000333333|||||||4444444444
PV1|||||||OP
```

Cancel Patient Admit

Message Types

A11 – Cancel Admit / Visit Information

Fields

Infor Care Workloads Field Name	HL7 Field Name	Default Location	Required	Translation Required
HospitalPatientID	Patient ID (Internal ID) – ID	PID-3-1	Yes	
EncounterNumber	Patient Account Number - ID	PID-18-1	Yes	
EventDate	Date/Time of Event	EVN-2	Yes	

Activity Description

When this activity occurs the Infor Care Workloads HL7 Interface will check to verify that the “EventDate” is after the “AdmitDate” and if so it will flag the specified Patient’s Encounter as “Deleted”. This will remove this record from display and reports but will not remove any collected data. If a later “Admit/Update” Message is processed for the same Patient’s Encounter then this record will be restored including any collected workload and other data relevant to this Patient’s Encounter.

Sample Messages

A11

```
MSH|^~\&|FacADT|FacName|ICW|FacName|200704271204||ADT^A11|20070427120426|P|2.5
EVN||200704271204
PID||000333333|||||||4444444444
```

Discharge Patient

Message Types

A03 – Discharge / End Visit

Fields

Infor Care Workloads Field Name	HL7 Field Name	Default Location	Required	Translation Required
HospitalPatientID	Patient ID (Internal ID) – ID	PID-3-1	Yes	
EncounterNumber	Patient Account Number – ID	PID-18-1	Yes	
EventDate	Discharge Date/Time	PV1-45	Yes	

Activity Description

When this activity occurs the Infor Care Workloads HL7 Interface will check to verify that the “DischargeDate” is after the “AdmitDate” and if so it will populate the Discharge Date for the Patient’s Encounter.

Sample Messages

A03

```
MSH|^~\&|FacADT|FacName|ICW|FacName|200704271204||ADT^A03|20070427120415|P|2.5
EVN||200704271204
PID|||000333333|||||||4444444444
PV1|||||||200408121315
```

Cancel Discharge

Message Types

A13 – Cancel Discharge / End Visit

Fields

Infor Care Workloads Field Name	HL7 Field Name	Default Location	Required	Translation Required
HospitalPatientID	Patient ID (Internal ID) – ID	PID-3-1	Yes	
EncounterNumber	Patient Account Number - ID	PID-18-1	Yes	
EventDate	Date/Time of Event	EVN-2	Yes	
Room	Room	PV1-3-2		
Bed	Bed	PV1-3-3		

Activity Description

When this activity occurs the Infor Care Workloads HL7 Interface will check to verify that the “EventDate” is after the existing “DischargeDate” for the Patient’s Encounter and if so it will remove the Discharge Date. If the “Room” and “Bed” information is provided then the HL7 Interface will update the Patient’s location with this information.

Sample Messages

A13

```
MSH|^~\&|FacADT|FacName|ICW|FacName|200704271204||ADT^A13|20070427120427|P|2.5
EVN||200704271204
PID|||000333333|||4444444444
PV1|||PT^222^02
```

Transfer Patient

Message Types

A02 – Transfer a Patient

Fields

Infor Care Workloads Field Name	HL7 Field Name	Default Location	Required	Translation Required
HospitalPatientID	Patient ID (Internal ID) – ID	PID-3-1	Yes	
EncounterNumber	Patient Account Number – ID	PID-18-1	Yes	
EventDate	Date/Time of Event	EVN-2	Yes	
Unit	Point of Care	PV1-3-1	Yes	Yes
Room	Room	PV1-3-2		
Bed	Bed	PV1-3-3		
DepartingUnit	Point of Care	PV1-6-1	Yes	Yes
PatientType	Patient Type	PV1-18	Yes	Yes
PatientService	Hospital Service	PV1-10		Yes

Activity Description

When this activity occurs the Infor Care Workloads HL7 Interface will first verify that the Patient's Encounter exists in the "DepartingUnit". If the Patient's Encounter does not exist then processing will stop and an exception will be noted in the "Failed Messages" log. The process will also cease if the "PatientType" is not provided as this information is necessary in order to attach the correct Instrument to the Patient.

If the Patient's Encounter does exist then processing will continue and the Patient will be moved to the "Unit". If the "Unit" is the same as the "DepartingUnit" then the Patient's Encounter will be updated. If the "Room", "Bed", &/or "PatientService" are different from the existing information then this information will be updated. If the "PatientType" is different from the existing information then this will be updated and if a different Instrument is assigned to the new "PatientType" then the Instrument will be assigned at this time.

If the "Unit" is different from the "DepartingUnit" then the Patient's Encounter will be Discharged from the "DepartingUnit" and the Patient's Encounter will be Admitted to the "Unit" as of the "EventDate".

The information provided in the Message will be used in the new Unit and the Instrument for the new “PatientType” will be attached to the Patient’s Encounter. If no Instrument is assigned to the “PatientType” then processing will be rolled back and an exception will be noted in the “Failed Messages” log.

Sample Messages

A02

```
MSH|^~\&|FacADT|FacName|ICW|FacName|200704271204||ADT^A02|20070427120415|P|2.5
EVN||200704271204
PID|||000333333|||||||4444444444
PV1|||PT^222^02|||OT
```

Temporary Transfer

Message Types

- **A09** – Patient Departing - Tracking
- **A10** – Patient Arriving – Tracking

Fields

Infor Care Workloads Field Name	HL7 Field Name	Default Location	Required	Translation Required
HospitalPatientID	Patient ID (Internal ID) – ID	PID-3-1	Yes	
EncounterNumber	Patient Account Number - ID	PID-18-1	Yes	
EventDate	Date/Time of Event	EVN-2	Yes	
Unit	Assigned Patient Location - Point of Care	PV1-3-1	Yes	Yes
Room	Room	PV1-3-2		
Bed	Bed	PV1-3-3		

DepartingUnit	Prior Patient Location - Point of Care	PV1-6-1	Yes	Yes
TempReceivingUnit	Temporary Location – Point of Care	PV1-11-1	Yes	Yes
TempDepartingUnit	Prior Temporary Location - Point of Care	PV1-43-1	Yes	Yes
PatientType	Patient Type	PV1-18	Yes	Yes
PatientService	Hospital Service	PV1-10		Yes

Activity Description

When this activity occurs the Infor Care Workloads HL7 Interface will first verify that the Patient’s Encounter exists in the “DepartingUnit”. If the Patient’s Encounter does not exist then processing will stop and an exception will be noted in the “Failed Messages” log. The process will also cease if the “PatientType” is not provided as this information is necessary in order to attach the correct Instrument to the Patient.

If the Patient’s Encounter does exist then processing will continue and the Patient will be moved to the “Unit”. If the “Unit” is the same as the “DepartingUnit” then the Patient’s Encounter will be updated. If the “Room”, “Bed”, &/or “PatientService” are different from the existing information then this will be updated. If the “PatientType” is different from the existing information then this will be updated and if a different Instrument is assigned to the new “PatientType” then the Instrument will be assigned at this time.

If the “Unit” is different from the “DepartingUnit” then the Patient’s Encounter will be closed in the “DepartingUnit” and the Patient’s Encounter will be Admitted to the “Unit” as of the “EventDate” (or an existing record will be updated). The information provided in the Message will be used in the new Unit and the Instrument for the new “PatientType” will be attached to the Patient’s Encounter. If no Instrument is assigned to the “PatientType” then processing will be rolled back and an exception will be noted in the “Failed Messages” log.

If the “DepartingUnit” is provided, the “Unit” is not provided, and the “TempReceivingUnit” is provided then a new record will be created (or an existing record will be updated) for the Patient’s Encounter in the “TempReceivingUnit” while leaving the Patient’s Encounter in the “DepartingUnit” open.

If the “DepartingUnit” and “Unit” are not provided, but the “TempDepartingUnit” and “TempReceivingUnit” are provided then the Patient’s Encounter will be Admitted to the “TempReceivingUnit” and Discharged from the “TempDepartingUnit”.

If the “DepartingUnit” is not provided, the “Unit” is provided, and the “TempDepartingUnit” is provided then the Patient’s Encounter will be Admitted to the “Unit” (or an existing record will be updated) and the record in the “TempDepartingUnit” will be Discharged.

Sample Messages

A09

From Permanent to Temporary Location:

```
MSH|^~\&|FacADT|FacName|ICW|FacName|200704271204||ADT^A09|20070427120428|P|2.5
EVN||200704271204
PID|||000333333|||4444444444
PV1|||||OT|||||PT
```

From Temporary to Temporary Location:

```
MSH|^~\&|FacADT|FacName|ICW|FacName|200704271204||ADT^A09|20070427120429|P|2.5
EVN|200704271204
PID|||000333333|||4444444444
PV1|||||5C|||||PT
```

From Temporary to Permanent Location:

```
MSH|^~\&|FacADT|FacName|ICW|FacName|200704271204||ADT^A09|20070427120430|P|2.5
EVN||200704271204
PID|||000333333|||4444444444
PV1|||PT|||||5C
```

From Permanent to Permanent Location:

```
MSH|^~\&|FacADT|FacName|ICW|FacName|200704271204||ADT^A09|20070427120431|P|2.5
EVN||200704271204
PID|||000333333|||^||4444444444
PV1|||OT|||PT
```

A10

From Permanent to Temporary Location:

```
MSH|^~\&|FacADT|FacName|ICW|FacName|200704271204||ADT^A10|20070427120432|P|2.5
EVN||200704271204
PID|||000333333|||4444444444
PV1|||||OT|||||PT
```

From Temporary to Temporary Location:

```
MSH|^~\&|FacADT|FacName|ICW|FacName|200704271204||ADT^A10|20070427120433|P|2.5
EVN|200704271204
PID|||000333333|||4444444444
```

PV1|||||||5C|||||||PT

From Temporary to Permanent Location:

MSH|^~\&|FacADT|FacName|ICW|FacName|200704271204||ADT^A10|20070427120434|P|2.5
 EVN||200704271204
 PID||000333333|||||||4444444444
 PV1||PT|||||||5C

From Permanent to Permanent Location:

MSH|^~\&|FacADT|FacName|ICW|FacName|200704271204||ADT^A10|20070427120435|P|2.5
 EVN||200704271204
 PID||000333333|||||||4444444444
 PV1||OT||PT

Swap Beds

Message Types

A17 – Swap Patients

Fields

Infor Care Workloads Field Name	HL7 Field Name	Default Location	Required	Translation Required
HospitalPatientID	Patient ID (Internal ID) – ID	PID-3-1	Yes	
EncounterNumber	Patient Account Number – ID	PID-18-1	Yes	
EventDate	Date/Time of Event	EVN-2	Yes	
Unit	Point of Care	PV1-3-1	Yes	Yes
Room	Room	PV1-3-2		
Bed	Bed	PV1-3-3		
DepartingUnit	Point of Care	PV1-6-1	Yes	Yes
PatientType	Patient Type	PV1-18	Yes	Yes
PatientService	Hospital Service	PV1-10		Yes

Activity Description

When this activity occurs the Infor Care Workloads HL7 Interface will perform a Transfer, similar to what is outlined in the **Transfer** section, for each PID + PV1 combination. Each record will be treated independently and processed independently. If one of the Transfers should fail the other Transfers will not be affected and will continue to process.

Sample Messages

A17

```
MSH|^~\&|FacADT|FacName|ICW|FacName|200704271204||ADT^A17|20070427120436|P|2.5
EVN||200704271204
PID||2874892||^Jared^Smith^Q||19730927|M|||||||33207704
PV1||H7P1^204^2|L|H8TH^103^1||||GYN|1||D|SE|IP|10207704|||||||||||||Y|OCC|||20060
3130851
PID||14567897||^Deere^Jane^R||19750302|F|||||||10207704
PV1|2||H8TH^101^1|L|H7P1^204^2||||GYN|1||D|SE|IP|10207704^^^Y|A|||||||||||||Y|OCC|||
|200603130931
```

Cancel Transfer

Message Types

A12 – Cancel Transfer

Fields

Infor Care Workloads Field Name	HL7 Field Name	Default Location	Required	Translation Required
HospitalPatientID	Patient ID (Internal ID) – ID	PID-3-1	Yes	
EncounterNumber	Patient Account Number - ID	PID-18-1	Yes	
Unit	Assigned Patient Location – Point of Care	PV1-3-1	Yes	Yes

EventDate	Date/Time of Event	EVN-2	Yes
-----------	--------------------	-------	-----

Activity Description

When this activity occurs the Infor Care Workloads HL7 Interface will check to verify that the “EventDate” is after the existing Transfer-Out Date for the Patient’s Encounter and if this value is after that date it will flag the Patient’s Encounter in the “Unit” as “Deleted”. This will remove the Patient’s Encounter from display and reports but will not remove any collected data. If a later “Admit/Update” or “Transfer” Message is processed for the same Patient’s Encounter in this “Unit” then the existing item will be restored including any collected workload and other data relevant to this Patient’s Encounter. This activity will also reset the Patient’s Encounter’s location from the originating Unit (where the Patient was transferred from) to have a NULL end date.

Sample Messages

A12

```
MSH|^~\&|FacADT|FacName|ICW|FacName|200704271204||ADT^A12|20070427120437|P|2.5
EVN||200704271204
PID|||000333333^^^|||||||||^|4444444444
PV1|||OT^113^01
```

Merge Patients and Encounters

Message Types

- **A18** – Merge Patient Information
- **A34** – Merge Patient Information – Patient ID Only
- **A36** - Merge Patient Information – Patient ID & Account Number
- **A40** – Merge Patient – Patient Identifier List

Fields

Infor Care Workloads Field Name	HL7 Field Name	Default Location	Required	Translation Required
HospitalPatientID	Patient ID (Internal ID)	PID-3-1	Yes	
EncounterNumber	Patient Account Number	PID-18-1		
MergeHospitalPatientID	Prior Patient ID (Internal ID)	MRG-2		
PriorEncounterNumber	Patient Account Number	MRG-3		

Activity Description

When this activity occurs the Infor Care Workloads HL7 Interface will first attempt to change the "MergeHospitalPatientID" to the "HospitalPatientID". If this Patient already exists then any existing Encounters for the "MergeHospitalPatientID" will be removed from this Patient and attached to the Patient for the "HospitalPatientID". If any of these Encounters have the same "EncounterNumber" then these Encounters will be combined. The Encounters for the "HospitalPatientID" will take precedence and if workload is collected for both records then the secondary information will be removed. If the Encounters each have a unique "EncounterNumber" then collected workload will be moved to the new "HospitalPatientID".

The HL7 Interface will then attempt to change the "PriorEncounterNumber" to the "EncounterNumber". If the "EncounterNumber" already exists then the Encounters will be combined as outlined above.

This process functions independently for the combining of Patients and Encounters. If inadequate information is provided to perform one the tasks the process will continue and the other task will be attempted. This process will display as successful if either task processes successfully. A Message will be logged into the "Failed Messages" log only in the event that both tasks fail to complete.

Sample Messages

A18

```
MSH|^~\&|FacADT|FacName|ICW|FacName|200704271204||ADT^A18|20070427120438|P|2.5
EVN||200704271204
PID||000333333
MRG||101012
```

A34

```
MSH|^~\&|FacADT|FacName|ICW|FacName|200704271204||ADT^A34|20070427120439|P|2.5
EVN||200704271204
PID||000333333
MRG||101012
```

A36

```
MSH|^~\&|FacADT|FacName|ICW|FacName|200704271204||ADT^A36|20070427120440|P|2.5
EVN||200704271204
PID||000333333
PV1||3C^113^01||5C^113^01|||||||||P|||||||||||||||||||20041001110000
MRG||101012|4444444444
```

A40

```
MSH|^~\&|FacADT|FacName|ICW|FacName|200704271204||ADT^A40|20070427120441|P|2.5
EVN||200704271204
PID||000333333
MRG||101012
```

Merge Encounters

Message Types

- **A35** - Merge Patient Information – Account Number Only
- **A41** – Merge Account – Patient Account Number

Fields

Infor Care Workloads Field Name	HL7 Field Name	Default Location	Required	Translation Required
HospitalPatientID	Patient ID (Internal ID) – ID	PID-3-1	Yes	
EncounterNumber	Patient Account Number - ID	PID-18-1	Yes	
PriorEncounterNumber	Patient Account Number – ID	MRG-3	Yes	

Activity Description

When this activity occurs the Infor Care Workloads HL7 Interface will change the “PriorEncounterNumber” to the “EncounterNumber”. If the “EncounterNumber” already exists then the Encounters will be combined. The primary Encounter will take precedence and if workload is collected for both records then the secondary information will be removed. If the “EncounterNumber” does not exist then the collected workload will be moved to the new “EncounterNumber”.

Sample Messages

A35

```
MSH|^~\&|FacADT|FacName|ICW|FacName|200704271204||ADT^A35|20070427120442|P|2.5
EVN|||200704271204
PID|||000333333
MRG|||4444444444
```

A41

```
MSH|^~\&|FacADT|FacName|ICW|FacName|200704271204||ADT^A41|20070427120443|P|2.5
EVN|||200704271204
PID|||000333333
MRG|||4444444444
```

Move Account Information

Message Types

A44 – Move Account Information – Patient Account Number

Fields

Infor Care Workloads Field Name	HL7 Field Name	Default Location	Required	Translation Required
HospitalPatientID	Patient ID (Internal ID) – ID	PID-3-1	Yes	

EncounterNumber	Patient Account Number - ID	PID-18-1	Yes
MergeHospitalPatientID	Prior Patient ID (Internal ID)	MRG-2	Yes

Activity Description

When this activity occurs the Infor Care Workloads HL7 Interface will move the specified “Encounter Number” from the “Merge Hospital Patient ID” to the “Hospital Patient ID”.

Sample Messages

A44

```
MSH|^~\&|FacADT|FacName|ICW|FacName|200704271204||ADT^A44|20070427120444|P|2.5
EVN||200704271204
PID|||000333333|||||||||||||4444444444
MRG||4444444443
```

Sign In

Message Types

A22 – Patient Returns from a Leave of Absence

Fields

Infor Care Workloads Field Name	HL7 Field Name	Default Location	Required	Translation Required
HospitalPatientID	Patient ID (Internal ID) – ID	PID-3-1	Yes	
EncounterNumber	Patient Account Number - ID	PID-18-1	Yes	
EventDate	Date/Time of Event	EVN-2	Yes	

Unit	Assigned Patient Location – Point of Care	PV1-3-1	Yes	Yes
------	--	---------	-----	-----

Activity Description

When this activity occurs the Infor Care Workloads HL7 Interface will flag the Patient’s Encounter in the “Unit” as “Signed In” as of the “EventDate”.

Sample Messages

A22

```
MSH|^~\&|FacADT|FacName|ICW|FacName|200704271204||ADT^A22|20070427120444|P|2.5
EVN||200704271204
PID|||000333333|||4444444444
PV1|||OT^113^01
```

Sign Out

Message Types


A21 - Patient Goes on a Leave of Absence

Fields

Infor Care Workloads Field Name	HL7 Field Name	Default Location	Required	Translation Required
HospitalPatientID	Patient ID (Internal ID) – ID	PID-3-1	Yes	
EncounterNumber	Patient Account Number - ID	PID-18-1	Yes	
EventDate	Date/Time of Event	EVN-2	Yes	

Unit	Assigned Patient Location – Point of Care	PV1-3-1	Yes	Yes
------	--	---------	-----	-----

Activity Description

When this activity occurs the Infor Care Workloads HL7 Interface will flag the Patient’s Encounter in the “Unit” as “Signed Out” as of the “EventDate”. The Patient will appear in “Patient Workload” with the icon  indicating that this Patient is on a Leave of Absence.

5.13.4 Sample Messages

A21

```
MSH|^~\&|FacADT|FacName|ICW|FacName|200704271204||ADT^A21|20070427120445|P|2.5
EVN||200704271204
PID|||000333333|||4444444444
PV1|||OT^113^01
```

Score Workload from McKesson Horizon Expert Documentation

Message Types

DFT P03 – Custom Financial Message

Fields

Infor Care Workloads Field Name	HL7 Field Name	Default Location	Required	Translation Required
HospitalPatientID	Patient ID (Internal ID) – ID	PID-3-1	Yes	
LastName	Family Name	PID-5-2	No	

FirstName	Given Name	PID-5-3	No	
MiddleInitial	Middle Name	PID-5-4	No	
BirthDate	Date of Birth	PID-7	No	
Gender	Gender	PID-8	No	
Religion	Religion	PID-17	No	
EncounterNumber	Patient Account Number – ID	PID-18-1	Yes	
Unit	Assigned Patient Location – Point of Care	PV1-3-1	Yes	Yes
Room	Room	PV1-3-2	No	
Bed	Bed	PV1-3-3	No	
PatientService	Hospital Service	PV1-10	No	Yes
PatientType	Patient Type	PV1-18	No	Yes
VisitNumber	Visit Number	PV1-19	No	
AdmitDate	Admit Date/Time	PV1-44	No	
DischargeDate	Discharge Date/Time	PV1-45	No	
ScoreDate	Transaction Date	FT1-4	Yes	
ScoreValue	Transaction Quantity	FT1-10	Yes	
TransactionType	Transaction Type	FT1-6	Yes	
InstrumentIntervention	Transaction Code	FT1-7	Yes	Yes, value is set in McKesson HED.

Activity Description

When this activity occurs the Infor Care Workloads HL7 Interface will score workload for a Patient's Encounter on a specific Instrument's Intervention. This is a separately licensed product that is sold independently by GRASP in conjunction with McKesson. All translations and setup for this activity are controlled by McKesson. – is this still accurate with the Infor move?

The HL7 Interface uses the P03 Message to interact with the McKesson documentation system. The Instrument and Intervention are identified in the FT1 Segment (FT1-7 – Transaction Code). The HL7Interface looks for a hyphen (-) delimited value that contains the Instrument and Intervention. A properly formatted sample value for FT1-7 – Transaction Code would be 7-29, where 7 is the Instrument and 29 is the Intervention. The Instrument value is optional. If no value is present or if the specified Instrument is not part of the Unit then this process will attempt to find the proper Instrument

based on (a) a single Instrument in the Unit, (b) using the Instrument for the specified Patient Type, and (c) looking up the Intervention on Instruments in the specified Unit. To populate the P03 with the proper values for instruments and interventions, a list of current instruments, interventions and their Infor Care Workloads Identification Numbers has to be requested from the individual instances running the HL7 interface.

The FT1 Segment (FT1-7-6 – Transaction Type) is used to indicate the type of the transaction. A value of “C” is used to credit (subtract) the quantity provided by FT1-7-10 – Transaction Quantity whereas a value of “D” debits (adds) the quantity.

The optional fields can be used to Admit the Patient if they are not already admitted to Infor Care Workloads. This can happen if the message sequencing gets out-of-order or because an alternate ADT system may be in use.

Sample Messages

P03

```
MSH|^~\&|FacADT|FacName|ICW|FacName|200704271204||DFT^P03|20070427120446|P|2.5
EVN||200704271204
PID||00251864|000333333|^SMITH^JOHN^M||19791013|M|||||BUDHIST|4444444444
PV1||OT^113^01|||||SUR|||||IP|||||200408111015
FT1|||200408181145||D|5-32||11
```

Score Workload using a Standard Message

Message Types

- **ORU R01** – Unsolicited Observation

Fields

Infor Care Workloads Field Name	HL7 Field Name	Default Location	Required	Translation Required
HospitalPatientID	Patient ID (Internal ID) – ID	PID-3-1	Yes	
EncounterNumber	Patient Account Number – ID	PID-18-1	Yes	

Unit	Assigned Patient Location – Point of Care	PV1-3-1	Yes	Yes
Instrument	Notes and comments	OBR-26-1	Yes	Yes
Documentation Date & Time	Notes and comments	OBR-7-1	Yes	
Intervention Type	Notes and comments	OBX-2-1	Yes	Yes
Primary Intervention	Notes and comments	OBX-3-1	Yes	
Secondary Intervention / Intervention Value	Notes and comments	OBX-5-1	Yes	
Intervention Value Type	Notes and comments	OBX-6-1	Yes	

Activity Description

When this activity occurs the Infor Care Workloads HL7 Interface will score workload for a Patient's Encounter on a specific Instrument's Intervention. This is a separately licensed product that is sold independently by GRASP in conjunction with Cerner.

When this interface is licensed and Infor Care Workloads receives the specified message the patient will first be looked up to see if the specified Instrument is attached to this patient at the specified date & time. If the Instrument is not attached the system will determine if this Instrument can be attached, and if so the Instrument will be automatically attached to the patient. The system will then use special translations setup specifically for this interface to determine which Interventions are being evaluated. Depending upon the type of Intervention the item will be checked and may have a value applied to it. The repeated field character, "~", is allowable in the "Secondary Intervention / Intervention Value" field. When present each repeated field will be paired with the "Primary Intervention".

Note that the Interventions included in this message will be the only ones scored after this message is processed. Any previous Interventions scored by this interface will be automatically removed. However, any items that were previously scored by a Infor Care Workloads user will be preserved after this message is processed.

Sample Messages

R01

```
MSH|^~\&|FacADT|FacName|ICW|FacName|200704271204||ORU^R01|20070427120446|P|2.5
```

EVN||200704271204
PID||000333333|||||||||||4444444444
PV1||OT^113^01
OBR|||||200704271204|||||||||||GRASP Interface Test Form
OBX||CE|Assessment MS Peds ||1-3 active problems
OBX||NUM|Family/Patient Conference ||15|min
OBX||CE|Restraints for Safety||Yes

References

HL7 Messaging Standard Version 2.5