



HL7 Interconnection Guide v1.2

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Introduction

This document defines the specifications for full integration with the Oberd application. Our interfaces were programmed to adhere to HL7 interface standards. For more information on HL7, please refer to the Health Level Seven website: <http://www.hl7.org>.

Recommended Interconnection Plan

While Oberd recommends the following interconnection methodologies, the Oberd application has the flexibility to handle data and workflows outside of what is stated in this document.

Phase I: In order to utilize the Oberd application effectively with your PM/EHR, the demographics and scheduler should be interfaced between both systems, along with a document feed from Oberd back into your EHR.

Phase II: After Phase I has been accomplished, further integration between the systems may still be desired. Many PM/EHR systems have the capability to transfer discrete data to and from their systems.

While data integration is possible, it should be noted that extensive data cross referencing may be required.

Phase I	Establish VPN Connectivity
	Bi-Directional HL7 ADT
	Inbound HL7 SIU to Oberd
	Outbound HL7 ORU Document from Oberd
Phase II	Outbound HL7 ORU or CCD from Oberd
	Inbound HL7 CCD to Oberd

VPN Connectivity

Oberd will provide all prospective clients with the Oberd VPN Template. Please fill this out as soon as your team is able. Typically, a completed form is required before moving forward with any significant integration discussions.

Communication Protocol

TCP/IP & MLP Envelope

Oberd expects the external application to send data to us using the Minimal Lower Layer Protocol (MLP) over a TCP/IP Connection as specified by the HL7 standard.

The MLP envelope should use the following separator characters:

Start of Message Character	0x0B <VT>
End of Message Character	0x1C <FS>
Record Separator Character	0x0D <CR>
End of Segment Character	0x0D <CR>

Patient Matching

Due to the variability of patient spellings and risk of mistyping, Oberd performs patient mapping based on the external application's patient identifier sent over the interface. Oberd will store this identifier upon patient creation and use as matching criteria for any future messages.

This information should be placed according to HL7 2.3 standards, and will be accepted in either the PID.2 or PID.3 segment of the message.

Inbound Message Data Formats (to Oberd)

ADT – Demographic Messages

ADT messages are utilized to keep an up-to-date database of patient information from the external application. ADT messages will match a patient based on the criteria specified in the Patient Matching section of this document.

Oberd utilizes the following ADT messages, and any other messages transferred with be filtered and ignored.

ADT^A18 Merge Patient Information

ADT^A28 Add a Patient Record

ADT^A29 Delete a Patient Record

ADT^A31 Update a Patient Record

Demographic Fields

Field	Requirement	Description	HL7 Field
Patient ID	Required	Used to uniquely identify a patient	PID.2
First Name	Required		PID.5.2
Last Name	Required		PID.5.1
Middle Name	Optional	Only used for display purposes	PID.5.3
Home Phone	Optional	Used for display purposes although allows for easy contact information viewing if presented	PID.13.1
Alt Phone	Optional	See above	PID.14.1
Gender	Required		PID.8
Date of Birth	Required		PID.7
Email Address	Recommended	Highly recommended as will allow automation of getting	PID.13.4

		patients to comply from outside of the clinic	
Last 4 of SSN	Recommended	Will help with patients logging in as an extra level of security. We can take the entire SSN if needed or trim to only the last 4.	PID.19
Address Line 1	Optional		PID.11.1
Address Line 2	Optional		PID.11.2
City	Optional		PID.11.3
State	Optional		PID.11.4
Zip	Optional		PID.11.5

SIU – Scheduling Messages

SIU messages are used to keep an up-to-date appointment list from the external application. The Oberd application will accept SIU messages if a provider is live in production within the Oberd application. If only a subset of providers are using Oberd, only messages for those physicians will be processed through the interface. Any other message received for an inactive provider will be filtered and ignored.

Oberd needs to receive SIU messages which notify it about newly created appointments, updates/rescheduled appointments, and appointment cancellations. Along with those message types, if the external application uses the appointment status (example Bumped or No Show), to filter which appointments should be shown, please provide a list of those statuses assuming those statuses don't trigger an appointment cancellation message.

Oberd utilizes the following SIU messages, any other messages transferred will be filtered and ignored unless otherwise specified during the integration process.

SIU^S12 Notification of New Appointment

SIU^S14 Notification of Appointment Modification

SIU^S15 Notification of Appointment Cancellation

Appointment Fields

Field	Requirement	Description	HL7 Field
Appointment ID	Required	Used to uniquely identify an appointment	SCH.1 / PV1.19
Appointment Type	Required	Used to automatically trigger questionnaires in the Oberd application	SCH.8
Appointment Location	Required	Used to determine which clinic/location this appointment is for. Questionnaires can be restricted to specific clinics if needed	AIL.3.1
Appointment Date	Required		SCH.11.4 / PV1.44
Physician ID	Required	The ID of the physician the appointment is for.	AIP.3.1 / PV.1.7

Testing Steps

Demographics

- Create a test patient and verify all data in Oberd
- Edit test patient demographics (phone, address, etc.) and verify changes in Oberd
- Merge a test patient to another test patient and verify in Oberd
- Delete a test patient and verify in Oberd

Appointments

- Create an appointment for a test patient and verify all data is in Oberd
- Edit a test appointment (appointment type, provider, etc.) and verify changes in Oberd

- o Ideally, appointments/updates would be sent for every appointment type, provider, and location to confirm the mapping is correct to Oberd
- Reschedule a test appointment to a different time and date and verify the changes in Oberd
 - o Check that both the old appointment has been removed and the new time/date is showing
 - o Have a form assigned to the appointment before rescheduling to ensure that the form is carried over to the new appointment
- Create a test appointment and treat it as a No Show then verify that it's removed from Oberd
- Cancel a test appointment and verify that it is removed from Oberd

Initial Load of Patients and Appointments

Once testing has been completed, the initial load can be scheduled. This load should include all of the patients from the past 6 months and all future appointments. If previous appointments or other time ranges are also wanted, those can be included. Since this will likely be a very large number of messages, it should be scheduled to start sending from the PM system to Oberd after normal business hours.

If the PM system cannot send the messages directly, we can upload a file dump. This should be a comma-separated or pipe-delimited file with the following fields. If additional fields are needed, these can be added. We'll just need to know in advance.

Initial Load Fields for Delimited File

Field	Requirement	Description	Column
Patient ID	Required	Used to uniquely identify a patient	1
First Name	Required		2
Last Name	Required		3
Middle Name	Optional	Only used for display purposes	4

Home Phone	Optional	Used for display purposes although allows for easy contact information viewing if presented	5
Alt Phone	Optional	See above	6
Gender	Required		7
Date of Birth	Required		8
Email Address	Recommended	Highly recommended as will allow automation of getting patients to comply from outside of the clinic	9
Last 4 of SSN	Recommended	Will help with patients logging in as an extra level of security. We can take the entire SSN if needed or trim to only the last 4.	10
Address Line 1	Optional		11
Address Line 2	Optional		12
City	Optional		13
State	Optional		14
Zip	Optional		15
Appointment ID	Required	Used to uniquely identify an appointment	16
Appointment Type	Required	Used to automatically trigger questionnaires in the Oberd application	17
Appointment Location	Required	Used to determine which clinic/location this appointment is for. Questionnaires can be restricted to specific clinics if needed	18

Appointment Date	Required		19
Physician ID	Required	The ID of the physician the appointment is for.	20