Sentinel 10 Overview 22: HL7

Table of Contents

[Introduction 3](#_Toc392251532)

[Comparison of Sentinel 9 and Sentinel 10 HL7 4](#_Toc392251533)

[Overview of Sentinel 9 HL7 5](#_Toc392251534)

[Create, update, delete, merge patients 5](#_Toc392251535)

[Create, update, delete, merge, move cases 6](#_Toc392251536)

[Create, update, cancel orders 6](#_Toc392251537)

[Receive PDF reports and measurements 6](#_Toc392251538)

[Overview of Sentinel 10 HL7 7](#_Toc392251539)

[Create, update, delete, merge patients 7](#_Toc392251540)

[Create, update, delete, merge, move cases 7](#_Toc392251541)

[Create, update, cancel orders 7](#_Toc392251542)

[Receive PDF reports and measurements 8](#_Toc392251543)

[APPENDIX – SUPPORTED FIELDS 9](#_Toc392251544)

[APPENDIX – HL7 MESSAGES 11](#_Toc392251545)

[ADT^A01 Admit/Visit Notification (ADTA01ToCmf.xslt) 11](#_Toc392251546)

[ADT^A02 Transfer a Patient (ADTA02ToCmf.xslt) 11](#_Toc392251547)

[ADT^A03 Discharge/End Visit (ADTA03ToCmf.xslt) 12](#_Toc392251548)

[ADT^A04 Register a patient (ADTA04ToCmf.xslt) 12](#_Toc392251549)

[ADT^A06 Change an out-patient to an in-patient (ADTA06ToCmf.xslt) 13](#_Toc392251550)

[ADT^A07 Change an in-patient to an out-patient (ADTA07ToCmf.xslt) 13](#_Toc392251551)

[ADT^A08 Update patient information (ADTA08ToCmf.xslt) 13](#_Toc392251552)

[ADT^A11 Cancel admit/visit notification (ADTA11ToCmf.xslt) 14](#_Toc392251553)

[ADT^A12 Cancel Transfer (ADTA12ToCmf.xslt) 14](#_Toc392251554)

[ADT^A13 Cancel Discharge (ADTA13ToCmf.xslt) 15](#_Toc392251555)

[ADT^A18 Merge Patient (ADTA18ToCmf.xslt) 15](#_Toc392251556)

[ADT^A28 Add Person (ADTA28ToCmf.xslt) 16](#_Toc392251557)

[ADT^A31 Update Person (ADTA31ToCmf.xslt) 16](#_Toc392251558)

[ADT^A34 Merge Patient IDs (ADTA34ToCmf.xslt) 17](#_Toc392251559)

[ADT^A39 Merge Person XID (ADTA39ToCmf.xslt) 18](#_Toc392251560)

[ADT^A40 merge person – patient identifier list (ADTA40ToCmf.xslt) 18](#_Toc392251561)

[ADT^A42 Merge Visit (ADTA42ToCmf.xslt) 19](#_Toc392251562)

[ADT^A45 Move Visit Info (ADTA45ToCmf.xslt) 20](#_Toc392251563)

[OMG^O19 Placer Order Management (OMGO19ToCmf.xslt) 20](#_Toc392251564)

[ORM^O01 General Order Message (ORMO01ToCmf.xslt) 21](#_Toc392251565)

[APPENDIX – HL7 FIELD VALUES 22](#_Toc392251566)

[Case Class 23](#_Toc392251567)

[Gender 23](#_Toc392251568)

[Height 23](#_Toc392251569)

[Weight 23](#_Toc392251570)

[Test Modality Being Ordered 24](#_Toc392251571)

[APPENDIX – HL7 MESSAGES AND PATIENT ID/ORGANISATION 25](#_Toc392251572)

# Introduction

This document is the twenty-second in the series of “Sentinel 10: Overview” documents. This series of documents provides an overview of the features of Sentinel 10 and how they improve, extend and expand those available in the earlier version Sentinel 9.

These documents have been written by development and have the following anticipated uses:

* to assist in the construction of training courses
* to answer some of the questions required by bids
* to assist in sales enquiries
* to assist in preparing marketing data sheets
* to cross-check the technical content on brochures
* to assist in writing user manuals

The idea behind these documents is that development writes these as informal whitepapers and if other departments wish them to become formal Agile documents then those departments perform the additional work to convert these and gain approval for them. Re-writing any portions which need reworded to be appropriate to their target audience.

This document illustrates the improvements made to HL7 integration from Sentinel 9 to Sentinel 10. The HL7 integration features have the following benefits:

* EMR systems can use HL7 to:
  + Create, update, delete, and merge patient records in Sentinel
  + Create, update, delete, merge and move case records in Sentinel
  + Create, update and cancel orders in Sentinel
  + Receive PDF reports and measurement information from Sentinel
* Sentinel’s HL7 interface is highly configurable to cope with the high variation in EMRs

# Comparison of Sentinel 9 and Sentinel 10 HL7

In order to understand and transition to Sentinel v10 HL7 integration it is a good idea to understand the HL7 within Sentinel v9.Firstly let’s compare the HL7 concepts used in Sentinel 9 and Sentinel 10:

|  |  |
| --- | --- |
| Sentinel 9 | Sentinel 10 |
| Create, update, delete, merge patients | (\*) Create, update, delete, merge patients |
| Create, update, delete, merge, move cases | (\*) Create, update, delete, merge, move cases |
| Create, update, cancel orders | (\*) Create, update, cancel orders |
| Receive PDF reports and measurements | (\*) Receive PDF reports and measurements |

*(\*) HL7 support improved as a result of changes in this area*

# Overview of Sentinel 9 HL7

Let’s consider each of these in turn:

## Create, update, delete, merge patients

The HL7 messages related to these activities and supported in Sentinel 9 are as follows:

| **Message** | **What Sentinel does in response** |
| --- | --- |
| ADT^A01 – Admit/Visit notification | creates new patient and optional case record or updates existing ones |
| ADT^A02 – Transfer a patient | updates an existing patient and optional case record, if patient not already in Sentinel no change made |
| ADT^A03 – Discharge/end visit | updates an existing patient and optional case record, if patient not already in Sentinel no change made |
| ADT^A04 – Register a patient | creates new patient and optional case records or updates existing ones |
| ADT^A06 – Change an out-patient to an in-patient | updates an existing patient and optional case record, if patient not already in Sentinel no change made |
| ADT^A07 – Change an in-patient to an out-patient | updates an existing patient and optional case record, if patient not already in Sentinel no change made |
| ADT^A08 - Update patient information | updates an existing patient and optional case record but does not change the in-patient and out-patient location if the message is not more recent than the previous message, if patient not already in Sentinel no change made |
| ADT^A11 – Cancel admit/visit notification | clears the in-patient location and admitted date/time for a patient record, if patient not already in Sentinel no change made |
| ADT^A12 – cancel transfer | updates the in-patient location and case-type for a case and patient record, if patient not already in Sentinel no change made |
| ADT^A13 – cancel discharge | clears the closure of an optional case record, updates the in-patient location and clears the discharged date/time for a patient record, if patient not already in Sentinel no change made |
| ADT^A18 – Merge Patient | creates new patient and optional case record or updates existing ones and merges a collection of other patient records into the patient record |
| ADT^A28 – Add person | creates new patient and optional case records or updates existing ones |
| ADT^A31 – Update person | updates an existing patient and optional case record, if patient not already in Sentinel no change made |
| ADT^A34 – Merge Patient IDs | creates new patient and optional case record or updates existing ones and merges a collection of other patient records into the patient record |
| ADT^A39 – Merge Person XID | creates new patient and optional case record or updates existing ones and merges a collection of other patient records into the patient record |
| ADT^A40 – merge person – patient identifier list | creates new patient and optional case record or updates existing ones and merges a collection of other patient records into the patient record |
| ADT^A42 – Merge Visit | creates new patient and optional case record or updates existing ones and merges several case records for the patient together into one case record |
| ADT^A45 – Move Visit Info | creates new patient and optional case record or updates existing ones and merges several case records for the patient together into one case record |

## Create, update, delete, merge, move cases

The HL7 messages related to these activities and supported in Sentinel 9 are as described in the previous section of this document.

## Create, update, cancel orders

The HL7 messages related to these activities and supported in Sentinel 9 are as follows:

| **Message** | **What Sentinel does in response** |
| --- | --- |
| OMG^O19 – Placer order management | creates new patient, optional case record and order record or updates existing ones |
| ORM^O01 – General Order Message | creates new patient, optional case record and order record or updates existing ones |

## Receive PDF reports and measurements

The HL7 messages related to these activities and supported in Sentinel 9 are as follows:

| **Message** | **What Sentinel does in response** |
| --- | --- |
| ORU^R01 – Observational report - unsolicited | Supplies a report either as a separate PDF file or as a PDF file base 64 encoded within the HL7 message |

# Overview of Sentinel 10 HL7

HL7 integration in Sentinel 10 has been improved beyond that afforded by Sentinel 9.

DICOM/PACS communication and HL7/EMR communication should not both be used in the same Sentinel installation.

Let’s consider each of the HL7 concepts again from Sentinel 10’s point of view:

## Create, update, delete, merge patients

In Sentinel 10 the same ADT messages are supported as in Sentinel 9 except that the organisation to which the patient record belongs can be used in every message to identify the patient records. In Sentinel 9 all HL7 messages assumed that the patient records belonged to the default organisation. This limitation no longer applies.

This allows Sentinel to be used in multi-hospital groups where a single Sentinel database is being used to store the patient records for several hospitals which all automatically feed updates into Sentinel using HL7.

HL7 Patient Merge messages can be used to rationalise Sentinel installations which begin as several organisations sharing the same Sentinel installation and over time the patient records are rationalised under a smaller number of organisations.

When used in conjunction with the mandatory filters within Sentinel roles, this feature can allow some users to only see the Hl7 created/updated patient records for their hospital, clinic or doctor’s practice. However other more senior users could be given greater access and be permitted to view patient records across the entire group of hospitals.

## Create, update, delete, merge, move cases

The same advantages introduced in Sentinel 10 for the creation, updating, deletion and merging of patient records also apply to case records because organisation is used in identifying case records within HL7 messages.

When used in conjunction with the mandatory filters within Sentinel roles, this feature can allow some users to only see the Hl7 created/updated case records associated with patients for their hospital, clinic or doctor’s practice. However other more senior users could be given greater access and be permitted to view case records across the entire group of hospitals.

## Create, update, cancel orders

The same advantages introduced in Sentinel 10 for the creation, updating and deleting on patient records also apply to creating, updating and cancelling orders.

This allows customers to create orders which are targeted at particular hospitals where more than one hospital shares a single Sentinel database.

When used in conjunction with the mandatory filters within Sentinel roles, this feature can allow some users to only see the Hl7 created/updated orders and test records for patients for their hospital, clinic or doctor’s practice. However other more senior users could be given greater access and be permitted to view patient records across the entire group of hospitals.

Sentinel 10 can order tests of the following modalities through HL7:

* Spacelabs Resting ECG
* Spacelabs Rhythm ECG
* Spacelabs Holter ECG
* Spacelabs ABP
* Spacelabs Stress ECG

Note that Sentinel 10 cannot order Ergospirometry, any test modality where the test is implemented using a 3rd party application controlled via xDT master integration through HL7 ordering.

## Receive PDF reports and measurements

In Sentinel 9 outgoing messages (e.g. ORU messages) only included the patient id and did not inform the HL7 system which organisation the report and measurements belongs to. Sentinel 10 provides the organisation as well as the patient id so that the EMR system can make appropriate decisions about which users should have access to the information.

# APPENDIX – SUPPORTED FIELDS

This appendix identifies the fields within Sentinel which can be mapped to fields within HL7 messages. Because the XSLT is so configurable, it is possible to map and transform any HL7 field into any of these Sentinel data entry fields.

Some Sentinel fields can only sent out from Sentinel to the EMR system using HL7 and cannot be received by the EMR into Sentinel. These are indicated in the list below.

* Patient Organisation
* Patient ID
* Patient Second ID
* Patient Third ID
* Patient First Name
* Patient Last Name
* Patient Maiden Name
* Patient Middle Initials
* Patient Title
* Patient Date of Birth
* Patient Ethnicity
* Patient Insurance Number
* Patient Admitted Date and Time
* Patient Discharged Date and Time
* Patient Deceased Date
* Patient Gender
* Patient Height
* Patient Weight
* Patient Address Line 1
* Patient Address Line 2
* Patient Address City
* Patient Address County / Region / State
* Patient Address Postcode / ZipCode
* Patient Address Country
* Patient Home Telephone Number
* Patient Work Telephone Number
* Patient Mobile / Cell Telephone Number
* Patient e-mail address
* Patient in-patient point of care
* Patient in-patient ward
* Patient in-patient bed
* Patient in-patient facility
* Patient out-patient point of care
* Patient out-patient ward
* Patient out-patient bed
* Patient out-patient facility
* Patient contact/next of kin last name
* Patient contact/next of kin first name
* Patient contact/next of kin home telephone number
* Patient contact/next of kin mobile/cell telephone number
* Patient contact/next of kin relationship
* Case number
* Case kind (in-patient or out-patient)
* Case date opened
* Case date closed
* Test modality name
* Test recorder model (out-going only)
* Test recording start date and time (out-going only)
* Test recording duration (out-going only)
* Test Height (height at time of test) (out-going only)
* Test Weight (weight at time of test) (out-going only)
* Test Order ID
* Test Order Response ID
* Test Order Procedure
* Test Order Requested Date and Time
* Test Order Source
* Test Order Ordering Physician name
* Test Order comments
* Test Referring Physician Staff Number (out-going only)
* Test Referring Physician Title (out-going only)
* Test Referring Physician First Name (out-going only)
* Test Referring Physician Last Name (out-going only)
* Test Attending Physician (Consultant) Staff Number (out-going only)
* Test Attending Physician (Consultant) Title (out-going only)
* Test Attending Physician (Consultant) First Name (out-going only)
* Test Attending Physician (Consultant) Last Name (out-going only)
* Test Hookup Technician Staff Number (out-going only)
* Test Hookup Technician Title (out-going only)
* Test Hookup Technician First Name (out-going only)
* Test Hookup Technician Last Name (out-going only)
* Report created date and time (out-going only)
* Report status (unconfirmed, confirmed, declined) (out-going only)
* Report measurements (out-going only)

Physician and Technician information is only available in out-going HL7 messages if the staff record is listed in the staff search page in the Sentinel user interface. If they were entered as free-text names not matching any staff record the information is not available to out-going HL7 messages.

# APPENDIX – HL7 MESSAGES

This appendix describes the HL7 messages supported by Sentinel 10 and the default configuration mapping HL7 fields to Sentinel data entry fields. It identifies the XSLT file which should be modified to customise each HL7 message.

## ADT^A01 Admit/Visit Notification (ADTA01ToCmf.xslt)

|  |  |
| --- | --- |
| **FIELD** | **OUT OF BOX CONFIGURATION** |
| EVN.2 | Case Date Opened |
| EVN.2 | Admitted |
| OBX.3.2 = “WEIGHT”  OBX.6 = UNITS  OBX.5 = VALUE | Patient Weight  default: Kilogrammes (KG)  supports: pounds (LB), stones (STONES), kilogrammes (KG) |
| OBX.3.2 = “HEIGHT”  OBX.6 = UNITS  OBX.5 = VALUE | Patient Height  default: metres (M)  supports: metres (M), inches (inches), centimetres (CM) |
| PID.3.1 | Patient ID |
| PID.3.4 | Patient Organisation (default organisation if missing) |
| PID.5.1 | Patient Family Name (last name) |
| PID.5.2 | Patient Given Name (first name) |
| PID.5.3 | Patient Middle Initials |
| PID.5.5 | Patient Title |
| PID.7 | Patient Date of Birth |
| PID.8 | Patient Gender |
| PID.10 | Patient Ethnicity |
| PID.11.1 | Patient Address Line 1 |
| PID.11.2 | Patient Address Line 2 |
| PID.11.3 | Patient City |
| PID.11.4 | Patient County/Region/State |
| PID.11.5 | Patient Postcode/Zipcode |
| PID.11.6 | Patient Country |
| PID.13 | Patient Home Telephone number |
| PID.19 | Patient Second ID |
| PV1.2 | Case Class (converted to in /out-patient) |
| PV1.19 | Case number |
| PV1.3.1 | Patient Point of care (either in or out-patient depends on PV1.2) |
| PV1.3.2 | Patient Ward (either in or out-patient depends on PV1.2) |
| PV1.3.3 | Patient Bed (either in or out-patient depends on PV1.2) |
| PV1.3.4 | Patient Facility Name (either in or out-patient depends on PV1.2) |
| ZPI.4.1 | Maiden Name |

## ADT^A02 Transfer a Patient (ADTA02ToCmf.xslt)

|  |  |
| --- | --- |
| **FIELD** | **OUT OF BOX CONFIGURATION** |
| EVN.2 | Case Date Opened |
| PID.3.1 | Patient ID |
| PID.3.4 | Patient Organisation (default organisation if missing) |
| PV1.2 | Case Class (converted to in /out-patient) |
| PV1.19 | Case number |
| PV1.3.1 | Patient Point of care (either in-patient or out-patient depends on PV1.2) |
| PV1.3.2 | Patient Ward (either in or out-patient depends on PV1.2) |
| PV1.3.3 | Patient Bed (either in or out-patient depends on PV1.2) |
| PV1.3.4 | Patient Facility Name (either in or out-patient depends on PV1.2) |

## ADT^A03 Discharge/End Visit (ADTA03ToCmf.xslt)

|  |  |
| --- | --- |
| **FIELD** | **OUT OF BOX CONFIGURATION** |
| EVN.2 | Discharged date and time (now if not included) |
| EVN.2 | Case Date Closed |
| OBX.3.2 = “WEIGHT”  OBX.6 = UNITS  OBX.5 = VALUE | Patient Weight  default: Kilogrammes (KG)  supports: pounds (LB), stones (STONES), kilogrammes (KG) |
| OBX.3.2 = “HEIGHT”  OBX.6 = UNITS  OBX.5 = VALUE | Patient Height  default: metres (M)  supports: metres (M), inches (inches), centimetres (CM) |
| PID.3.1 | Patient ID |
| PID.3.4 | Patient Organisation (default organisation if missing) |
| PID.5.1 | Patient Family Name (last name) |
| PID.5.2 | Patient Given Name (first name) |
| PID.5.3 | Patient Middle Initials |
| PID.5.5 | Patient Title |
| PID.7 | Patient Date of Birth |
| PID.8 | Patient Gender |
| PID.10 | Patient Ethnicity |
| PID.11.1 | Patient Address Line 1 |
| PID.11.2 | Patient Address Line 2 |
| PID.11.3 | Patient City |
| PID.11.4 | Patient County/Region/State |
| PID.11.5 | Patient Postcode/Zipcode |
| PID.11.6 | Patient Country |
| PID.13 | Patient Home Telephone number |
| PID.19 | Patient Second ID |
| PID.29 | Patient Deceased |
| PV1.2 | Case Class (converted to in-patient/out-patient) |
| PV1.19 | Case number |
| PV1.3.1 | Patient Point of care (emptied either in or out-patient depends on PV1.2) |
| PV1.3.2 | Patient Ward (emptied either in or out-patient depends on PV1.2) |
| PV1.3.3 | Patient Bed (emptied either in or out-patient depends on PV1.2) |
| PV1.3.4 | Patient Facility Name (emptied either in or out-patient depends on PV1.2) |
| ZPI.4.1 | Maiden Name |

## ADT^A04 Register a patient (ADTA04ToCmf.xslt)

|  |  |
| --- | --- |
| **FIELD** | **OUT OF BOX CONFIGURATION** |
| EVN.2 | Case Date Opened |
| OBX.3.2 = “WEIGHT”  OBX.6 = UNITS  OBX.5 = VALUE | Patient Weight  default: Kilogrammes (KG)  supports: pounds (LB), stones (STONES), kilogrammes (KG) |
| OBX.3.2 = “HEIGHT”  OBX.6 = UNITS  OBX.5 = VALUE | Patient Height  default: metres (M)  supports: metres (M), inches (inches), centimetres (CM) |
| PID.3.1 | Patient ID |
| PID.3.4 | Patient Organisation (default organisation if missing) |
| PID.5.1 | Patient Family Name (last name) |
| PID.5.2 | Patient Given Name (first name) |
| PID.5.3 | Patient Middle Initials |
| PID.5.5 | Patient Title |
| PID.7 | Patient Date of Birth |
| PID.8 | Patient Gender |
| PID.10 | Patient Ethnicity |
| PID.11.1 | Patient Address Line 1 |
| PID.11.2 | Patient Address Line 2 |
| PID.11.3 | Patient City |
| PID.11.4 | Patient County/Region/State |
| PID.11.5 | Patient Postcode/Zipcode |
| PID.11.6 | Patient Country |
| PID.13 | Patient Home Telephone number |
| PID.19 | Patient Second ID |
| PV1.2 | Case Class (converted to in /out-patient) |
| PV1.19 | Case number |
| PV1.3.1 | Patient Point of care (either in or out-patient depends on PV1.2) |
| PV1.3.2 | Patient Ward (either in or out-patient depends on PV1.2) |
| PV1.3.3 | Patient Bed (either in or out-patient depends on PV1.2) |
| PV1.3.4 | Patient Facility Name (either in or out-patient depends on PV1.2) |
| ZPI.4.1 | Maiden Name |

## ADT^A06 Change an out-patient to an in-patient (ADTA06ToCmf.xslt)

|  |  |
| --- | --- |
| **FIELD** | **OUT OF BOX CONFIGURATION** |
| PID.3.1 | Patient ID |
| PID.3.4 | Patient Organisation (default organisation if missing) |
| PID.19 | Patient Second ID |
| PV1.2 | Case Class (converted to in /out-patient) |
| PV1.19 | Case number |
| PV1.3.1 | Patient Point of care (either in or out-patient depends on PV1.2) |
| PV1.3.2 | Patient Ward (either in or out-patient depends on PV1.2) |
| PV1.3.3 | Patient Bed (either in or out-patient depends on PV1.2) |
| PV1.3.4 | Patient Facility Name (either in or out-patient depends on PV1.2) |

## ADT^A07 Change an in-patient to an out-patient (ADTA07ToCmf.xslt)

|  |  |
| --- | --- |
| **FIELD** | **OUT OF BOX CONFIGURATION** |
| PID.3.1 | Patient ID |
| PID.3.4 | Patient Organisation (default organisation if missing) |
| PID.19 | Patient Second ID |
| PV1.2 | Case Class (converted to in /out-patient) |
| PV1.19 | Case number |
| PV1.3.1 | Patient Point of care (either in or out-patient depends on PV1.2) |
| PV1.3.2 | Patient Ward (either in or out-patient depends on PV1.2) |
| PV1.3.3 | Patient Bed (either in or out-patient depends on PV1.2) |
| PV1.3.4 | Patient Facility Name (either in or out-patient depends on PV1.2) |

## ADT^A08 Update patient information (ADTA08ToCmf.xslt)

|  |  |
| --- | --- |
| **FIELD** | **OUT OF BOX CONFIGURATION** |
| EVN.2 | Case Date Opened |
| OBX.3.2 = “WEIGHT”  OBX.6 = UNITS  OBX.5 = VALUE | Patient Weight  default: Kilogrammes (KG)  supports: pounds (LB), stones (STONES), kilogrammes (KG) |
| OBX.3.2 = “HEIGHT”  OBX.6 = UNITS  OBX.5 = VALUE | Patient Height  default: metres (M)  supports: metres (M), inches (inches), centimetres (CM) |
| PID.3.1 | Patient ID |
| PID.3.4 | Patient Organisation (default organisation if missing) |
| PID.5.1 | Patient Family Name (last name) |
| PID.5.2 | Patient Given Name (first name) |
| PID.5.3 | Patient Middle Initials |
| PID.5.5 | Patient Title |
| PID.7 | Patient Date of Birth |
| PID.8 | Patient Gender |
| PID.10 | Patient Ethnicity |
| PID.11.1 | Patient Address Line 1 |
| PID.11.2 | Patient Address Line 2 |
| PID.11.3 | Patient City |
| PID.11.4 | Patient County/Region/State |
| PID.11.5 | Patient Postcode/Zipcode |
| PID.11.6 | Patient Country |
| PID.13 | Patient Home Telephone number |
| PID.19 | Patient Second ID |
| PV1.2 | Case Class (converted to in /out-patient) |
| PV1.19 | Case number |
| PV1.3.1 | Patient Point of care (either in or out-patient depends on PV1.2) |
| PV1.3.2 | Patient Ward (either in or out-patient depends on PV1.2) |
| PV1.3.3 | Patient Bed (either in or out-patient depends on PV1.2) |
| PV1.3.4 | Patient Facility Name (either in or out-patient depends on PV1.2) |
| ZPI.4.1 | Maiden Name |

## ADT^A11 Cancel admit/visit notification (ADTA11ToCmf.xslt)

|  |  |
| --- | --- |
| **FIELD** | **OUT OF BOX CONFIGURATION** |
|  | Admitted (empty) |
| PID.3.1 | Patient ID |
| PID.3.4 | Patient Organisation (default organisation if missing) |
| PID.19 | Patient Second ID |
|  | Patient in-patient Point of care (empty) |
|  | Patient in-patient Ward (empty) |
|  | Patient in-patient Bed (empty) |
|  | Patient in-patient Facility Name (empty) |

## ADT^A12 Cancel Transfer (ADTA12ToCmf.xslt)

|  |  |
| --- | --- |
| **FIELD** | **OUT OF BOX CONFIGURATION** |
| PID.3.1 | Patient ID |
| PID.3.4 | Patient Organisation (default organisation if missing) |
| PV1.2 | Case Class (converted to in /out-patient) |
| PV1.19 | Case number |
| PV1.3.1 | Patient Point of care (either in or out-patient depends on PV1.2) |
| PV1.3.2 | Patient Ward (either in or out-patient depends on PV1.2) |
| PV1.3.3 | Patient Bed (either in or out-patient depends on PV1.2) |
| PV1.3.4 | Patient Facility Name (either in or out-patient depends on PV1.2) |

## ADT^A13 Cancel Discharge (ADTA13ToCmf.xslt)

|  |  |
| --- | --- |
| **FIELD** | **OUT OF BOX CONFIGURATION** |
| PID.3.1 | Patient ID |
| PID.3.4 | Patient Organisation (default organisation if missing) |
| PV1.2 | Case Class (converted to in /out-patient) |
| PV1.19 | Case number |
| PV1.3.1 | Patient Point of care (either in or out-patient depends on PV1.2) |
| PV1.3.2 | Patient Ward (either in or out-patient depends on PV1.2) |
| PV1.3.3 | Patient Bed (either in or out-patient depends on PV1.2) |
| PV1.3.4 | Patient Facility Name (either in or out-patient depends on PV1.2) |
|  | Case Date Closed (emptied) |

## ADT^A18 Merge Patient (ADTA18ToCmf.xslt)

|  |  |
| --- | --- |
| **FIELD** | **OUT OF BOX CONFIGURATION** |
| EVN.2 | Case Date Opened |
| MRG.1.1 | Patient Id of record to merge into PID.3.1 and PID.3.4 patient record |
| MRG.1.4 | Patient Organisation to merge into PID.3.1 and PID.3.4 patient record |
| OBX.3.2 = “WEIGHT”  OBX.6 = UNITS  OBX.5 = VALUE | Patient Weight  default: Kilogrammes (KG)  supports: pounds (LB), stones (STONES), kilogrammes (KG) |
| OBX.3.2 = “HEIGHT”  OBX.6 = UNITS  OBX.5 = VALUE | Patient Height  default: metres (M)  supports: metres (M), inches (inches), centimetres (CM) |
| PID.3.1 | Patient ID |
| PID.3.4 | Patient Organisation (default organisation if missing) |
| PID.5.1 | Patient Family Name (last name) |
| PID.5.2 | Patient Given Name (first name) |
| PID.5.3 | Patient Middle Initials |
| PID.5.5 | Patient Title |
| PID.7 | Patient Date of Birth |
| PID.8 | Patient Gender |
| PID.10 | Patient Ethnicity |
| PID.11.1 | Patient Address Line 1 |
| PID.11.2 | Patient Address Line 2 |
| PID.11.3 | Patient City |
| PID.11.4 | Patient County/Region/State |
| PID.11.5 | Patient Postcode/Zipcode |
| PID.11.6 | Patient Country |
| PID.13 | Patient Home Telephone number |
| PID.19 | Patient Second ID |
| PV1.2 | Case Class (converted to in /out-patient) |
| PV1.19 | Case number |
| PV1.3.1 | Patient Point of care (either in or out-patient depends on PV1.2) |
| PV1.3.2 | Patient Ward (either in or out-patient depends on PV1.2) |
| PV1.3.3 | Patient Bed (either in or out-patient depends on PV1.2) |
| PV1.3.4 | Patient Facility Name (either in or out-patient depends on PV1.2) |
| ZPI.4.1 | Maiden Name |

## ADT^A28 Add Person (ADTA28ToCmf.xslt)

|  |  |
| --- | --- |
| **FIELD** | **OUT OF BOX CONFIGURATION** |
| EVN.2 | Case Date Opened |
| OBX.3.2 = “WEIGHT”  OBX.6 = UNITS  OBX.5 = VALUE | Patient Weight  default: Kilogrammes (KG)  supports: pounds (LB), stones (STONES), kilogrammes (KG) |
| OBX.3.2 = “HEIGHT”  OBX.6 = UNITS  OBX.5 = VALUE | Patient Height  default: metres (M)  supports: metres (M), inches (inches), centimetres (CM) |
| PID.3.1 | Patient ID |
| PID.3.4 | Patient Organisation (default organisation if missing) |
| PID.5.1 | Patient Family Name (last name) |
| PID.5.2 | Patient Given Name (first name) |
| PID.5.3 | Patient Middle Initials |
| PID.5.5 | Patient Title |
| PID.7 | Patient Date of Birth |
| PID.8 | Patient Gender |
| PID.10 | Patient Ethnicity |
| PID.11.1 | Patient Address Line 1 |
| PID.11.2 | Patient Address Line 2 |
| PID.11.3 | Patient City |
| PID.11.4 | Patient County/Region/State |
| PID.11.5 | Patient Postcode/Zipcode |
| PID.11.6 | Patient Country |
| PID.13 | Patient Home Telephone number |
| PID.19 | Patient Second ID |
| PV1.2 | Case Class (converted to in /out-patient) |
| PV1.19 | Case number |
| PV1.3.1 | Patient Point of care (either in or out-patient depends on PV1.2) |
| PV1.3.2 | Patient Ward (either in or out-patient depends on PV1.2) |
| PV1.3.3 | Patient Bed (either in or out-patient depends on PV1.2) |
| PV1.3.4 | Patient Facility Name (either in or out-patient depends on PV1.2) |
| ZPI.4.1 | Maiden Name |

## ADT^A31 Update Person (ADTA31ToCmf.xslt)

|  |  |
| --- | --- |
| **FIELD** | **OUT OF BOX CONFIGURATION** |
| EVN.2 | Case Date Opened |
| OBX.3.2 = “WEIGHT”  OBX.6 = UNITS  OBX.5 = VALUE | Patient Weight  default: Kilogrammes (KG)  supports: pounds (LB), stones (STONES), kilogrammes (KG) |
| OBX.3.2 = “HEIGHT”  OBX.6 = UNITS  OBX.5 = VALUE | Patient Height  default: metres (M)  supports: metres (M), inches (inches), centimetres (CM) |
| PID.3.1 | Patient ID |
| PID.3.4 | Patient Organisation (default organisation if missing) |
| PID.5.1 | Patient Family Name (last name) |
| PID.5.2 | Patient Given Name (first name) |
| PID.5.3 | Patient Middle Initials |
| PID.5.5 | Patient Title |
| PID.7 | Patient Date of Birth |
| PID.8 | Patient Gender |
| PID.10 | Patient Ethnicity |
| PID.11.1 | Patient Address Line 1 |
| PID.11.2 | Patient Address Line 2 |
| PID.11.3 | Patient City |
| PID.11.4 | Patient County/Region/State |
| PID.11.5 | Patient Postcode/Zipcode |
| PID.11.6 | Patient Country |
| PID.13 | Patient Home Telephone number |
| PID.19 | Patient Second ID |
| PV1.2 | Case Class (converted to in /out-patient) |
| PV1.19 | Case number |
| PV1.3.1 | Patient Point of care (either in or out-patient depends on PV1.2) |
| PV1.3.2 | Patient Ward (either in or out-patient depends on PV1.2) |
| PV1.3.3 | Patient Bed (either in or out-patient depends on PV1.2) |
| PV1.3.4 | Patient Facility Name (either in or out-patient depends on PV1.2) |
| ZPI.4.1 | Maiden Name |

## ADT^A34 Merge Patient IDs (ADTA34ToCmf.xslt)

|  |  |
| --- | --- |
| **FIELD** | **OUT OF BOX CONFIGURATION** |
| EVN.2 | Case Date Opened |
| MRG.1.1 | Patient Id of record to merge into PID.3.1 and PID.3.4 patient record |
| MRG.1.4 | Patient Organisation to merge into PID.3.1 and PID.3.4 patient record |
| OBX.3.2 = “WEIGHT”  OBX.6 = UNITS  OBX.5 = VALUE | Patient Weight  default: Kilogrammes (KG)  supports: pounds (LB), stones (STONES), kilogrammes (KG) |
| OBX.3.2 = “HEIGHT”  OBX.6 = UNITS  OBX.5 = VALUE | Patient Height  default: metres (M)  supports: metres (M), inches (inches), centimetres (CM) |
| PID.3.1 | Patient ID |
| PID.3.4 | Patient Organisation (default organisation if missing) |
| PID.5.1 | Patient Family Name (last name) |
| PID.5.2 | Patient Given Name (first name) |
| PID.5.3 | Patient Middle Initials |
| PID.5.5 | Patient Title |
| PID.7 | Patient Date of Birth |
| PID.8 | Patient Gender |
| PID.10 | Patient Ethnicity |
| PID.11.1 | Patient Address Line 1 |
| PID.11.2 | Patient Address Line 2 |
| PID.11.3 | Patient City |
| PID.11.4 | Patient County/Region/State |
| PID.11.5 | Patient Postcode/Zipcode |
| PID.11.6 | Patient Country |
| PID.13 | Patient Home Telephone number |
| PID.19 | Patient Second ID |
| PV1.2 | Case Class (converted to in /out-patient) |
| PV1.19 | Case number |
| PV1.3.1 | Patient Point of care (either in or out-patient depends on PV1.2) |
| PV1.3.2 | Patient Ward (either in or out-patient depends on PV1.2) |
| PV1.3.3 | Patient Bed (either in or out-patient depends on PV1.2) |
| PV1.3.4 | Patient Facility Name (either in or out-patient depends on PV1.2) |
| ZPI.4.1 | Maiden Name |

## ADT^A39 Merge Person XID (ADTA39ToCmf.xslt)

|  |  |
| --- | --- |
| **FIELD** | **OUT OF BOX CONFIGURATION** |
| EVN.2 | Case Date Opened |
| MRG.1.1 | Patient Id of record to merge into PID.3.1 and PID.3.4 patient record |
| MRG.1.4 | Patient Organisation to merge into PID.3.1 and PID.3.4 patient record |
| OBX.3.2 = “WEIGHT”  OBX.6 = UNITS  OBX.5 = VALUE | Patient Weight  default: Kilogrammes (KG)  supports: pounds (LB), stones (STONES), kilogrammes (KG) |
| OBX.3.2 = “HEIGHT”  OBX.6 = UNITS  OBX.5 = VALUE | Patient Height  default: metres (M)  supports: metres (M), inches (inches), centimetres (CM) |
| PID.3.1 | Patient ID |
| PID.3.4 | Patient Organisation (default organisation if missing) |
| PID.5.1 | Patient Family Name (last name) |
| PID.5.2 | Patient Given Name (first name) |
| PID.5.3 | Patient Middle Initials |
| PID.5.5 | Patient Title |
| PID.7 | Patient Date of Birth |
| PID.8 | Patient Gender |
| PID.10 | Patient Ethnicity |
| PID.11.1 | Patient Address Line 1 |
| PID.11.2 | Patient Address Line 2 |
| PID.11.3 | Patient City |
| PID.11.4 | Patient County/Region/State |
| PID.11.5 | Patient Postcode/Zipcode |
| PID.11.6 | Patient Country |
| PID.13 | Patient Home Telephone number |
| PID.19 | Patient Second ID |
| PV1.2 | Case Class (converted to in /out-patient) |
| PV1.19 | Case number |
| PV1.3.1 | Patient Point of care (either in or out-patient depends on PV1.2) |
| PV1.3.2 | Patient Ward (either in or out-patient depends on PV1.2) |
| PV1.3.3 | Patient Bed (either in or out-patient depends on PV1.2) |
| PV1.3.4 | Patient Facility Name (either in or out-patient depends on PV1.2) |
| ZPI.4.1 | Maiden Name |

## ADT^A40 merge person – patient identifier list (ADTA40ToCmf.xslt)

|  |  |
| --- | --- |
| **FIELD** | **OUT OF BOX CONFIGURATION** |
| EVN.2 | Case Date Opened |
| MRG.1.1 | Patient Id of record to merge into PID.3.1 and PID.3.4 patient record |
| MRG.1.4 | Patient Organisation to merge into PID.3.1 and PID.3.4 patient record |
| OBX.3.2 = “WEIGHT”  OBX.6 = UNITS  OBX.5 = VALUE | Patient Weight  default: Kilogrammes (KG)  supports: pounds (LB), stones (STONES), kilogrammes (KG) |
| OBX.3.2 = “HEIGHT”  OBX.6 = UNITS  OBX.5 = VALUE | Patient Height  default: metres (M)  supports: metres (M), inches (inches), centimetres (CM) |
| PID.3.1 | Patient ID |
| PID.3.4 | Patient Organisation (default organisation if missing) |
| PID.5.1 | Patient Family Name (last name) |
| PID.5.2 | Patient Given Name (first name) |
| PID.5.3 | Patient Middle Initials |
| PID.5.5 | Patient Title |
| PID.7 | Patient Date of Birth |
| PID.8 | Patient Gender |
| PID.10 | Patient Ethnicity |
| PID.11.1 | Patient Address Line 1 |
| PID.11.2 | Patient Address Line 2 |
| PID.11.3 | Patient City |
| PID.11.4 | Patient County/Region/State |
| PID.11.5 | Patient Postcode/Zipcode |
| PID.11.6 | Patient Country |
| PID.13 | Patient Home Telephone number |
| PID.19 | Patient Second ID |
| PV1.2 | Case Class (converted to in /out-patient) |
| PV1.19 | Case number |
| PV1.3.1 | Patient Point of care (either in or out-patient depends on PV1.2) |
| PV1.3.2 | Patient Ward (either in or out-patient depends on PV1.2) |
| PV1.3.3 | Patient Bed (either in or out-patient depends on PV1.2) |
| PV1.3.4 | Patient Facility Name (either in or out-patient depends on PV1.2) |
| ZPI.4.1 | Maiden Name |

## ADT^A42 Merge Visit (ADTA42ToCmf.xslt)

|  |  |
| --- | --- |
| **FIELD** | **OUT OF BOX CONFIGURATION** |
| MRG.1.1 | Patient Id of record to merge into PID.3.1 and PID.3.4 patient record |
| MRG.1.4 | Patient Organisation to merge into PID.3.1 and PID.3.4 patient record |
| MRG.5 | Case Number to merge |
| PV1.19 | Case Number to merge |
| OBX.3.2 = “WEIGHT”  OBX.6 = UNITS  OBX.5 = VALUE | Patient Weight  default: Kilogrammes (KG)  supports: pounds (LB), stones (STONES), kilogrammes (KG) |
| OBX.3.2 = “HEIGHT”  OBX.6 = UNITS  OBX.5 = VALUE | Patient Height  default: metres (M)  supports: metres (M), inches (inches), centimetres (CM) |
| PID.3.1 | Patient ID |
| PID.3.4 | Patient Organisation (default organisation if missing) |
| PID.5.1 | Patient Family Name (last name) |
| PID.5.2 | Patient Given Name (first name) |
| PID.5.3 | Patient Middle Initials |
| PID.5.5 | Patient Title |
| PID.7 | Patient Date of Birth |
| PID.8 | Patient Gender |
| PID.10 | Patient Ethnicity |
| PID.11.1 | Patient Address Line 1 |
| PID.11.2 | Patient Address Line 2 |
| PID.11.3 | Patient City |
| PID.11.4 | Patient County/Region/State |
| PID.11.5 | Patient Postcode/Zipcode |
| PID.11.6 | Patient Country |
| PID.13 | Patient Home Telephone number |
| PID.19 | Patient Second ID |
| ZPI.4.1 | Maiden Name |

## ADT^A45 Move Visit Info (ADTA45ToCmf.xslt)

|  |  |
| --- | --- |
| **FIELD** | **OUT OF BOX CONFIGURATION** |
| MRG.1.1 | Patient Id of record to merge into PID.3.1 and PID.3.4 patient record |
| MRG.1.4 | Patient Organisation to merge into PID.3.1 and PID.3.4 patient record |
| MRG.5 | Case Number to move to the patient in PID 3.1 and PID 3.4 |
| PV1.19 | Case Number to merge to the patient in PID 3.1 and PID 3.4 |
| OBX.3.2 = “WEIGHT”  OBX.6 = UNITS  OBX.5 = VALUE | Patient Weight  default: Kilogrammes (KG)  supports: pounds (LB), stones (STONES), kilogrammes (KG) |
| OBX.3.2 = “HEIGHT”  OBX.6 = UNITS  OBX.5 = VALUE | Patient Height  default: metres (M)  supports: metres (M), inches (inches), centimetres (CM) |
| PID.3.1 | Patient ID |
| PID.3.4 | Patient Organisation (default organisation if missing) |
| PID.5.1 | Patient Family Name (last name) |
| PID.5.2 | Patient Given Name (first name) |
| PID.5.3 | Patient Middle Initials |
| PID.5.5 | Patient Title |
| PID.7 | Patient Date of Birth |
| PID.8 | Patient Gender |
| PID.10 | Patient Ethnicity |
| PID.11.1 | Patient Address Line 1 |
| PID.11.2 | Patient Address Line 2 |
| PID.11.3 | Patient City |
| PID.11.4 | Patient County/Region/State |
| PID.11.5 | Patient Postcode/Zipcode |
| PID.11.6 | Patient Country |
| PID.13 | Patient Home Telephone number |
| PID.19 | Patient Second ID |
| ZPI.4.1 | Maiden Name |

## OMG^O19 Placer Order Management (OMGO19ToCmf.xslt)

|  |  |
| --- | --- |
| **FIELD** | **OUT OF BOX CONFIGURATION** |
| EVN.2 | Case Date Opened |
| EVN.2 | Admitted |
| OBR.4.1 | Test Details Order Procedure |
| OBR.4.2 | Test Details Order Procedure |
| OBR.16.1 | Test Details Ordering Physician Name |
| OBR.16.2 | Test Details Ordering Physician Name |
| OBR.16.3 | Test Details Ordering Physician Name |
| OBX.3.2 = “WEIGHT”  OBX.6 = UNITS  OBX.5 = VALUE | Patient Weight  default: Kilogrammes (KG)  supports: pounds (LB), stones (STONES), kilogrammes (KG) |
| OBX.3.2 = “HEIGHT”  OBX.6 = UNITS  OBX.5 = VALUE | Patient Height  default: metres (M)  supports: metres (M), inches (inches), centimetres (CM) |
| ORC.2.1 | Test Details Order ID |
| ORC.2.2 | Test Details Order ID |
| ORC.7.4 | Test Details Order Requested Date and Time |
| PID.3.1 | Patient ID |
| PID.3.4 | Patient Organisation (default organisation if missing) |
| PID.5.1 | Patient Family Name (last name) |
| PID.5.2 | Patient Given Name (first name) |
| PID.5.3 | Patient Middle Initials |
| PID.5.5 | Patient Title |
| PID.7 | Patient Date of Birth |
| PID.8 | Patient Gender |
| PID.10 | Patient Ethnicity |
| PID.11.1 | Patient Address Line 1 |
| PID.11.2 | Patient Address Line 2 |
| PID.11.3 | Patient City |
| PID.11.4 | Patient County/Region/State |
| PID.11.5 | Patient Postcode/Zipcode |
| PID.11.6 | Patient Country |
| PID.13 | Patient Home Telephone number |
| PID.19 | Patient Second ID |
| PV1.2 | Case Class (converted to in /out-patient) |
| PV1.19 | Case number |
| PV1.3.1 | Patient Point of care (either in or out-patient depends on PV1.2) |
| PV1.3.2 | Patient Ward (either in or out-patient depends on PV1.2) |
| PV1.3.3 | Patient Bed (either in or out-patient depends on PV1.2) |
| PV1.3.4 | Patient Facility Name (either in or out-patient depends on PV1.2) |
| PV1.7.1 | Attending Physician (Consultant) Staff Number |
| PV1.7.2 | Attending Physician (Consultant) Last Name |
| PV1.7.3 | Attending Physician (Consultant) First Name |
| PV1.7.6 | Attending Physician (Consultant) Title |
| PV1.8.1 | Referring Physician Staff Number |
| PV1.8.2 | Referring Physician Last Name |
| PV1.8.3 | Referring Physician First Name |
| PV1.8.6 | Referring Physician Title |
| ZIS.1 | Test Details Order Comments |
| ZPI.4.1 | Maiden Name |

## ORM^O01 General Order Message (ORMO01ToCmf.xslt)

|  |  |
| --- | --- |
| **FIELD** | **OUT OF BOX CONFIGURATION** |
| EVN.2 | Case Date Opened |
| EVN.2 | Admitted |
| OBR.4.1 | Test Details Order Procedure |
| OBR.4.2 | Test Details Order Procedure |
| OBR.16.1 | Test Details Ordering Physician Name |
| OBR.16.2 | Test Details Ordering Physician Name |
| OBR.16.3 | Test Details Ordering Physician Name |
| OBX.3.2 = “WEIGHT”  OBX.6 = UNITS  OBX.5 = VALUE | Patient Weight  default: Kilogrammes (KG)  supports: pounds (LB), stones (STONES), kilogrammes (KG) |
| OBX.3.2 = “HEIGHT”  OBX.6 = UNITS  OBX.5 = VALUE | Patient Height  default: metres (M)  supports: metres (M), inches (inches), centimetres (CM) |
| ORC.2.1 | Test Details Order ID |
| ORC.2.2 | Test Details Order ID |
| ORC.7.4 | Test Details Order Requested Date and Time |
| PID.3.1 | Patient ID |
| PID.3.4 | Patient Organisation (default organisation if missing) |
| PID.5.1 | Patient Family Name (last name) |
| PID.5.2 | Patient Given Name (first name) |
| PID.5.3 | Patient Middle Initials |
| PID.5.5 | Patient Title |
| PID.7 | Patient Date of Birth |
| PID.8 | Patient Gender |
| PID.10 | Patient Ethnicity |
| PID.11.1 | Patient Address Line 1 |
| PID.11.2 | Patient Address Line 2 |
| PID.11.3 | Patient City |
| PID.11.4 | Patient County/Region/State |
| PID.11.5 | Patient Postcode/Zipcode |
| PID.11.6 | Patient Country |
| PID.13 | Patient Home Telephone number |
| PID.19 | Patient Second ID |
| PV1.2 | Case Class (converted to in /out-patient) |
| PV1.19 | Case number |
| PV1.3.1 | Patient Point of care (either in or out-patient depends on PV1.2) |
| PV1.3.2 | Patient Ward (either in or out-patient depends on PV1.2) |
| PV1.3.3 | Patient Bed (either in or out-patient depends on PV1.2) |
| PV1.3.4 | Patient Facility Name (either in or out-patient depends on PV1.2) |
| PV1.7.1 | Attending Physician (Consultant) Staff Number |
| PV1.7.2 | Attending Physician (Consultant) Last Name |
| PV1.7.3 | Attending Physician (Consultant) First Name |
| PV1.7.6 | Attending Physician (Consultant) Title |
| PV1.8.1 | Referring Physician Staff Number |
| PV1.8.2 | Referring Physician Last Name |
| PV1.8.3 | Referring Physician First Name |
| PV1.8.6 | Referring Physician Title |
| ZIS.1 | Test Details Order Comments |
| ZPI.4.1 | Maiden Name |

# APPENDIX – HL7 FIELD VALUES

In Sentinel some fields are interpreted as having certain valid values. In many cases these values can be customised in the XSLT files. An XSLT file named CommonTemplates.xslt defines XSLT functions which are shared across all the HL7 XSLT files. These functions define the common transformations of valid HL7 values to those imported by Sentinel.

## Case Class

* FunctionHl7toSentinelClass

The following case classes supplied by the EMR are transformed into in-patient/out-patient case kinds as follows:

|  |  |
| --- | --- |
| **HL7 Case Class** | **Sentinel Case Kind** |
| I | in-patient |
| S | in-patient |
| A | out-patient |
| O | out-patient |
| V | in-patient |
| N | in-patient |
| TS | in-patient |
| TK | out-patient |
| Anything else | in-patient |

## Gender

* FunctionHl7ToSentinelGender

The following gender values supplied by the EMR are transformed as follows:

|  |  |
| --- | --- |
| **HL7 Gender** | **Sentinel Gender** |
| M | Male |
| F | Female |
| O | Unspecified |
| U | Unspecified |

## Height

* ExtractPatientHeight

The following height units are supported:

* inches
* INCHES
* inch
* INCH
* cm
* CM
* Anything else taken to be metres

## Weight

* ExtractPatientWeight

The following weight units are supported:

* pounds
* POUNDS
* pound
* POUND
* lbs
* LBS
* lb
* LB
* Anything else taken to be kilogrammes

## Test Modality Being Ordered

* FunctionSentinelTestTypeToHl7
* FunctionSentinelTestTypeToHl7CodeSet

Logical Observation Identifiers Names and Codes (LOINC) are used to define the test modality being ordered by the EMR or the test modality of the report/measurements being returned to the EMR where a suitable code exists. If not then Sentinel makes do with some text. Of course these can be customised.

The code set for the LOINC codes has to be identified in out-going messages so that the EMR can interpret these correctly.

The following test modalities can be ordered:

|  |  |
| --- | --- |
| **HL7 code** | **Sentinel test modality** |
| LOINC code 11524-0 | Spacelabs Resting ECG |
| LOINC code 18752-6 | Spacelabs Stress ECG |
| LOINC code 18754-2 | Spacelabs Holter ECG |
| “Blood Pressure” | Spacelabs ABP |
| “Rhythm” | Spacelabs Rhythm |
| “Event” | Custom Event test |
| “Spirometry” | Custom Spirometry test |
| “Plethysmography” | Custom Plethysmography test |

The mapping of HL7 Codes to Sentinel test types is controlled by the <SupportedHl7TestTypes> settings which are located in the LomondMessaging.exe.config file in the installation location of the Sentinel Messaging Service application, an example of which is shown below.

<SupportedHl7TestTypes>

<!-- -->

<SupportedType hl7Code="11524-0^LN" sentinelType="@SentinelResting" />

<SupportedType hl7Code="18752-6^LN" sentinelType="@SentinelStress" />

<SupportedType hl7Code="18754-2^LN" sentinelType="@SentinelHolter" />

<SupportedType hl7Code="Blood Pressure^00" sentinelType="@SentinelBloodPressure" />

<SupportedType hl7Code="Rhythm^00" sentinelType="@SentinelRhythm" />

<SupportedType hl7Code="Ergospirometry^00" sentinelType="@SentinelErgospirometry" />

<SupportedType hl7Code="Event^00" sentinelType="Event" />

<SupportedType hl7Code="Spirometry^00" sentinelType="Spirometry" />

<SupportedType hl7Code="Plethysmography^00" sentinelType="Plethysmography" />

<SupportedType hl7Code="Ultrasound^00" sentinelType="Ultrasound Doppler" />

</SupportedHl7TestTypes>

The <SupportedHl7TestTypes> settings defines the list of HL7 procedure codes and their corresponding Sentinel Test Types that this Sentinel installation supports.

The HL7Code must map to either:

1. A built-in Sentinel TestType (denoted by a string starting with the '@' character).  
   In this case the Sentinel TestTypeName is set using the text following the '@' character in the sentinelType attribute.  
   The text in the sentinelType attibute must match one of the following in order to map to a built-in Sentinel TestKind:

@SentinelHolter

@SentinelStress

@SentinelRhythm

@SentinelResting

@SentinelBloodPressure

@SentinelErgospirometry

or

1. A Custom test type (denoted by a string that does NOT start with the '@' character)  
   In this case the Sentinel TestTypeName is set using the text specified in the sentinelType attribute.   
   Any sentinelType attibute text that DOES NOT start with a '@Sentinel' character is automatically mapped to TestKind.Custom.

NOTE: Event, Spirometry and Plethysmography are all TestKind.Custom tests, despite having their own modality buttons on the Sentinel UI.

Hl7Codes can be written in this App.config file as Upper-case, Lower-case or Camel-case.

However they are stored in the internal mapper dictionaries as lower case and are compared as lowercase values.

This is to ensure compatibility with existing configurations, and to avoid user errors when configuring the service.

# APPENDIX – HL7 MESSAGES AND PATIENT ID/ORGANISATION

Below an HL7 message suitable for Sentinel 9 out of the box is shown:

MSH|^~\&|EPIC|CARLE|VASCUBASE|VASCUBASE|20140701095409||ADT^A01|00000001|P|2.5

EVN|A01|20140701095409

PID||1^^^1^EPI|ADTA01\_TestCase\_16992\_001||Bloggs1^Jo^R||19341123|M|||601 E NEWTON^^PARIS^IL^61944||(217)463-3220|(217)463-3220||||ADTA01\_TestCase\_16992\_001|169-92-0001

PV1||I|105^^^1||||10501^ATTENDING^DR|10503^REFERRING^DR|10502^CONSULTING^DR||||||||10504^ADMITTING^Dr||CASE ADTA01|M||||||||||||||||||||||||201406191000

Below an HL7 message suitable for Sentinel 10 out of the box is shown:

MSH|^~\&|EPIC|CARLE|VASCUBASE|VASCUBASE|20140701095409||ADT^A01|00000001|P|2.5

EVN|A01|20140701095409

PID||1^^^1^EPI|ADTA01\_TestCase\_16992\_001^^^MyOrganisation||Bloggs1^Jo^R||19341123|M|||601 E NEWTON^^PARIS^IL^61944||(217)463-3220|(217)463-3220||||ADTA01\_TestCase\_16992\_001|169-92-0001

PV1||I|105^^^1||||10501^ATTENDING^DR|10503^REFERRING^DR|10502^CONSULTING^DR||||||||10504^ADMITTING^Dr||CASE ADTA01|M||||||||||||||||||||||||201406191000

Notice the ^^^ after the patient id in the Sentinel 10 message. These are to let the messaging system know that the patient id is in PID.3.1 not in PID.3. Notice that the organisation is included. If the organisation is left empty then Sentinel will assume that the patient id refers to a patient record in the default organisation.