HL7 Interface - API Specification Patient Data Producer

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Contents

1 Document Summary

1.1 Document Purpose

This document specifies the interface careRight provides to publish patient demographic information to an external patient management system.

1.2 Scope

This document defines the HL7 interface that is used to publish A08 messages that will be sent for Patient Record Creation/Updates.

1.3 Terminology, Definitions and Acronyms

Term	Description
ADT	Admission Discharge Transfer
HL7	Health Level Seven is an all-volunteer, not-for-profit organisation involved in development of international healthcare standards. "HL7" is also used to refer to some of the specific standards created by the organisation (i.e. HL7 v2.x, v3.0, HL7 RIM etc.). HL7 and its members provide a framework (and related standards) for the exchange, integration, sharing and retrieval of electronic health information. The standards, which support clinical practice and the management, delivery, and evaluation of health services, are the most commonly used in the world.
Inbound messages	Messages that are initiated from an external third party system and received and processed by CareRight for updating information in CareRight
Interface testing	User acceptance testing is a process completed by the site that ensures that a software application, interface /network are fit for purpose (i.e. meets business requirements).
Outbound messages	Messages that are initiated from CareRight and sent to an external third party system.
PAS	Patient Administration System, an application used to manage patient demographics, admissions, discharges, transfers, referrals and billing for hospitals
CareRight	Patient Administration System (PAS), EMR system
CRN	Client reference number in CareRight

2 Functionality

2.1 Create Patient & Update Patient

The action of creating or updating a patient in CareRight will result in the system publishing an A08 message..

2.2 Patient Identifiers

The A08 message contains both the Patient's MRN and CRN (if supplied) in the A08 message as detailed below.

2.3 Provider Identifier

CareRight has a global setting to define the identifier to use for providers when populating the HL7 message segments that use it. This can be configured to be one of the following:

- CareRight Provider ID
- Medicare Provider Number
- AHPRA Medical Board Registration Number
- New Zealand Medical Council (NZMC) ID
- EDI

If a provider does not have a value recorded for the select type then no number will be sent.

3 Messaging Configuration

3.1 IP & Port

CareRight will push messages to a host and port defined in CareRight's administration config.

CareRight will expect acknowledgements as responses to the originating message using the HL7 MLLP specification.

4 Message Types

CareRight will process/send the message types listed in Table 3: Message types to be processed.

The message type in the Message Header is consistently sent with the HL7 message event and structure codes, e.g. 'ADT^A08'. Clients should use this to determine the message type.

Table: Message types to be processed

Message Type Code	Message Type Description	In or Outbound from CareRight
A08	Update Patient Information	Outbound
A40	Patient Identifier Merge	Outbound
Acknowledgement	Acknowledgement	Inbound

4.1 Message Processing

Messages will be based on HL7 v2.3.1. The following protocol and encoding rules will be used for this interface.

Table: Protocol and encoding symbols

Description	Special Character
Field Separator	'|'
Component Delimiter	'^'
Sub Component	'&'
Repetition separator	'~'
Escape Character	'\'

If a field is not being sent, then there will be no characters between the field delimiters: '\|\|'. If a field is being sent but there is no data to be sent in this message, i.e. it is null, then two consecutive quotation marks will be sent in the field: '\|""\|'.

Each message segment will end with a carriage return.

5 A08 Update Patient Information

The A08 message types will be processed in this interface. The following tables describe their message structure.

A08 Messages will be sent under the following scenarios:

- User modifies details on the patient summary screen
- User creates a new patient.
- User admits a patient (creates new admission record)
- User changes the status of an admission.

5.1 A08 Message Structure

Table: A08 segments

Segment	Name	R/O	Freq of Occurrence	To be Processed
MSH	Message Header	R	1	Yes
EVN	Event	R	1	Yes
PID	Patient Identification	R	1	Yes
PV1	Patient Visit	R	1	Yes
GT1	Guarantor	O	1/Guarantor	No
IN1	Insurance	O	1/Insurance	Yes
NK1	Next of Kin	O	1/Relationship	Yes
OBX	Observation	O	1	Yes
ACC	Accident Information	O	1	No

5.2 Message Header Segment

Table: MSH fields

Segment and Field	Data Type	Max Length	Description	Mandatory (R/O)	Comments
MSH-0			Segment ID	R	Will be sent as 'MSH'
MSH-1	ST	1	Field Separator	R	Will be sent as '|'
MSH-2	ST	4	Encoding Characters	R	Will be sent as '^~\&'
MSH-3	HD	180	Sending Application	O	Will be sent as 'CARERIGHT'
MSH-4	HD	180	Sending Facility, e.g. 'BPH'	O	The Location Code for the Facility associated with the Patient record
MSH-5	HD	180	Receiving Application	O	Not Sent
MSH-6	HD	180	Receiving Facility	O	Not Sent
MSH-7	TS	26	Date/Time of Message The time zone will be the current offset of the sending location (eg +1000 for Brisbane)	O	Format – CCYYMMDDhhmm[+/-ZZZZ]
MSH-8	ST	40	Security	O	Not Sent
MSH-9	CM	13	Message Type & Trigger Event	R	Will be sent as 'ADT^08'
MSH-10	ST	20	Message Control ID	R	Unique ID for message
MSH-11	PT	3	Processing ID	R	Will be sent as 'P'
MSH-12	VID	60	Version ID	R	Will be sent as '2.3.1'

MSH-13	NM	15	Sequence Number	O	Not Processed
MSH-14	ST	180	Continuation Pointer	O	Not Processed
MSH-15	ID	2	Accept Acknowledgment Type	O	Sent as 'AL'
MSH-16	ID	2	Application Acknowledgment Type	O	Will be sent as 'AL'
MSH-17	ID	3	Country Code	O	For CareRight installed in Australia this will be sent as 'AUS' for New Zealand this will be sent as 'NZL' as per ISO 3166-1 alpha-3.
MSH-18	ID	16	Character Set	O	Not sent
MSH-19	CE	60	Principal Language of Message	O	Not sent
MSH-20	ID	20	Alternate Character Set Handling Scheme	O	Not sent
MSH-21	ID	10	Conformance Statement ID	O	Not sent

5.3 Event Segment

Table: EVN Fields

Segment and Field	Data Type	Max Length	Description	Mandatory (R/O)	Comments
EVN-0			Segment ID	R	'EVN'
EVN-1			Set ID	R	'A08'
EVN-2	TS	26	Recorded Date/Time The time zone will be the current offset of the sending location (eg +1000 for Brisbane)	R	Date time as YYYYMMDDHHMMSS[+/-ZZZZ]
EVN-3					EVN-3 to EVN-7 not sent

5.4 Patient Identification Segment

Table: PID fields

Segment and Field	Data Type	Max Length	Description	Mandatory (R/O)	Comments
PID-0			Segment ID	R	'PID'
PID-1	SI	4	Set ID	R	Sent as '1'
PID-2	CX	20	Patient ID	O	This is set to the patient's MRN number.
PID-3	CX	250	Internal Patient ID (repeating)	R	See Table 9: Business rules for processing
PID-4	CX	20	Alternate Patient ID – PID	O	Not Sent
PID-5	XPN	250	Patient Name as 'Surname^Given_Name^Middle Initial or Name^^Title^^L' e.g. '|Smith^Robert^B^^Mr^^L~Smith^Bob^^^Mr^^N|'	R	Title will be the code value from the generic code dataset in CareRight. One name with a type of 'L' will be sent as this is the Legal name for the Patient. Optionally a second name of type 'N' will also be sent if the patient has an alias recorded on the patient record.
PID-6	XPN	250	Mother's Maiden Name	O	Not Sent
PID-7	TS	26	Date of Birth as CCYYMMDD, e.g. '|19901022|'	R	The patient's date of birth will be sent.
PID-8	IS	1	Gender, e.g. '|F|'	R	Gender will be sent as: F M O T N

					With the following mapping to CareRight statutory code sex descriptions of: F = Female M = Male O = Indeterminate T = Intersex N = Other / Not Stated
PID-9	XPN	250	Patient Alias as 'Surname^Given_Name^^^Title^^N' e.g. '|Smith^Bob^^^Mr^^N|'	O	Optionally a name of type 'N' will also be sent if the patient has an alias recorded on the patient record.
PID-10	CE	250	Race as a description, e.g. '|Aboriginal And TorresStraitIslander|'	O	Sent as: Aboriginal Torres Strait Islander Both Neither With the following mapping to CareRight statutory code indigenous status code of: Aboriginal = 1 Torres Strait Islander = 2 Both = 3 Neither = 4 If a patient is set to 8 or 9 then will be sent as blank values as if the value was not entered.
PID-11	XAD	250	Patient Address will have the following component fields: - Address Line 1 - Address Line 2 - Suburb - State - Postcode - Country - Type e.g. '|53 REUBEN STREET^^STAFFORD^Queensland^4053^^H|'	O	Home (One) address will be sent. If no address is sent, then the field will be sent as type 'H' and all other fields as null. The state field will be the state description from CareRight's generic code list for states. The country field will be the country description from CareRight's generic code list for countries.
PID-12	IS	4	Country Code	B	Not Sent
PID-13	XTN	250	Phone Number – Home, Mobile & Email, e.g. '| (07)33949246^^PH~0488412 395^^CP~me@example.com^ ^E |'	O	Home – '^^PH' Mobile – '^^CP' Email – '^^E'
PID-14	XTN	250	Phone Number – Business	O	Not sent
PID-15	CE	250	Primary Language, e.g. '|^English|'	O	This value is the description of the preferred language statutory reporting field in CareRight
PID-16	CE	250	Marital Status, e.g. '|Married|'	O	This value sent is the description of the marital status statutory reporting field in CareRight

PID-17	CE	250	Religion	O	Not sent.
PID-18	CX	250	Patient Account Number	O	Not Sent
PID-19	ST	16	SSN Number – Patient. '|12345678900|'	O	the Medicare Number followed by the IRN to form an 11-digit number. All 11 digits will be supplied. The first 10 digits are the Medicare number and the last digit is the IRN.
PID-20	DLN	25	Driver's Licence Number – Patient	O	Not Sent
PID-21	CX	250	Mother's Identifier	O	Not Sent
PID-22	CE	250	Ethnic Group	O	Not Sent
PID-23	ST	250	Birth Place, e.g. '|AUSTRALIA|'	O	This value sent is the description of the Country of Birth statutory reporting field in CareRight
PID-24	ID	1	Multiple Birth Indicator |Y|	O	This field is being used to report the Australian South Sea Islander patient field. The values sent are: Y N Unknown if the value has not been set on the patient record then blank is sent.
PID-25	NM	2	Birth Order	O	Not Sent
PID-26	CE	250	Citizenship	O	Not Sent
PID-27	CE	250	Veterans Military Status	O	Not Sent
PID-28	CE	250	Nationality	O	Set to the description of the generic code for the nation table
PID-29	TS	26	Patient Death Date/Time as ccyymmdd	O	if Date of Death is set and the patient marked as deceased then this value is set to the date of death, otherwise it will be blank.
PID-30	ID	1	Patient Death Indicator	O	If the patient is marked as deceased then the value is 'Deceased' otherwise set to blank.
PID-31	ID	1	Identity Unknown Indicator	O	Segments after PID-30. Fields PID 31-38 not included.
PID-32	IS	20	Identity Reliability Code	O	
PID-33	TS	26	Last Update Date/Time	O	
PID-34	HD	40	Last Update Facility	O	
PID-35	CE	250	Species Code	O	
PID-36	CE	250	Breed Code	O	
PID-37	ST	80	Strain	O	
PID-38	CE	250	Production Class Code	O	

Table: Business rules for processing Internal Patient IDs

Describes the internal patient IDs which may be included in PID-3 and their related business rules for processing.

Field	Sent from CareRight as	Business Rules for processing

PID-3 Internal Patient ID	Identifier Type = MR MR = Medical Record Number, e.g. ' 0000123333^^^^MR' The MR is a unique identifier for that patient in CareRight, i.e. '00034567'. The Medical Record Number (MR) does not change over time.	CareRights' unique medical record number for the patient. This is a number which may have leading zeros. The leading zeros are important.
PID-3 Internal Patient ID	Identifier Type = AUSDVA AUSDVA = Australian Department of Veterans Affairs e.g. 'QXT1654316^^^^AUSDVA'	Only sent at Australian sites. The patient's DVA Number will be in these fields. The DVA Number Expiry date is not sent in the message. This will only be included if the patient has a DVA number recorded
PID-3 Internal Patient ID	Identifier Type = RCT RCT = Repat Card Type The RCT is the DVA card colour e.g. 'Orange^^^^RCT'	Only sent at Australian sites. The patient's DVA card colour will be in these field Example of common colour codes are: • Gold • White The colour codes sent are based on the generic code configuration in CareRight and may be different based on the specific configuration for an installation. The value of the "Description" for the genetic code is sent If no card colour is present, the value "None" will be sent.
PID-3 Internal Patient ID	Identifier Type = CRN CRN = Client/Custom Reference number, e.g. 'RNF1234^^^^CRN'	This patient CRN number. This is user defined and generally related to the identifier in a system external to CareRight.
PID-3 Internal Patient ID	Identifier Type = CON CON = Pension number and expiry, eg 1234^^^^CON^^^20201231	The patient's pension number and expiry date (as YYYYMMDD).

5.6 Patient Alias

The name segments in PID-5 & PID-9 support the inclusion of the patient alias name if defined in the medical record.

Where the patient Alias does not define both first and last names the patient's actual first or last name is substituted for the missing element. If neither first or last name alias values are defined then no alias value is provided in the HL7 message. No middle name data is supplied in the alias fields, even if defined on the patient's actual name. The Title value is set to the same value as the patient's actual title value.

Examples:

Miss Mary K Smith has no patient alias define in CareRight

```
PID-5 = |Smith^Mary^K^^Miss^^L|
```

```
PID-9 = ||
```

Mr Robert Brian Smith has a patient alias first name value set to "Bob"

```
PID-5 = |Smith^Robert^Brian^^Mr^L~Smith^Bob^^^Mr^^N|
```

```
PID-9 = |Smith^Bob^^^Mr^^N|
```

Mr Robert Brian Smith has a patient alias first name value set to "Bob" & last name set to "Smyth"

```
PID-5 = |Smith^Robert^Brian^^Mr^L~Smyth^Bob^^^Mr^^N|
```

```
PID-9 = |Smyth^Bob^^^Mr^^N|
```

5.7 Patient Visit Segment

The PV1 segment contains information about a patient's admission. This information may be about the patients current admission or past admissions if modified.

When the A08 is generated due to changes to the patient summary data the PV1 will contain the details of the current admission if they are admitted.

When the A08 is generated due to a change in admission details (past or present) the PV1 will contain the details of the changed admission.

To correctly determine the patient's current status the following interpretation of the PV1 segment can be applied.

5.7.1 PV1-2 Patient Class

If a past admission has been modified then this PV1 contains information about that past admission and this will be set to "H" to indicate historical admission data.

If a patient is currently admitted and this PV1 contains information on the current admission then this will be set to "I" to indicate inpatient.

If a patient is not currently admitted, and a previous admission is not being modified then the value will be "O", to indicate outpatient.

5.7.2 PV1-3 Assigned Patient Location

This contains the location details associated with the admission for cases of Patient Class "I" or "H". For Patient Class "O" this is the facility of the patient record.

The Room and Bed element will be populated for current admission records only and indicate the currently assigned room and bed for the patient if they are assigned to a bed. The room and bed associated code as configured in CareRight will be sent.

The Location Name and Location Description elements are populated from their respective values in CareRight.

The Admission Status element is only populated for admissions and returns one of the following values:

- Admitted
- PendDisch
- Discharged
- Cancelled

Admitted: The patient is currently admitted to the facility.

PendDisch: The patient is currently admitted, but discharge is being prepared.

Discharged: The patient has been discharged.

Cancelled: The admission has been cancelled.

Table: PV1 Fields

Segment and Field	Data Type	Max Length	Description	Mandatory (R/O)	Comments
PV1-0			Segment ID	R	PV1
PV1-1	SI	4	Set ID	R	Sent as '1'
PV1-2	EI	75	Patient Class "I", "O" or "H"	O	Patient's admission status. Pre-admissions are not considered admitted. Refer to documentation above for description of these values.
PV1-3	PL	80	Assigned Patient Location • (blank) • Room • Bed • Location Name • Admission Status • (blank) • Location Description	O	Refer to documentation above for description of these values.
PV1-4	ID	2	Admission Type	O	Sent as 'R' for routine
PV1-5	CX	20	Preadmit Number	O	Not Sent
PV1-6	PL	12	Prior Patient Location	O	Not Sent
PV1-7	XCN	60	Attending Doctor • Provider Identifier • Provider Last Name • Provider First Name • (blank) • (blank) • Provider Title • (blank) • (blank) • (blank) • 'L'	O	The provider associated with the admission in order of availability. If patient admitted: Admission > Attending Doctor Admission > Admitting Doctor Patient > Primary Provider If the patient is not admitted the Patient's Primary Provider is used. If there is no matching provider then blank is sent.
PV1-8	XCN	60	Referring Doctor	O	Not sent
PV1-9	XCN	60	Consulting Doctor	O	Not Sent
PV1-10	XCN	80	Hospital Service • Admission Category Code • Admission Category Description	O	If an admission is associated with this PV1 then the admissions category selected in CareRight will be used to populate this segment. The codes and descriptions are user defined in CareRight
PV1-11 to PV1-16 not populated					
PV1-17			Admitting Doctor • Provider Identifier • Provider Last Name • Provider First Name • (blank) • (blank) • Provider Title • (blank) • (blank) • (blank)		The provider associated with the admission as the admitting doctor. If there is no matching provider then blank is sent.

			• 'L'		
PV1-18 not populated					
PV1-19			Visit Number	O	If there is an admission associated with the PV1 this will contain the ARN number of the admissions. This is used to uniquely identify this admission to any other admission in CareRight. The ARN is numeric, but may contain leading zeros in accordance with the configured minimum length requirements in CareRight. It is safe to remove leading zeros and convert to a number for unique identification purposes. Ideally the leading zeros should be retained for presentation purposes to match CareRight.
PV1-20 to PV1-43 not populated					
PV1-44			Admit Date/Time in the format of CCYYMMDDhhmm	O	If there is an admission associated with this PV1 then this is the date and time that the patient was admitted.
PV1-45			Discharge Date/Time in the format of CCYYMMDDhhmm	O	If there is an admission associated with this PV1 then this is the date and time that the patient was discharged if they have been discharged.
PV1-46 onwards not sent					

5.8 Insurance Segment

Table: Insurance

Segment and Field	Data Type	Max Length	Description	Mandatory (R/O)	Comments
IN1-0			Segment ID	R	'IN1'
IN1-1	SI	4	Set ID - IN1	R	Set to the value "1"
IN1-2	CE	60	Insurance Plan ID	R	Set to the description of the generic code for the health_c table
IN1-3	CX	59	Insurance Company ID e.g. '|BUP|'	R	Health Fund guarantor code as set in CareRight guarantor configuration.
IN1-4	XON	130	Insurance Company Name	O	Not sent
IN1-5	XAD	106	Insurance Company Address	O	Not sent
IN1-6	XPN	48	Insurance Co. Contact Person	O	Not sent
IN1-7	XTN	40	Insurance Co Phone Number	O	Not sent
IN1-8	ST	12	Group Number	O	Not sent
IN1-9	XON	130	Group Name	O	Not sent
IN1-10	CX	12	Insured's Group Emp ID	O	Not sent
IN1-11	XON	130	Insured's Group Emp Name	O	Not sent
IN1-12	DT	8	Plan Effective Date	O	Not sent
IN1-13	DT	8	Plan Expiration Date	O	Not sent
IN1-14	CM	55	Authorization Information	O	Not sent
IN1-15	IS	3	Plan Type	O	Not sent
IN1-16	XPN	48	Name Of Insured	O	Not sent
IN1-17	IS	2	Insured's Relationship To Patient	O	Not sent
IN1-18	TS	26	Insured's Date Of Birth	O	Not sent
IN1-19	XAD	106	Insured's Address	O	Not sent
IN1-20	IS	2	Assignment Of Benefits	O	Not sent
IN1-21	IS	2	Coordination Of Benefits	O	Not sent
IN1-22	ST	2	Coord Of Ben. Priority	O	Not sent
IN1-23	ID	2	Notice Of Admission Flag	O	Not sent
IN1-24	DT	8	Notice Of Admission Date	O	Not sent
IN1-25	ID	2	Report Of Eligibility Flag	O	Not sent
IN1-26	DT	8	Report Of Eligibility Date	O	Not sent
IN1-27	IS	2	Release Information Code	O	Not sent
IN1-28	ST	15	Pre-Admit Cert (PAC)	O	Not sent
IN1-29	TS	26	Verification Date/Time	O	Not sent
IN1-30	XCN	60	Verification By	O	Not sent
IN1-31	IS	2	Type Of Agreement Code	O	Not sent
IN1-32	IS	2	Billing Status	O	Not sent
IN1-33	NM	4	Lifetime Reserve Days	O	Not sent
IN1-34	NM	4	Delay Before L.R. Day	O	Not sent
IN1-35	IS	8	Company Plan Code	O	Not sent
IN1-36	ST	15	Policy Number	O	Health Fund membership number.
IN1-37	CP	12	Policy Deductible	O	Not sent
IN1-38	CP	12	Policy Limit - Amount	B	Not sent
IN1-39	NM	4	Policy Limit - Days	O	Not sent
IN1-40	CP	12	Room Rate - Semi-Private	B	Not sent
IN1-41	CP	12	Room Rate - Private	B	Not sent
IN1-42	CE	60	Insured's Employment Status ^Retired^^^^|	O	This value sent is the description of the employment status

					statutory reporting field in CareRight
IN1-43	IS	1	Insured's Sex	O	Not sent
IN1-44	XAD	106	Insured's Employer Address	O	Not sent
IN1-45	ST	2	Verification Status	O	Not sent
IN1-46	IS	8	Prior Insurance Plan ID	O	Not sent
IN1-47	IS	3	Coverage Type	O	Not sent
IN1-48	IS	2	Handicap	O	Not sent
IN1-49	CX	12	Insured's ID Number	O	Not sent

5.9 Next of Kin Segment

This segment contains all relationships for a patient. Refer to HL7 v2.5 - NK1 - Next of Kin / Associated Parties.

Address Book										
Title	First Name	Last Name	Relationship	Home Phone	Work Phone	Mobile Phone	Emergency Contact	Consent To Contact		New
	Bob	Jones	Next of Kin						Show	Delete

Messages submit the full list of current relationships at the time of sending. Consumers should implement logic for both deactivating (setting an end date) and physically deleting removed relationships.

Note that updates will only occur for:

- Edits to the primary patient record
- Edits to the core relationship fields

IE if a relationship is added, then the related person's details are edited independently, no update will be triggered until the patient record is updated or the relationship is updated.

Table: Next of Kin

Segment and Field	Data Type	Max Length	Description	Mandatory (R/O)	Comments
NK1-1	SI	4	Segment ID	R	
NK1-2	XPN	250	Name	O	
NK1-3	CE	250	Relationship	O	As defined by **Admin > Generic Tables > Relation.** Note: These values may not align to https://hl7-definition.caristix.com/v2/HL7v2.5/Tables/0063 by default
NK1-4	XAD	250	Address	O	
NK1-5	XTN	250	Phone Number	O	
NK1-6	XTN	250	Business Phone Number	O	Not sent
NK1-7	CE	250	Contact Role	O	Not sent
NK1-8	DT	8	Start Date	O	Not sent
NK1-9	DT	8	End Date	O	Not sent
NK1-10	ST	60	Job Title	O	Not sent
NK1-11	JCC	20	Job Code Class	O	Not sent
NK1-12	CX	250	Employee Number	O	Not sent
NK1-13	XON	250	Organisation Name	O	Not sent
NK1-14	CE	250	Marital Status	O	Not sent
NK1-15	IS	1	Administrative Sex	O	Not sent
NK1-16	TS	26	Date/Time of Birth	O	Not sent
NK1-17	IS	2	Living Dependency	O	Not sent
NK1-18	IS	2	Ambulatory Status	O	Not sent
NK1-19	CE	250	Citizenship	O	Not sent
NK1-20	CE	250	Primary Language	O	Not sent

NK1-21	IS	2	Living Arrangement	O	Not sent
NK1-22	CE	250	Publicity Code	O	Not sent
NK1-23	ID	1	Protection Indicator	O	Not sent
NK1-24	IS	2	Student Indicator	O	Not sent
NK1-25	CE	250	Religion	O	Not sent
NK1-26	XPN	250	Mother's Maiden Name	O	Not sent
NK1-27	CE	250	Nationality	O	Not sent
NK1-28	CE	250	Ethnic Group	O	Not sent
NK1-29	CE	250	Contact Reason	O	Not sent
NK1-30	XPN	250	Contact Person's Name	O	Not sent
NK1-31	XTN	250	Contact Person's Telephone Number	O	Not sent
NK1-32	XAD	250	Contact Person's Address	O	Not sent
NK1-33	CX	250	Identifiers	O	Not sent
NK1-34	IS	2	Job Status	O	Not sent
NK1-35	CE	250	Race	O	Not sent
NK1-36	IS	2	Handicap	O	Not sent
NK1-37	ST	16	Social Security Number	O	Not sent
NK1-38	ST	250	Birth Place	O	Not sent
NK1-39	IS	2	VIP Indicator	O	Not sent

5.10 Observation Segment - Gender Identity

This segment contains Observations by the clinic for information such as **Gender Identity/Diversity**. Later versions of the software may implement further observations for **Sexual Orientation**.

Refer to OBX - Observation/Result Segment (HL7 v2.5) and Gender Harmony in V2.

Gender Diversity	Non-Binary	× ▾

Table: Observation

Segment and Field	Data Type	Max Length	Description	Mandatory (R/O)	Comments
OBX-1	SI	4	Segment ID	R	
OBX-2			Value Type	C	See OBX-5
OBX-3	CE	250	Observation Identifier	R	76691-5 Gender Identity Example: 76691-5^Gender Identity^LN
OBX-4	ST	20	Observation Sub ID	C	Not sent
OBX-5	VARIES	99999	Observation Value	C	Mapped as follows **Male** CE 446151000124109^Identifies as male^SCT **Female** CE 446141000124107^Identifies as female^SCT

|						
						Female-to-Male (FTM) CE 407377005^Female-to-male transsexual^SCT **Male-to-Female (MTF)** CE 407376001^Male-to-female transsexual^SCT **Non-Binary** CE 446131000124102^Identifies as non-conforming gender^SCT **All other values** TX Data as entered
OBX-6	CE	250	Units			Not sent
OBX-7	ST	60	References Range			Not sent
OBX-8	IS	5	Abnormal Flags			Not sent
OBX-9	NM	5	Probability			Not sent
OBX-10	ID	2	Nature of Abnormal Test			Not sent
OBX-11	ID	1	Result Status	R		Always "F" for Final.
OBX-12	TS	26	Effective Date of Reference Range			Not sent
OBX-13	ST	20	User Defined Access Checks			Not sent
OBX-14	TS	26	Date/Time of Observation			Not sent
OBX-15	CE	CE	Producer's ID			Not sent
OBX-16	XCN	250	Responsible Observer			Not sent
OBX-17	CE	250	Observation Method			Not sent
OBX-18	EI	22	Equipment Instance Identifier			Not sent
OBX-19	TS	26	Date/Time of the Analysis			Not sent

6 A40 Patient Identifier Merge Message

The A40 message type will be processed in this interface. The following tables described their message structure and processing.

The MSH EVN, and PID segments will be processed as described in A08 Message Structure of MSH and PID with the following differences:

- The patient described in the PID segment is the major patient

- The patient described in the MRG segment is the minor patient

For the purposes of this document, the major is the patient MRN or record to be retained. The minor is the patient MRN or record to be inactivated.

Careright only generates very restricted merge scenarios. A patient record can only merge to another patient that is not already merged. A patient record that already has merged records associated with it cannot be merged to another patient record. This leads to the following topography of merges only being supported.
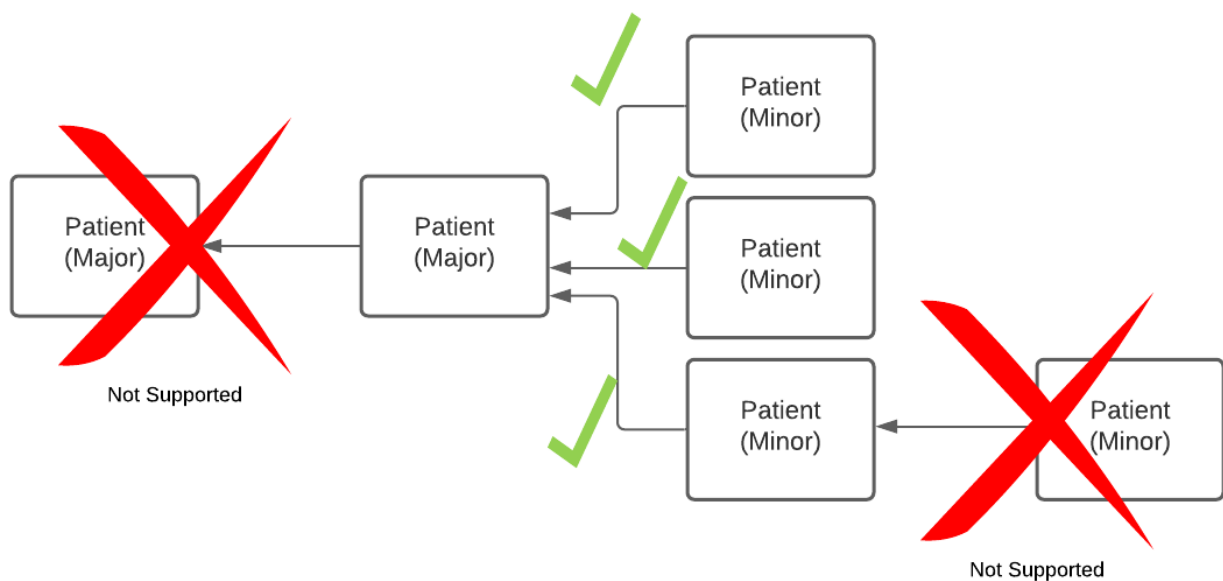
6.1 Merge Restrictions

CareRight will not allow a minor patient to be merged if any of the following conditions exist.

- Patient has unsent correspondence
- Patient has incomplete financial transactions (unpaid/overpaid invoices, unused deposits etc..)
- Patient is current admitted or has a pending discharge
- Patient has admissions with overlapping dates to Major Patient

6.2 Merged Appointments and Admissions

When a patient is merged in CareRight the associated records are transferred to the Major Patient. This means any further updates to Admission or Appointment records sent via the HL7 interface will refer to the Major Patient and not the Minor Patient.

6.3 Un-merging Records

CareRight allows a user to reverse a merge operation. This unlinks the Minor Patient from the Major patient and restores all records originally linked to the Minor Patient back to the Minor Patient.

An un-merge is represented in A40 messages as the patient in the PID segment and the patient in the MRG segment referencing the same patient. (I.e. merging to itself)

6.4 Merge Segment

The MSH, EVN and PID segments will be processed as described in Section 4.1.2.1.2 Segment Structure

Table 10: A40 segments

Segment	Name	R/O	Freq of Occurrence	To be Processed
MSH	Message Header	R	1	Yes
EVN	Event	R	1	Yes
PID	Patient Identification	R	1	Yes
MRG	Source Patient/Client	R	1	Yes

Table 11: MRG fields describe the fields of the Merge Segment (MRG) that will be processed for this interface. The 'Comments' column includes business rules for processing the field, examples, etc.

Table 11: MRG fields

Segment and Field	Data Type	Max Length	Description	Mandatory (R/O)	Comments
MRG-0			Segment Id	R	Will be sent as 'MRG'
MRG-1	CX	250	Prior Patient Identifier List	R	The equivalent of the PID-3 field but to reference the minor Patient. This will contain a MR type identifier. See Table 9: Business rules for processing Internal Patient IDs
MRG-2	CX	250	Prior Alternate Patient ID	O	
MRG-3	CX	250	Prior Patient Account Number	O	
MRG-4	CX	250	Prior Patient ID	O	
MRG-5	CX	250	Prior Visit ID	O	
MRG-6	CX	250	Prior Alternate ID	O	
MRG-7	XPN	250	Prior Patient Name as 'Surname^Given_Name^Middle Initial or Name^^Title^^L' e.g. '|Tabib^Eli^B^^Mr^^L|'	R	One name with a type of 'L' should be expected as this represents the

					Legal name for the Patient.

7 Acknowledgments

CareRight expects an Acknowledgement Message for each message it sends.

7.1 Acknowledgement Message Structure

Table 11: ACK Message Segments

Segment	Name	R/O	Freq of Occurrence
MSH	Message Header	R	1
MSA	Message Acknowledgement	R	1
ERR	Error Segment	O	1

7.3 Message Header Segment of Acknowledgement Message

Table 14 describes the fields of the Message Header Segment (MSH) of Acknowledgement messages that will be expected by CareRight for this interface. The 'Comments' column includes business rules for processing the field, examples, etc.

Table 12: MSH field for ACK

Segment and Field	Data Type	Max Length	Description	Mandatory (R/O)	Comments
MSH-0			Segment Id	R	Will be sent as 'MSH'
MSH-1	ST	1	Field Separator	R	Will be sent as '|'
MSH-2	ST	4	Encoding Characters	R	Will be sent as '^~\&'
MSH-3	HD	180	Sending Application	O	
MSH-4	HD	180	Sending Facility	O	
MSH-5	HD	180	Receiving Application	O	
MSH-6	HD	180	Receiving Facility	O	
MSH-7	26	TS	Date/time of Message as CCYYMMDDhhmm	R	Date and time of the acknowledgment message
MSH-8	40	ST	Security	O	Not sent
MSH-9	CM	7	Message Type	R	'ACK'
MSH-10	ST	20	Message Control ID	R	Unique ID for message
MSH-11	PT	3	Processing ID	R	expected to be 'P'
MSH-12	VID	60	Version ID	R	Expected to be '2.3.1'
MSH-13					MSH-13 onwards not sent

7.4 Message Acknowledgement Segment

Table 15 describes the fields of the Message Acknowledgment Segment (MSA) of Acknowledgement messages that will be sent by CareRight for this interface. The 'Comments' column includes business rules for processing the field, examples, etc.

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Table 13: MSA fields

Segment and Field	Data Type	Max Length	Description	Mandatory (R/O)	Comments
MSA-0			Segment ID	R	Will be sent as 'MSA'
MSA -1	ID	2	Acknowledgement Code	R	Will send one of the following: AA = Application Accept AE = Application Error AR = Application Reject
MSA -2	ST	20	Message Control ID	R	Control ID of the initiating message
MSA -3			Text message		Not processed
MSA -4			Expected sequence number		Not processed
MSA -5			Delayed Acknowledgement Type		Not processed
MSA -6	CE	100	Error Condition		Not processed