CareRight HL7 Interface - API Specification Document Consumer

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1 Document Summary

1.1 Document Purpose

This document specifies the interface careRight provides to receive patient document information from an external system and associate that document with the patient medical record.

The expectation is that the documents are complete and recorded in CareRight for archival and retrieval purposes.

The documents must be PDF files representing letters written by providers to external parties.

1.2 Scope

This document defines the HL7 interface that is used to consume T02 messages.

1.3 Terminology, Definitions and Acronyms

Term	Description
ADT	Admission Discharge Transfer
HL7	Health Level Seven is an all-volunteer, not-for-profit organization involved in development of international healthcare standards. "HL7" is also used to refer to some of the specific standards created by the organization (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 Configuration

2.1 Patient Identifiers

The T02 message contains a patient identifier which is matched to the patient CRN in CareRight.

2.2 Provider Identifier

CareRight has a global setting to define the identifier to use for providers when processing 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

3 Messaging Configuration

3.1 IP & Port

CareRight will publish a MLLP server on port 6662.

CareRight will send 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 3: Message types to be processed

Message Type Code	Message Type Description	In or Outbound from CareRight
TO2	Original Document Notification and Content	Inbound
Acknowledgement	Acknowledgement	Outbound

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 4: 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 T02 Original Document Notification and Content

The T02 message types will be processed by this interface. The following tables describe the expected message structure.

5.1 T02 Message Structure

Table 5: T02 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
TXA	Document Notification	R	1	Yes
PRD	Provider Data	O	1/provider	Yes
OBX	Observation	R	1	Yes

5.2 Message Header Segment

Table 7: MSH fields describes the fields of the Message Header Segment (MSH) that will be processed for this interface [ref 2]. The 'Comments' column includes business rules for processing the field, examples, etc.

Table 6: 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	Not processed
MSH-4	HD	180	Sending Facility, e.g. 'BPH'	O	Not processed
MSH-5	HD	180	Receiving Application	O	Not processed
MSH-6	HD	180	Receiving Facility	O	Not processed
MSH-7	TS	26	Date/Time of Message	O	Format – CCYYMMDDhhmm
MSH-8	ST	40	Security	O	Not processed
MSH-9	CM	13	Message Type & Trigger Event	R	Expected to be 'MDM^T02'.
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	Not processed
MSH-18	ID	16	Character Set	O	Not processed
MSH-19	CE	60	Principal Language of Message	O	Not processed
MSH-20	ID	20	Alternate Character Set Handling Scheme	O	Not processed
MSH-21	ID	10	Conformance Statement ID	O	Not processed

5.3 Event Segment

Table 7: EVN Fields described the field of the Event Segment that will be checked for this interface. The 'Comments' column includes business rules for processing the field, examples, etc.

Table 7: 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	'T02'
EVN-2	TS	26	Recorded Date/Time	R	Date time as YYYYMMDDHHMMSS
EVN-3					EVN-3 to EVN-7 not processed

5.4 Patient Identification Segment

The patient segment is used to identify the correct patient in CareRight to create the document for.

The supplied MR identifier is used to obtain the CareRight patient record. If a record is found for the MR identifier, then a comparison on the following values is performed:

- First Name (Legal Name)
- Last Name (Legal Name)
- Date of Birth

If at least two of the above fields match in both the HL7 record and CareRight, then the matched patient is used. If a match is not found an error is returned.

Table 8: 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	Identifier Type = MR MR = Medical Record Number. Must contain a number with the Identifier Type of 'MR'.
PID-3	CX	250	Internal Patient ID (repeating) e.g. '| 0000123333^^^^MR|'	R	See Table 9: Business rules for processing This will be matched to the record in CareRight using the patients crn field.
PID-4	CX	20	Alternate Patient ID – PID	O	Not processed
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	One name with a type of 'L' will be expected as this represents the Legal name for the Patient.
PID-6	XPN	250	Mother's Maiden Name	O	Not Processed
PID-7	TS	26	Date of Birth as CCYYMMDD, e.g. '|19901022|'	R	The patient's date of birth
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	O	PID-9 onwards are not processed

Table 9: 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'	CareRights' CRN.

5.5 Patient Visit Segment

Table 7: 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	Expected to be '1'
PV1-2	EI	75	Patient Class	O	Not Processed
PV1-3	PL	80	Assigned Patient Location • (blank) • (blank) • (blank) • Location Name • (blank) • (blank) • (blank) E.g. |^^^CUH^^^|	O	This is the location name in CareRight that the document is associated with
PV1-4	ID	2	Admission Type	O	Not Processed
PV1-5	CX	20	Preadmit Number	O	Not Processed
PV1-6	PL	12	Prior Patient Location	O	Not Processed
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 who is the author of the letter. The Provider Identifier is optional. If the provider cannot be matched to a provider in CareRight using the Provider Identifier then the name will be recorded as plain text on the created correspondence record.
PV1-8					PV1-8 onwards not processed

5.7 TXA Document Notification Segment

Table 10: TXA Segment

Segment and Field	Data Type	Max Length	Description	Mandatory (R/O)	Comments
TXA-0			Segment ID	R	'TXA'
TXA-1	SI	4	Set ID	R	Set to '1'
TXA-2	IS	30	Document Type	R	Must be set to 'PR' (Progress Note) these are considered letter correspondence.
TXA-3	ID	2	Document Content Presentation	O	This is not processed
TXA-4	TS	26	Activity Date/Time	O	This is not processed
TXA-5	XCN	60	Primary Activity Provider Code/Name	O	This is not processed
TXA-6	TS	26	Origination Date/Time	O	This is not processed
TXA-7			Transcription Date/Time	R	This is required and set as the correspondence date/time in CareRight
TXA-8					TXA-8 an onwards not processed

5.8 PRD Provider Data

This segment is optional. More than one PRD can be sent. Each one should represent a recipient of the letter.

Table 10: PRD Segment

Segment and Field	Data Type	Max Length	Description	Mandatory (R/O)	Comments
PRD-0			Segment ID	R	PRD
PRD-1	CE	200	Role E.g. |RT^Referred To|	R	CareRight will ignore segments that do not have PRD-1.1 set to 'RT'
PRD-2	XPN	106	Provider Name • Family Name • Given Name • (Not Processed) • (Not Processed) • Title • (Not Processed) • 'L' E.g. |Fleming^Dr Richard^^^^L|	R	CareRight will use this data to annotate the correspondence record with the recipient's name. This is stored as text on the correspondence record. if multiple names are supplied in this segment only the 'L' name type code is used. If no 'L' type is provided then the first name provided is used.
PRD-3					PRD-3 and onwards not processed

5.9 OBX Observation Segment

Table 10: OBX Segment

Segment and Field	Data Type	Max Length	Description	Mandatory (R/O)	Comments
OBX-0			Segment ID	R	'OBX'
OBX-1	SI	4	Set ID	R	Set to '1'
OBX-2	ID	2	Value Type	R	Expected to be 'ED'
OBX-3	CE	500	Observation Identifier	O	This is not processed
OBX-4	ST	20	Observation Sub-ID	O	This is not processed
OBX-5	Varies	65536	Observation Value: • not used • must be 'TEXT' or 'text' • must be 'PDF' or 'pdf' • must be 'BASE64', 'Base64' or 'base64' • PDF File Eg. |^TEXT^PDF^Base64^JVBgdyegyii...|	R	The documents as a base64 encoded PDF file.
OBX-6					TXA-8 an onwards not processed

6 Acknowledgments

CareRight sends an Acknowledgement Message for each message it receives.

6.1 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

6.3 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

6.4 Message Acknowledgement Segment

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

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