IHE Change Proposal

Tracking information:

IHE Domain	Patient Care Device (PCD) Subdomain in Device Domain
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Person assigned:	Monroe Pattillo

Change Proposal Summary information:

ACM HL7 Conformance OBR-3 and OBR-29			
Submitter's Name(s) and e-mail address(es):	Monroe Pattillo, monroe.pattillo@gmail.com		
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Integration Profile(s) affected:	Alert Communication Management (ACM)		
Actor(s) affected:	Alert Reporter (AR) and Alert Manager (AM)		
IHE Technical Framework or Supplement modified:	ACM profile in PCD TF revision 9.0, dated Dec 12, 2019		
Volume(s) and Section(s) affected:	IHE PCD TF Vol 2, appendix B.7		

Rationale for Change:

The ACM profile utilizes a relationship between the contents of the OBR-3 Filler Order Number field and the OBR-29 Parent field to provide traceability between the alert original Report Alert [PCD-04] transaction (with alert phase indicated as start, start_only, or present) or the Report Alert Status [PCD-05] transaction and updates to the original alert transaction. However, the current ACM profile within the PCD TF is not conformant in the component content of the OBR-29 field for the [PCD-04] and [PCD-05] transactions. The ACM profile identifies the parent transaction identifier as being in the first and only component of the OBR-29 field and that all that is required in the component is the alert transaction identifier value. This is not conformant to HL7 v2.6 which is the basis for IHE DEV PCD profiles.

Per the HL7 standard the OBR-29 field contains two components, both of which are EI data type values <Placer Assigned Identifier> ^ <Filler Assigned Identifier>

The ACM profile identifies no specific purpose for the Placer Assigned Identifier other than that defined in the HL7 standard. Therefore as the alert transaction parent is associated with the value in OBR-3 Filler Order Number EI data type value the value in OBR-29 should be in the second component and not the first (noting the content transition from component delimiters in OBR-3 to subcomponent delimited in OBR-29.2) and use of the Hierarchic Descriptor (HD) data type within the EI data type to identify the assigning authority for the value should also be included as defined for the EI data type. The OBR-29.2 component should not be a simple single value. The assigning authority of the value must also be indicated as per the HL7 EI data type.

Additionally, the ACM profile does not clearly indicate when and with what value OBR-29 Filler Assigned Identifier is to be populated. For [PCD-04] transactions where alert phase is indicated as start, start_only, or presence OBR-29 shall be empty. For [PCD-04] transactions where alert phase is other than start, start_only or present the value in OBR-29.2 shall be the alert identifier (value from OBR-3 from [PCD-04] where alert phase is start, start_only, or present). For [PCD-05] transactions the value in OBR-29.2 should be the alert identification from OBR-3 of the [PCD-04] transaction where the alert phase is start, start_only, or present.

The value in OBR-3 for the [PCD-04] and [PCD-05] transactions needs to be a system instance unique alert identifier such that it is historically unique for retrospective analysis without requiring timestamp correlation to avoid synonyms. The unique alert instance identifier cannot be reliant upon the values in MSH-3 Sending Application and MSH-4 Sending Facility as the PCD Technical Framework lowers the bar by making some values and components optional.

And there needs to be information added about the differences and mapping of [PCD-04] and [PCD-05] HL7 identifiers versus [PCD-06] and [PCD-07] WCTP message and transaction identifiers.

In Appendix B.7 Observation Request Segment, the sub-section identified as OBR-3 Order Filler Number, starting at line 2472, on page 108:

Replace

In the transactions of the Alert Communication Management Profile ([PCD-04], [PCD-07]), this field serves as the unique identifier for status updates to an alert indication identified in OBR-29 Parent. This value is assigned by the Alert Source and is used by system actors to associate updates to a particular alert identified in OBR-29 Parent. For the initial indication message of an alert OBR-29 Parent is required to be empty in order to indicate that it is the initial indication for that alert. For all subsequent indications related to the same alert OBR-3 Filler Order Number identifies the unique indication and OBR-29 Parent contains the value from OBR-3 Filler Order Number of the initial alert indication. This permits the Alert Manager (AM) and Alert Consumer (ACON) Actors to associate all subsequent indications, such alert phase updates, with the original alert.

With

In the transactions of the Alert Communication Management Profile ([PCD-04], [PCD-05], [PCD-06], [PCD-07]), the EI data type value in the case of [PCD-04] and [PCD-05] transactions which are HL7 v2 based and the alert identifier in the case of [PCD-06] and [PCD-07] transactions which are WCTP based serves as the unique alert instance identifier for status updates to an alert indication identified in the Filler Assigned Identifier component of the OBR-29.2 Parent field. This value *shall* be a fully described actor instance unique (EI an HD data type conformant value) and is assigned by the Alert Source and is used by system actors to associate updates to a particular alert identified by the Filler Assigned Identifier component of the OBR-29.2 Parent field.

For the [PCD-04] transactions where the alert phase is indicated as start, start_only, or present the Filler Assigned Identifier component of the OBR-29 Parent field *shall* be empty. Absence of a value in component OBR-29.2 Filler Assigned Identifier *shall* not be used as indicative of the PCD-04 transaction as being the initial alert. Initial PCD-04 Report Alert identification *shall* be through the alert phase indication. For [PCD-04] transactions where alert phase is not start, start_only, or present, the Filler Assigned Identifier component OBR-29.2 Parent *shall* contain the value from OBR-3 Filler Order Number of the [PCD-04] where alert phase was start, start_only, or resent (while conforming to the value delimiters for the transition from component in OBR-3 to subcomponent in OBR-29.2). This permits the Alert Manager (AM) and Alert Consumer (ACON) Actors to associate all subsequent [PCD-04] transactions, such alert phase updates, alarm status updates, or alarm inactivation state values with the identification of the original [PCD-04] transaction.

For an Alert Reporter (AR) actor to match a received [PCD-05] to the [PCD-04] that the AR sent to originate the alert the sub-components of OBR-29.2 of the received [PCD-05] shall respectively be compared with components of OBR-3 of the sent [PCD-04]. The contents of OBR-3 are at the component level. The contents of OBR-29.2 are at the sub-component level. Due to the difference in delimiters and positioning a simple string compare of field content is not sufficient. Both values are EI data types and all parts of the data type shall be compared for equality, including absence of lower level parts.

- <Entity Identifier (ST)>
- <Namespace ID (IS)>
- <Universal ID (ST)>
- <Universal ID Type (ID)>

Table B.7-2: ACM Alert Identifier Coordination Across HL7 Transactions

Transaction	Alert Phase	OBR-3	OBR-29.2
		(EI data type at	(EI data type at sub-
		component level)	component level)
PCD-04 Report Alert	start, start_only, present	Alert instance identifier	Shall be empty
Initial alert indication			
PCD-04 Report Alert	other than start,	Alert update identifier	Alert instance identifier from
Alert update	start_only, present		Initial alert indication
PCD-05 Report Alert	All phase indications	PCD-05 unique	Alert instance identifier from
Status		identifier associated	Initial alert indication
All occurrences		with the instance PCD-	
		05 transaction	

The ACM AM and AC actors interoperate using the WCTP protocol and not HL7. WCTP protocol message ID utilizes a different system-to-system unique identifier basis than does HL7. Just as HL7 the WCTP protocol has its own requirements for unique parent to child message identification for initiation/submit/update (messageID and transactionID) and unique message identification for response/status update/reply (responseToMessageID and transactionID).

Table B.7-3: ACM Alert_Identifier Coordination Across WCTP Transactions

Transaction	Alert Phase	WCTP	WCTP XML Element
		Transaction	
PCD-06 Disseminate Alert Initial alert indication	start, start_only, present	wctp- SubmitRequest	WCTP identifiers messageID HL7 identifiers within WCTP transaction <wctp-ihepcdacmobservation <="" alerttimestamp="alertTimestamp" fillerordernumber="fillerOrderNumber" parentfillerordernumber="parentFillerOrderNumber" td=""></wctp-ihepcdacmobservation>
PCD-06 Disseminate Alert Alert update	other than start, start_only, present	wctp- SubmitRequest	HL7 identifiers within WCTP transaction <wctp-ihepcdacmobservation <="" alerttimestamp="alertTimestamp" fillerordernumber="fillerOrderNumber" parentfillerordernumber="parentFillerOrderNumber" td=""></wctp-ihepcdacmobservation>
PCD-07 Report Dissemination Alert Status - synchronous Initial alert indication	start, start_only, present	wctp-Confirmation	Synchronous response to wctp-SubmitRequest HL7 identifiers not passed WCTP request/response messageID and transactionID not passed
PCD-07 Report Dissemination Alert Status - asynchronous All occurrences	all	wctp-StatusInfo or wctp-MessageReply	HL7 identifiers within WCTP not passed back WCTP messageID and transactionID Must be mapped by AM and AC actors to their HL7 counterparts