

IHE Change Proposal

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PCD TF ACM alert identifier in OBR segment	
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) profile
Actor(s) affected:	Alert Reporter (AR), Alert Manager (AM), Alert Consumer (ACON)
IHE Technical Framework or Supplement modified:	PCD TF revision 9.0, dated Dec 12, 2019
Volume(s) and Section(s) affected:	IHE PCD TF Vol 2, Appendix B.7

PCD TF ACM alert identifier in OBR segment

Rationale for Change:

The NIST Test Tool does not contextually verify the EI data type value of alert unique instance identifiers versus Report Alert [PCD-04] alert transaction instance identifiers across all phases of an instance alert. This automated verification gap requires that Connectathon testing monitors hand verify alert instance identifiers versus transaction instance identifiers in Report Alert [PCD-04] transactions. This hand verification across all IHE Connectathons across all PCD domain vendor implementations and all testing monitors has been inconsistent. This has allowed actor implementations not conformant to the normative ACM profile to successfully pass IHE Connectathons when they should not have passed without implementation conformance correction. Absent context based verification enhancement in the NIST Test Tool the ACM profile text needs to be clearer as to the requirements for alert instance identification versus transaction instance identification and the examples in the profile should be verified by the NIST Test Tool as a baseline and then hand verified and corrected as required so as to be conformant to the profile.

The explanatory text for Report Alert [PCD-04] transactions could be clearer as to when the OBR Observation Request segment OBR-3 Filler Order Number field and the OBR-29.2 Parent Result Observation Identifier field, the Filler Assigned Identifier component should be populated with alert associated identifiers and the distinction between the alert instance unique identifier from the alert onset Report Alert [PCD-04] transaction instance as compared with alert update transaction instance unique identifier values from follow on Report Alert [PCD-04] transaction instances.

Additionally, since ACM makes forward looking references to HL7 2.8.2 change references to the OBR Observation Request segment **Parent** field to indicate **Parent Result Observation Identifier** as defined in the HL7 standard version 2.8.2, chapter 7 Observations, section 7.4.1.29, page 44.

Additionally, the alert end phase example in the examples the Appendix have incorrect values in the OBR-29.2 Parent Result Observation Identifier field, the Filler Assigned Identifier component and needs to be corrected to match the OBR-3 Filler Order Number value from the alert onset Report Alert [PCD-04] instance message so as to be conformant to the ACM profile.

As indicated above the NIST Test Tool does not contextually verify alert unique instance identifier value versus alert transaction identifier values. Therefore example messages should be first baseline verified by the NIST Test Tool with further verification by hand for alert onset instance identifier versus follow on alert phase instance transaction values.

In Appendix B.7 OBR – Observation Request segment the unnumbered section headed by ***OBR-3 Filler Order Number*** replace the paragraph at the top of page 108 starting at line 2472:

Existing text

In the transactions of the Alert Communication Management Profile ([PCD-04], [PCD-06], [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.

Replacement text

In Report Alert [PCD-04] transactions of the Alert Communication Management Profile the Observation Request (OBR) segment the EI data type content of the OBR-3 Filler Order Number field serves to identify alert associated transactions. For the Report Alert [PCD-04] transaction the EI data type encoded value is sourced by the Alert Reporter (AR) actor, may originate with the Alert Source, and shall be unique for each instance of a Report Alert [PCD-04] transaction. The Report Alert [PCD-04] transaction instance value in OBR-3 Filler Order Number associated with the onset of an alert, as indicated by Alert Phase (Event Current Phase) FACET indication values of *start*, *start_only*, *tpoint*, or *present*) shall be referenced as the alert instance unique identifier.

In Appendix B.7 OBR – Observation Request segment the unnumbered section headed by **OBR-29 Parent (EIP) 00261** replace the paragraph on page 110 starting at line 2580:

Existing text

This field serves as the unique identifier for the alert indication in ACM transactions. It is assigned by the Alert Source and is used by system actors to associate all messages from all actors that pertain to a particular alert throughout the history of the alert. So the same value of OBR-29 will be sent by the Alert Source in the messages concerning the start, end, continuation of the alert, and will also be used in status messages from other actors concerning that alert. It may consist of a unique identifier of the device such as an EUI-64 and a serial number or time stamp for the alert, but other forms that are unique among alerts sourced by a particular Alert Reporter are acceptable. An order number sourced by the filling application may be used in the case of an order (Pharmacy or Laboratory) and in this case must also serve to uniquely identify the related alert events. For identification of status updates to an alert indication see OBR-3 Filler order Number.

Replacement text

For the ACM profile, alert onset Report Alert [PCD-04] instance transactions, those with Alert Phase (Event Current Phase) FACET values of *start, start_only, tpoint, or present*, the EI data type value in the OBR-29.2 Parent Result Observation Identifier field, the Filler Assigned Identifier component **shall be either empty or contain the same value as in OBR-3 Filler Order Number**. The presence or absence of a value in this component shall not be utilized as indication of alert onset.

For all other Report Alert [PCD-04] instance transactions, Alert Phase (Event Current Phase) FACET values other than *start, start_only, tpoint*, and *present*, the EI data type value in the OBR-29.2 Parent Result Observation Identifier field, the Filler Assigned Identifier component shall contain the EI data type value from OBR-3 Filler Order Number from the Report Alert [PCD-04] transaction instance associated with alert onset, the alert instance unique identifier.

If the Alert Manager (AM) actor is not present for or has no record of the alert instance unique identifier and then receives a follow-on phase indication then the Alert Manager will utilize the value in OBR-29.2 Parent Result Observation Identifier field, the Filler Assigned Identifier component as the alert instance unique identifier.

When transcribing the components of the OBR-3 field value to the OBR-29.2 all subcomponents shall be transcribed and the component delimiters (^) replaced with subcomponent delimiters (&).

Table B.7-2: Report Alert [PCD-04] Alert Instance Identification Versus Transaction Identification

Alert Phase FACET (Event Current Phase)	OBR-3 Filler Order Number	OBR-29.2 Parent Result Observation Identifier, Filler Assigned Identifier component
<i>start, start_only, tpoint, present</i> (indicates alert onset)	Unique transaction identifier (also in this instance the Alert instance unique identifier)	Either empty or a transcription of the OBR-3 component values to subcomponents while replacing the component delimiters (^) with subcomponent delimiters (&)

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all other Alert Phase values	Unique transaction identifier	Alert instance unique identifier, transcription of the value from OBR-3 from alert onset [PCD-04] transaction instance
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See the alert start and end example in Appendix E.3.2 Alert - Qualitative (non-numeric) Alarm the Infusion Pump, Fluid Line Occlusion, Technical Alarm Indication [editor note: add live link]

In Table B.7.1-1 HL7 Attribute Table – OBR – Observation Result page 111 at line 2599:

Change table row where **SEQ** = 29, column **ELEMENT NAME**, cell value from ***Parent*** to ***Parent Result Observation Identifier***

In setion ***B.7.1 OBR Observation Request Segment in ACM Transaction [PCD-04]*** the unnumbered section headed by ***OBR-3 Filler Order Number (EI) 00217*** replace the paragraph starting at line 2603 on page 111:

Existing text

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.

Replacement text

In Report Alert [PCD-04] transactions of the Alert Communication Management Profile the Observation Request (OBR) segment the EI data type content of the OBR-3 Filler Order Number field serves to identify alert associated transactions. For the Report Alert [PCD-04] transaction the EI data type encoded value is sourced by the Alert Reporter (AR) actor, may originate with the Alert Source, and shall be unique for each instance of a Report Alert [PCD-04] transaction. The Report Alert [PCD-04] transaction instance value in OBR-3 Filler Order Number associated with the onset of an alert, as indicated by Alert Phase (Event Current Phase) FACET indication values of *start*, *start_only*, *tpoint*, or *present*) shall be referenced as the alert instance unique identifier.

In setion **B.7.1 OBR Observation Request Segment in ACM Transaction [PCD-04]** the unnumbered section headed by **OBR-29 Parent (EIP) 00261** replace the paragraph starting at line 2629 on page 112:

Existing text

This field serves as the unique identifier for the alert indication. It is assigned by the Alert Source and is used by system actors to associate all messages from all actors that pertain to a particular alert throughout the history of the alert. So the same value of OBR-29 will be sent by the Alert Source in the messages concerning the start, end, continuation of the alert, and will also be used in status messages from other actors concerning that alert. It may consist of a unique identifier of the device such as an EUI-64 and a serial number or time stamp for the alert, but other forms that are unique among alerts sourced by a particular Alert Reporter are acceptable. An order number sourced by the filling application may be used in the case of an order (Pharmacy or Laboratory) and in this case must also serve to uniquely identify the related alerts. For identification of status updates to an alert indication, see OBR-3 Filler order Number.

Replacement text

For the ACM profile, alert onset Report Alert [PCD-04] instance transactions, those with Alert Phase (Event Current Phase) FACET values of *start*, *start_only*, *tpoint*, or *present*, the EI data type value in the OBR-29.2 Parent Result Observation Identifier field, the Filler Assigned Identifier component shall be either empty or contain the same value as in OBR-3 Filler Order Number. The presence or absence of a value in this component shall not be utilized as indication of alert onset.

For all other Report Alert [PCD-04] instance transactions, Alert Phase (Event Current Phase) FACET values other than *start*, *start_only*, *tpoint*, and *present*, the EI data type value in the OBR-29.2 Parent Result Observation Identifier field, the Filler Assigned Identifier component shall contain the EI data type value from OBR-3 Filler Order Number from the Report Alert [PCD-04] transaction instance associated with alert onset, the alert instance unique identifier.

When transcribing the components of the OBR-3 field value to the OBR-29.2 all subcomponents shall be transcribed and the component delimiters (^) replaced with subcomponent delimiters (&).

See **Table B.7-2: Report Alert [PCD-04] Alert Instance Identification Versus Transaction Identification** [editor note: add live link]

See the alert start and end example in Appendix E.3.2 Alert - Qualitative (non-numeric) Alarm the Infusion Pump, Fluid Line Occlusion, Technical Alarm Indication [editor note: add live link]

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In **Appendix E.3.2 Alert - Qualitative (non-numeric) Alarm** the **Infusion Pump, Fluid Line Occlusion, Technical Alarm Indication, Start** example starting at line 4608 on page 183, replace OBR segment content:

Existing text

OBR|1|634617284575713662^PAT_DEVICE_BBRAUN^0012211839000001^EUI-64|P6013_4^PAT_DEVICE_BBRAUN^0012211839000001^EUI-64|196616^MDC_EVT_ALARM^MDC|||20120109175417-0600|||||||||||||||||^E0001_27&PAT_DEVICE_BBRAUN&0012211839000001&EUI-64

Replacement text (OBR-3 value changed and removed OBR-29 field and empty field delimiters)

OBR|1|634617284575713662^PAT_DEVICE_BBRAUN^0012211839000001^EUI-64|E0001_27^PAT_DEVICE_BBRAUN^0012211839000001^EUI-64|196616^MDC_EVT_ALARM^MDC|||20120109175417-0600

In **Appendix E.3.2 Alert - Qualitative (non-numeric) Alarm** the **Infusion Pump, Fluid Line Occlusion, Technical Alarm Indication, End** example starting at line 4628 on page 183, replace OBR segment content:

Existing text

OBR|1|634617284662070628^PAT_DEVICE_BBRAUN^0012211839000001^EUI-64|P6013_4^PAT_DEVICE_BBRAUN^0012211839000001^EUI-64|196616^MDC_EVT_ALARM^MDC|||20120109175426-0600|||||||||||||||||^E0001_27&PAT_DEVICE_BBRAUN&0012211839000001&EUI-64

Replacement text (replaced OBR-3 and OBR-29 field values)

OBR|1|634617284662070628^PAT_DEVICE_BBRAUN^0012211839000001^EUI-64|E0001_34^PAT_DEVICE_BBRAUN^0012211839000001^EUI-64|196616^MDC_EVT_ALARM^MDC|||20120109175426-0600|||||||||||||||||^E0001_27&PAT_DEVICE_BBRAUN&0012211839000001&EUI-64