# RPM Comments Made in Conjunction With the Updated Diagram From Keith Boone

And based on the document: IHE\_RPM\_Template\_2015-04-028.docx

1. The definition of LAN in the glossary section causes some concern. It implies that ZigBee is the technology of LAN technology for all of IHE as the glossary applies to everything and not just this supplement.

Brian: This is a PCHA definition. Can clarify.

1. In the glossary and in other places in the supplement you refer to a “PCD-01 document”. That is very strange wording as the PCD-01 transaction uses an HL7 V2 message. I cannot think of other places where we use the word “document” to describe a V2 message. I think it would be better to use the word message and remain consistent with our other uses of HL7 V2.

Brian: Will re-word. At PCHA plugfests we often refer to the PCD-01 as a ‘document’ without thinking about the fact that in IHE-language ‘document’ has a specified meaning. Can change to ‘message’.

1. Is it PCHA or PHCA? I see both in the supplement.

Brian: Should be PCHA. Thought I fixed all of them. I had all entries PHCA at first and realized the typo later.

1. What do you mean by this:
   1. Device Observation Consumer actor that receives clinical data from the Device Observation Reporter actor. In this profile the Device Observation Consumer actor is typically grouped with a Content Creator actor that creates PHMR content modules from IHE PCD-01 data. *However in some use cases the PCD-01 document may suffice*

Brian: This was a requirement from PCD. They wanted the option to have the data sent as a PCD-01 message instead of a CDA document. I don’t know the proper way to state that. Later in this guide I removed that statement from the Content Creator.

* 1. I italicized the last sentence. Does that mean that a DOC can exist in this profile by itself? In other places, you state that a DOC must be grouped with a Content Creator.

Brian: I do not know how to allow the transfer of the data as a PCD-01 message should the destination desire the data in such form. Maybe it is impossible in IHE. If so it can be removed.

* 1. The language that “in some cases the PCD-01 document may suffice” appears at least twice in the volume 1 material.

1. Keith’s figure X.1-1 has a typo in the first part of the diagram:
   1. It has Device Observation Source sending to Device Observation Source. The target should be Sensor Data Consumer
2. Based on Keith’s figure (and ignoring text), one might conclude that a Content Creator could appear in this profile by itself and not be grouped with a Device Observation Source or a Device Observation Consumer. We need to make it clear if a Content Creator can indeed invent content out of the air or if it has to be grouped with some other actor. IMO, saying that the DOC needs to be grouped with a Content Creator and the DOS needs to be grouped with a DOR or a Content Creator does not imply that a Content Creator needs to be grouped. I don’t think this is a transitive thing.

Brian: What is ‘attached’ to the Content Creator is a sensor. In other words a device that takes medical measurements but has the SW power to convert those measurements to a PHMR and share that content by some standard IHE PHMR-sharing transaction. With mobile phones supporting measurement devices, such an implementation is feasible.

1. Figure X.1-2 is oddly placed. This looks like it belongs more in a use case description than as part of our standard section on actors and transactions.
2. Table X.1-1 lists the PCD-01 transaction and says the reference is to the PCC TF. These two rows should reference the PCD TF
3. Table X.1-1 list the PCD-XX transaction for PCHA data and references the PCC TF (but through this supplement). If this transaction is going to be defined in the PCC TF, it should have a PCC transaction number. If you intend that it should live in the PCD TF, then it does have a PCD transaction number, but the reference needs to be to the PCD TF and not the PCC TF.
4. Table X.1-1 lists the PCC-1 Document Sharing transaction and references what is probably an internal section in this document. This is tricky, because PCC-1 is the subject of a CP right now. Maybe we should pass the CP and then have this reference the PCC Final Text. Referencing something in this document is definitely not the right path.

Brian: We are aware of the CP as I understand it. In the end the idea is that the Content Sharing can be done by any IHE transaction that can share a PHMR document, such as XDSb.

1. In Table X.1-1, you have bold outlines around some of the rows. You probably mean something by this, but it is going to be lost on the average reader.
2. The six options after this sentence are confusing: *A manufacturer implementing components that claim conformance to this profile could consist of one of the following actors or actor groups.*
   1. Item 2 is “A Sensor Data Consumer grouped with a Device Observation Reporter.” That is clear.
   2. Item 6 states “A sensor acting as a Device Observation Reporter.” That seems to be a re-statement of item 2 without the grouping language. I recommend you strike this one.

Brian: This is an implementation where the sensor device transmits its data as a PCD-01 message instead of IEEE PHD data. Such an implementation ‘skips’ a transaction. My understanding is that some more expensive sensor equipment output their data in such messages.

* 1. Item 7 states “A sensor acting as a Content Creator”. This language is inconsistent with the grouping language in item 2. I recommend:
     1. Use the same grouping language as in item 2.
     2. Move this item directly underneath item 2 so one can see the two ways that a Sensor Data Consumer participates in this profile.

Brian: This option is an extension of item 6 where the sensor device outputs its data in the form of a PHMR by an IHE compliant transaction.

1. This sentence is confusing: *A manufacturer implementing components that claim conformance to this profile could consist of one of the following actors or actor groups.*
   1. It implies that “a manufacturer … could consist of one of the following actors or actor groups.” Rewrite the beginning as: A product that claims conformance to this profile could implement one of ….
2. I believe this statement is in error:
   1. The PCD-01 Communicate PCD Data transaction communicates observation data in the form of a PCD-01 document to an appropriate consumer. The transaction uses one of the following transport methods:
   2. It is my understanding that the PCD-01 transaction, being based on HL7 V2, uses the HL7 MLLP and nothing else to transmit data. There is nothing wrong with taking the PCD-01 payload and transmitting using something other mechanism, but to say that the PCD-01 transaction uses anything other than the HL7 MLLP is not true (unless there is a CP applied to the PCD-01 transaction in the PCD TF).

Brian: Web services for CommunicatePCDData are defined in IHE PCD TF Vol2 and Appendix V of Vol 2x.

1. This statement is not consistent with other statements that mention using PCC-1 to transmit CDA:
   1. The PCC Document Sharing transaction uses the transport methods specified by the PCHA H.813 - HRN Interface guidelines. These transports communicate the PHMR C-CDA content module to the consumer.

Brian: Agreed. The PHCA HRN requirements are a restriction. The HRN may be changed.

1. Typo: PHD sensors typically can be used by multiple patients (e.g., a weight scale), and so the device observation consumer ~~me~~ may be needed to distinguish which patient the device is currently measuring.
2. Section X.2 lists no options. I wonder if the DOC, Content Creator and Content Consumer are expected to be able to handle all of the possible data types produced by a Device Observation Source. That is, if I am a customer who is purchasing the receiving end of this data, how do I know my “receiver” will be able to interpret a particular measurement that was made.
   1. Maybe the PHMR specification is enough that my Content Consumer will be expected to interpret everything.
   2. What about my Device Observation Consumer that receives data from a Sensor Data Consumer or a DOR?

Brian: This is where PCHA has stepped in big time. One of the biggest efforts is to standardize the data delivered from medical devices. This is what the PCHA transaction is all about. There are two standardized approaches; IEEE 11073 20601 data over BT, USB, ZigBee, or NFC. Then there is GATT over BTLE that is mappable to IEEE 11073 20601. PCHA often refers to the result as ‘Continua Data’. This data can be transformed into a PCD-01 message by guidelines defined in PCHA H 812.1 Observation Upload. A PCHA certified Device Observation Source satisfies such capabilities. A PCHA certified Sensor Data Consumer and PCHA certified Device Observation Reporter handle PCHA certified Device Observation Sources. The Sensor Data Consumer MAY support proprietary Sensor devices but only if the received data can be mapped to a PCHA complaint PCD-01 message.

1. Section X.3, Required Groupings. If you intend that a Content Creator can only exist in this profile by receiving data from the Sensor Data Consumer or Device Observation Consumer, then you should make that explicit in this section.
2. The first row in Table X.3-1 says that the Sensor Data Consumer is to be grouped with the Device Observation Reporter. There is also a footnote that says the Sensor Data Consumer can be grouped with either the Device Observation Reporter or the Content Creator. I recommend that you augment the table to have both groupings. It is strange to mention one grouping in the table but refer to two groupings in the footnote.

Brian: Not sure why it was done that way. Didn’t know if the template allowed the same actor in column 1. Otherwise if it is okay I am all for it.

1. Volume 2: 3.Y. PCHA Data Transaction. This section implies to me that there are several different ways to transmit the data. Does this mean that all senders and all receivers support all mechanisms? If not, then how do I know if my sender will communicate with your receiver?

Brian: One has to buy a Sensor Data Consumer that supports the transport of the Device Observation Source. Clearly supporting a given transport requires specific hardware and supporting all is expensive (at least in a home consumer market). When one is talking about a $50000 ultrasound machine that may be insignificant but for a $150 BP cuff it is not. The Transport will depend upon the use case. ZigBee for an assisted living facility for example, BT for exercise equipment and anything mobile that reports on the fly, USB for upload equipment (store and forward), etc. *PCHA certifies this transaction for a given transport*.

1. Volume 2: 3.Z PCC-Y PCD Communicate PCD Data Transaction is going to be really confusing because the name is the same as the existing PCD-01 transaction.
   1. You need to give this a different name if you intend to use a different transport.
   2. As mentioned before, referring to a PCD-01 document does not really follow from the PCD-01 transaction. It would be better to use the term PCD-01 message or even better: PCD-01 HL7 V2 ORU.
2. Volume 2: 3.Z PCC-Y talks about oAuth tokens. This is not mentioned in Volume 1. You should discuss with ITI how to document this. I am not suggesting that oAuth is not appropriate. I am suggesting that other profiles that use SAML assertions document the transaction flow in a different manner.

Brian: Not sure I understand. Is the issue the way SAML is used or is the issue oAuth (which is used in hData)?

1. Volume 2: 3.Z.4.2. Is this sentence accurate?
   1. The web service transport implementation is specified in the IHE PCD Transactions Volumes 1 to 3.

Brian: Yes (if one includes 2x)

1. Where is the specification of the PHMR C-CDA
2. Where is the mapping from the PCD-01 ORU to the PHMR C-CDA?