

Enterprise

Inside IHE: Patient Care Device Webinar Series 2018

Presented by **Rob** Wilder Sr. Product Manager - Spok IHE PCD Planning Committee Co-Chair



Formed in 2005 to address Point-of-Care Medical Device integration issues To enable "Out of the Box", Reliable, "Functionally Interoperable" solutions Utilizing IHE and PCD open Processes and open Standards Technical Underpinnings HL7 version 2.6 baseline, with profile specific drawing upon 2.7, 2.8, and 2.8.2 IEEE 11073 Standards

10101 – Standardized Nomenclature

10201 – Standardized Information Model

Wireless Communication Transfer Protocol (WCTP) version 1.3

IHE ITI domain Consistent Time (CT) profile – Network Time Protocol (NTP)

IHE PCD Co-sponsors





Focuses on devices associated with patients, including... Patient monitors, vital signs monitors, pulse oximetry, ventilators, Infusion pumps, syringe pumps, PCA pumps, etc.

Collecting and reporting data from devices for immediate access and for retrospective storage and retrieval (EMR)

Harmonizing terminology – nomenclature, enumerations, units of measure

Getting alerts (alarms & advisories) to staff (clinicians, physicians, clinical engineers, IT, etc.) on local wireless, mobile, and desktop devices

Improving infusion order safety



Implantable Cardiac Device Observations (IDCO)

Device to Enterprise Communication (DEC) profile

Alert Communication Management (ACM) profile

Waveform support in observations and alerts (ACM and DEC)

Medical Equipment Management (MEM) with device management communication (DMC) location services (LS) and device cyber security



Point of care Infusion Verification (PIV) profile

Point of Care Identity Management (PCIM)

Infusion Pump Event Communications (IPEC) profile

Supportive efforts or resources include:

- Rosetta Terminology Management (RTM)
- Optimized Message Syntax (OMS)
- NIST Testing Tools

For more information <u>http://www.ihe.net/Patient_Care_Devices</u>

The DEC profile allows a consuming system (DOC) to receive patient clinical information including vitals, demographics, settings, and location from a reporting device/system (DOR).

The Subscribe to Patient Data (SPD) option allows the consumer



Alert Communication Management (ACM)



Point of care Infusion Verification (PIV)



Physician's Order



Nurse Review





Pharmacist Review

BCMA to Pump (PCD-03)

Pump may provide data to EMR (PCD-01)



Medication Administered



Ation stered Nurse confirms 6 Rights: •Right Patient •Right Medication •Right Dose •Right Time •Right Route •Right Device



Infusion Pump Event Communication (IPEC)

Infusion Pump Event Communication enables reporting of clinical and operational events from an infusion pump to a Bedside Computer-assisted Medication Administration (BCMA) system or EMR. Clinicians can then view and validate this information for infusion documentation.



Implantable Device – Cardiac Observation (IDCO)



Retrospective Data Query (RDQ)

Supports retrospective query of PCD data from databases. Supports Use Cases such as Clinical Decision Support, backfilling of EMR databases, etc.



Waveform Content Module (WCM)



Device Management (MEMDMC) & Location Services (MEMLS)



Do I have more inventory than I need? (And what is related maintenance cost? Replacement cost?)

Optimized Message Syntax (OMS)

Adapts IHE PCD profiles for devices that have slow legacy RS-232 serial ports

Will optimize the PCD messages to reduce their size but still maintain consistency with mainstream PCD messages.



Point of Care Identity Management (PCIM)

Ensure the Right Patient, Right Devices, Right Time Every measurement to a chart and to the right chart Every patient affecting device command sent to the correct device



NIST Testing Tools



NIST Testing Tools





2018 Update

Trends:

- Representation in the IEEE P1847 Working Group for Location Services for Healthcare
- Expansion planning with nurse call, lab results and workflow management
- Continued to work to include PCD profile items in updates to IEEE 11073.
- Domain leadership utilizes opportunities to provide comments to federal standards directives.

Summary of Future Plans:

Increase interactions with end user communities (clinicians and CE).

Include in IEEE 11073-10101b terms for observations, events, and attributes for the MEMDMC and MEMLS profiles as well as a general rollup of events and alarms.

ACM supports optional ITI mACM AR originated FHIR transactions. This permits sharing of an installed base of ACM AC actors and endpoint communication devices with mACM reporters (avoids clinician's "tool belt"). First use of FHIR within a PCD profile.

Extending MEMDMC to include remote command and control of devices in a device type agnostic generic manner, including speaking to safety and security issues. Initially a constrained set of use cases.

Promotion of MEMDMC into additional commercial CMMS/CEMS products at AAMI 2018.

Promotion of MEMLS into additional commercial RTLS products. 3 vendors now participating with 2 more considering.



Role of Device Vendors

Support the Mission of IHE PCD Become an IHE member Participate in PCD efforts Increased consistency and conformance – listen and be heard Plant the Seed Support IHE PCD Profile based Interoperability Encourage active IHE participation by vendors Request customers purchase IHE PCD compliant products **Provide IHE Integration Statements** Participate in Connectathons Promote browsing of Connectation Results and Product Registry sites Participate in Interoperability Demonstrations (HIMSS and AAMI)



Role of Device Users

Support the Mission of IHE PCD Become an IHE member Participate in PCD efforts Increased consistency and conformance – listen and be heard Plant the Seed Encourage active IHE participation by users Purchase IHE PCD compliant products Expect IHE Integration Statements from vendors Expect vendor participation in Connectathons as external verification Look for products in Connectation Results and Product Registry sites Visit Live Interoperability Demonstrations (HIMSS and AAMI) Purchase commercially available PCD profile interoperable products



Commercially Available Devices and Systems

The IHE PCD domain maintains a listing of commercially available devices and systems which have passed IHE Connectathons for PCD profiles. The list is cooperatively maintained by IHE PCD, contributing vendors, and comments from end users. This is an ever changing list that is too long to be easily presented here in its entirety.

The most recent version can be found at

<u>ftp://ftp.ihe.net/Patient Care Devices/Deployment/Commercially</u> <u>Available_PCD_Systems/</u>



Additional Resources

IHE PCD web site www.ihe.net/pcd/index.cfm

IHE PCD Wiki <u>wiki.ihe.net/index.php?title=Patient_Care_Devices</u>

Tool web sites PCD Pre-Connectathon <u>http://ihe-pcd-precon.nist.gov/PCD-HL7WebPreCon/</u> PCD Connectathon <u>http://ihe-pcd-con.nist.gov/PCD-HL7WebCon/#home.htm</u> Rosetta Terminology <u>https://rtmms.nist.gov/rtmms/index.htm</u>



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- IHE PCD <u>www.ihe.net/Patient_Care_Devices</u>
- Connectathon Results <u>http://connectathon-results.ihe.net</u>



Summary - Patient Care Device (PCD) Domain

Device to Enterprise Communication (DEC) profile Alert Communication Management (ACM) profile Point of care Infusion Verification (PIV) profile Infusion Pump Event Communications (IPEC) profile Implantable Device – Cardiac Observation (IDCO) profile Retrospective Data Query (RDQ) profile Medical Equipment Management (MEM) **Device Management Communication (MEMDMC) profile** Location Services (MEMLS) profile Rosetta Terminology Management (RTM) Waveform Content Module (WCM) Optimized Message Syntax (OMS) **NIST Testing Tools**