2022 Board Report: IHE Patient Care Coordination Domain

Sponsors:

- Health Information Management Systems Society (HIMSS)
- American College of Physicians (ACP)

Leadership:

- Secretariat: Sarah Bell, HIMSS (sarah.bell@himss.org)
- Board Representative: Tone Southerland, Kno2
- Technical Committee Co-chair: Andrea Fourquet, eHealthSign
- Planning Committee Co-chair: Kendra Wyatt

Membership Rosters:

- Combined Planning and Technical Committee Roster

Vision and Mission Statements

- IHE Patient Care Coordination (PCC) domain was established in July 2005 to deal with integration issues that cross providers, patient problems or time. It deals with general clinical care aspects such as document exchange, order processing, and coordination with other specialty domains. PCC also addresses workflows that are common to multiple specialty areas and the integration needs of specialty areas that do not have a separate domain within IHE.
- The **Vision** of PCC is to continually improve patient outcomes through the use of technology connecting patients and their care providers across healthcare disciplines and care paths.
- The **Mission** of PCC is to develop and maintain interoperability profiles to support coordination of care for patients where care crosses providers, patient conditions, and health concerns.

Activity:

PCC and QRPH are meeting jointly, but still submitting separate board reports.

2022 Planned Activity

- Current Cycle Timeline/Milestones: Timelines and milestones are managed directly in the pcctech@googlegroups.com and pccplan@googlegroups.com. The IHE wiki is updated periodically with PCC timelines, milestones, and accomplishments.
- Profile Maintenance
    - Paramedicine Care Summary (PCS) and Routine Interfacility Patient Transport (RIPT) will be converted and built as part of IG publisher (in IHE/PCC Github). These profiles will be linked in the new http://profiles.ihe.net web page.
    - Review all PCC Profiles and propose those appropriate for deprecation.
- New Profile Work (including planned updates to existing profiles)
    - 360x Closed Loop Referral Profile Family additions: leverage existing 360x protocols to add new use cases

        - Change Proposals: 360x has Change Proposals to further clarify that 360x is an international profile, adding facility information, adding insurance information, and adding FHIR scheduling as a named option. The FHIR scheduling additions are dependent on ongoing work in the ITI domain.

        - New Profile – 360XLE: Long term care to emergency department transfer, arising out of disproportionate mortality rates to the elderly residing in SNFs as a result of the COVID-19 pandemic.

        - New Profile – 360XSD: Social determinants of health (SDOH) referrals

    - Antepartum Summary (APS) Profile and Postpartum Visit Summary (PPVS) major updates, to include FHIR R4 and revision of use cases to align more broadly with maternal care workflows.

    - Maternal health white paper focused on prevention of maternal death, and response to request for comments on US ONC Draft USCDI v3 dataset (https://www.healthit.gov/isa/united-states-core-data-interoperability-uscdi#draft-uscdi-v3).

2021 Activity

- New Profile Activity
    - A brief proposal for updates to the Antepartum Summary (APS) Profile and Postpartum Visit Summary (PPVS) was presented and accepted.
    - A work item proposal for a maternal health white paper was presented to investigate maternal death occurrences and understand what additional data elements need to be collected to address. Another outcome of this white paper effort will be to respond to request for comments from the US ONC for Draft USCDI v3
- Profile Maintenance Activity
    - EMS PCS and EMS RIPT were updated so that IPS can properly reference
    - PCC has added content and links on the https://profiles.ihe.net web page, including focused topics for Emergency Medical Services and Maternal Health
    - A total of 9 change proposals were opened in 2021 covering the following profiles: PCS, RIPT, IPS, 360x, DCTM, QEDm, PCC-TF (data elements, FHIR, actor names)

Most Significant Profiles:

PCC's most significant and most recently tested profiles are listed below. Note: this report does not contain the full historical view of profiles tested within the PCC domain. For that information, please reference previous Board reports. The intention is to show recent and relevant testing activity in the PCC domain (or lack thereof).

PCC Profiles were only tested at the IHE North America and European Connectathons in 2021. Testing numbers are significantly lower than in years past, indicating a lack of interest in new testing of many PCC Profiles. This could be due to a number of reasons including (but not limited to): mismatch of product market fit for PCC Profiles, expense and commitment required to participate in an IHE Connectathon, and/or maturity of PCC Profiles no longer requiring extensive testing. Virtual Connectathons may have also had an impact on ability of systems to participate in testing.

Additionally, IHE Product Registry entries seem to have declined significantly. It is unclear why this is happening, whether it is due to companies removing their entries or cleaning up of the database by website owners, or some other reason.

Title	# vendor (Cthon)	# product (Registry)	Description	Significance
QEDm	7	1	Query for Existing Data Mobile (FHIR)	FHIR-based profile that aligns with requirements in US law; aligns with FHIR industry adoption
XDS-MS	5	2	Medical Summary (CDA document)	Long-standing profile used in production systems
360x	4	1	Closed Loop Referral	Aligns with use of Direct Messaging in US
IPS	4	0	International Patient Summary (FHIR or CDA)	New profile aligning with HL7 and SEN – testing only in EU. IPS is anticipated to be test in other regions as well (US, CA)
LDS	2	0	Labor and Delivery Summary (CDA)	Long-standing profile used in production systems
XPHR	2	unknown	Personal Health Record (CDA)	Long-standing profile used in production systems
CCDA 2.1 Care Plan[1]	2	N/A		
CCDA 2.1 CCD[2]	2	N/A		
CCDA 2.1 Document Consumers[2]	4	N/A		
CCDA 2.1 Discharge Summary[2]	1	N/A		
CCDA 2.1 History and Physical[2]	1	N/A		
CCDA 2.1 Operative Note[2]	1	N/A		
CCDA 2.1 Progress Note[2]	1	N/A		
CCDA 2.1 Referral Note[2]	2	N/A		
CCDA 2.1 Unstructured Document[2]	1	N/A		

Significant Deployment Activity:

[1] CCDA 2.1 arose from the Health Story Project which based many of its CDA templates on PCC templates. While these tests are US-specific, as there is an international base using IHE PCC templates it feels appropriate to include as part of this report.

As stated in the previous Board report, PCC is not regularly made aware of deployment activities and could still benefit from a broader effort to collect IHE deployment information. One avenue for this could be through additional partnership and collaboration with IHE Regional Deployment Domains.

Region	Organization Name	Profiles	Status (planning, installation, operational)	Contact	Year
Canada	Canada Health Infoway	pan-Canadian Patient Summary (based directly on IPS)	planning	https://infoscribe.infoway-inforoute.ca/display/PCI/PS-CA+Release+Information	2022
United States	Epic, Kno2, Netsmart, eClinicalWorks	360x	operational	https://epic.com https://kno2.com https://ntst.com https://www.eclinicalworks.com/	2021
France	ASIP Santé	APS, LDHP, LDS, MDS, IC, RCK, DCTM	operational	ASIP Santé http://esante.gouv.fr/en	2020+
Italy	Arsenal IT	XDS-MS, XBeR-WD, XTB-WS	operational	Arsenal IT http://www.consorzioarsenal.it/web/guest	2016
United States	North Carolina Health Information Exchange (NCHICA)	XDS-MS	installation	http://nchica.org/	2008
United States	Keystone Health Information Exchange (KeyHIE)	XPHR, XDS-MS	operational	Geisenger Health System http://www.keyhie.org/	
United States	Health Information Exchange of New York (HIXNY)	XPHR, XDS-MS	operational	NYeC RHIO http://hixny.org/	
United States	Greater Rochester RHIO (GRRHIO)	XPHR	operational	NYeC RHIO http://www.grrhio.org/	
United States	San Diego County Immunization Registry	IC	operational	https://www.sandiegoimmunizationregistry.org/sdir_home.htm	
Thailand	Bumrungrad Hospital	PPOC	operational	https://www.bumrungrad.com/en	

2021 Demonstrations and Other Events:

- HIMSS 2021 Interoperability Showcase, Las Vegas, NV
    - Labor and Delivery Summary (LDS)

    - CDA Occupational Data Options
    - 360 Exchange Closed Loop Referral (360x)
- ONC Annual Meeting, Washington DC
    - 360 Exchange Closed Loop Referral (360x)

New Profiles:

- No new PCC Profiles were published in 2021.

Trends:

- IPS has seen some testing in the EU Connectathon and was also used as the base Profile for PCS and RIPT Profiles. This profile represents cross-domain and cross-organization standards work that responded to the concern raised in recent past years regarding a lack of harmonization across SDOs around clinical content standards.
- IPS has been used as the base profile for the pan-Canadian Patient Summary (PS-CA) initiative led by Canada Health Infoway and is planned for release in March/April of 2022. The specification is based entirely on the IPS Profile and includes a reference architecture based on a FHIR-enabled IHE infrastructure to support PS-CA. This is Canada's first Projectathon and is using Gazelle and fully supported by IHE Catalyst.
- A cross-SDO initiative called "The International Patient Summary key health data, worldwide" has been created out of the IPS work consisting of HL7, IHE, SNOMED, CEN, and ISO representation. https://international-patient-summary.net/
- As indicated previously in this report, there is a renewed interest in maternal health use cases which could lead to additional opportunities with use of maternal health profiles as part of IHE Regional Deployment domains.
    - Maternal health white paper joint effort with QRPH
    - Maternal health elements in IHE profiles to be used in USCDI
    - Major updates to APS and PPVS
- There is an initiative as part of the World Health Organization focused on SMART Guidelines for Antenatal Care (https://www.who.int/publications/i/item/9789240020306). HL7 has published an Implementation Guide (https://build.fhir.org/ig/WorldHealthOrganization/smart-anc/documentation.html) to align with this initiative. These topics may be relevant to the APS and PPVS Profile updates and maternal health white paper work items planned for 2022.
- PCC and QRPH are meeting jointly on a regular and ongoing basis to conserve administrative resources and increase efficiencies of cross-domain work collaboration. This is anticipated to continue into the foreseeable future.
- There is continued interest in EMS based profiles despite funding challenges across the industry. PCC hopes to see increased funding and/or reimbursement opportunities from governments and/or regional initiatives to drive forward adoption of these Profiles. IHE USA has noted that EMS encounter elements are missing in previous versions of USCDI.

- As indicated above in this report, the use of the IHE Product Registry tool seems to be waning, at least for PCC. It is not clear why this is happening, but PCC has concerns that its stakeholders cannot easily discover which health IT systems support its Profiles in production settings.
- While updates or additions to the family of PCC FHIR-based Profiles did not occur, a noteworthy CP was processed to include metadata mapping to now support FHIR documents alongside CDA documents in exchange scenarios. FHIR Documents have been long profiled in PCC (and IHE), this work is continued clarification along these lines.
- Mapping efforts between CDA and FHIR continues to occur, however there are still broad challenges when converting implementations from one standard to another (i.e., CDA to FHIR) in terms of data fidelity loss/gain, vendor adoption, and overall data quality.
- Many PCC Profiles, National Extensions, and White Papers need to be reviewed for deprecation. If these artifacts are still relevant, they may need to be reassigned to an appropriate status (i.e., TI to FT). An initial effort into this is to retire/deprecate the DAF National Extension.

Summary of Future Plans:

- PCC desires to "clean up" its existing Profiles, National Extensions, and White Papers by deprecating those publications that are out of date or no longer used, and by moving appropriate publications to Final Text status. However, PCC struggles to retain required levels of volunteer commitment with the right expertise to assist with these efforts. Such maintenance and clean up activity requires individuals with specific standards experience and a level of technical experience as well.
- PCC is interested in pursuing conversion of its Final Text Technical Framework to HTML but lacks resources to complete the conversion.