IHE Work Item Proposal (Short)

# Proposed Work Item: Patient Registration Content Profile

# (Data Elements Update in IHE ITI PIX/PDQ Integration Profiles)

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Domain: Patient Care Coordination (PCC)

# The Problem

Patient matching continues to be an issue for successful interoperability. The cost for incorrect patient matching continues to grow**.[[1]](#footnote-1)**

Patient matching relies on proper registration of the patient in the healthcare facility. Patient Registration is the process of checking-in a person to initiate the episode of care. Today, there is no standardized approach for patient registration across various healthcare facilities. There is a lack of available, consistent and complete data elements in the patient registration process.

The lack of reliable data elements compromise the efforts of information managers involved in the patient registration process. The inconsistencies in the selection and uses of data elements results in gaps and omissions in the data captured. The lack of uniform and reliable data elements creates an interoperability and patient matching roadblock in the patient registration process, which in turn directly impacts data quality across the healthcare continuum.

Patient registration must have a standardized list of data elements to be collected to enable patient identification and patient record matching in the documentation generated within the episode of care.

For interoperability to be successful, standardized patient registration content must be used by all healthcare organizations during the registration process.

# Key Use Case

The American Heath Information Management Association (AHIMA) has been working on the Patient Registration Use Case standard, [[2]](#footnote-2)  where 17 patient registration scenarios have been identified across emergency department (ED), outpatient, and inpatient settings (Attachment 1).

In the IHE Patient Registration Content Profile, we propose to focus on the following two scenarios in ED setting:

1. Registration of Walk-in/Patient Presentation in ED
2. Registration Initiated/Conducted by Clinicians

Attachments 2 and 3 present the use case description for scenario 1 and its workflow diagram, respectively.

The following information is collected for patient registration:

Patient Registration Information

1. Patient/guardian demographics (e.g., name, DoB, address, etc.)
2. Visit demographics (enterprise medical record number, date/time of encounter, reason for visit, list of barcodes, etc.),
3. Physician demographics (name, PID, department/service, etc.)
4. Reason for visit
5. Consent for visit
6. Consent for information sharing
7. eSignature for Registration Staff
8. Wristband (patient ID bracelet with barcodes)

Risk Management/Infection Control/Public Health/ Population Health Information

1. Have you been out of the country in the last three weeks?

Insurance information

1. Payor demographic
2. Insurance ID
3. Coverage
4. Co-pay
5. eSignature for Insurance Verifier

Payment information

1. Invoice for service
2. Payment receipt
3. Payment plan, if needed
4. Payment type (cash, check, credit card)
5. eSignature for Billing Staff

Notification of Record Availability

Acknowledgement of Receipt

Audit Record: Who, When, Why, What

We anticipate developing this Content Profile using content standardization tools such as Art Décor, MDHT or other.

# Standards & Systems

The following standards will be used to build the content for patient registration process.

* IHE PIX/PDQ
* IHE XDW
* HL7 Version 2.3.1 Chapter 2 – Control, Chapter 3 – Patient Administration[[3]](#footnote-3)
* HL7 C-CDA
* HL7 FHIR
* Others (to be determined)

The following systems are used for patient registration:

* registration- admission, discharge, transfer (R-ADT) System
* health information system (HIS)
* financial system
* payor system
* electronic health record (EHR)
* electronic data management system (EDMS)
* health information exchange (HIE)
* personal health record (PHR)
* mobile health (mHealth) app

# Discussion

Patient registration is the first function in the episode of care following by triage, assessment, diagnosis and care plan, testing, medication management, and discharge. This profile will help establish proper patient and record information for the overall episode of care. It will also add to IHE content profile family the invaluable content to start the encounter. That is why the new content profile that initiates the episode of care is a value addition to the family of IHE profiles.

This content profile is based on the data set defined by IHE PIX/PDQ integration profile. Therefore, it will enhance PIX/PDQ deployment capabilities across healthcare organizations.

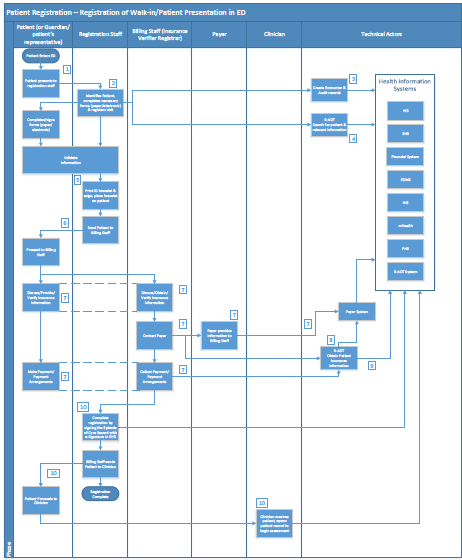
Attachment 1: List of scenarios that involve patient registration within the episode of care by healthcare settings[[4]](#footnote-4)

1. Emergency department visit:
2. Registration of walk-in/patient presentation in ED
3. Registration initiated/conducted by clinicians
4. Registration for diagnostic testing during ED stay
5. Registration for medication administration
6. Registration for pre-admission of patients into the hospital
7. Registration for follow-up care
8. In-patient setting visit (hospitals, clinics and other):
   1. Registration for planned admission
   2. Registration for diagnostic testing during hospital stay
   3. Registration for medication administration
   4. Registration for treatment during hospital stay
   5. Registration/Scheduling for post acute care follow-up
9. Out-patient setting visit:
10. Registration for walk-in/patient presentation
11. Registration/Scheduling for planned visit
12. Registration/Scheduling for diagnostic testing
    1. during the visit
    2. after the visit
13. Registration/Scheduling for treatment
    * 1. during the visit
      2. after the visit
14. Registration for medication administration
15. Registration for post-visit follow-up

Attachment 2: Use Case Description Table[[5]](#footnote-5)

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Use Case Name: Registration of Walk-in/Patient Presentation in ED** | | | | |
| Actors | | **Business Actors**: Patient (or Guardian/patient’s representative), Registration staff, Billing staff (Insurance verifier registrar), Payor, Clinician | | |
|  | | |
| **Technical Actors**: R-ADT System, HIS, Financial System, Payor System, EHR, EDMS, HIE, PHR, mHealth app | | |
| # of Step | | Workflow Steps | | Information Items Examples  (Record, Documents, Data Sets, Codes) |
| 1 | Patient enters into ED and presents to the Registration staff | | | Episode of Care Record:  Patient Registration Information   1. Patient/guardian demographics (e.g.,name, DoB, address) 2. Visit demographics (e.g., enterprise medical record number, date/time of encounter, reason for visit, list of barcodes, etc.), 3. Physician demographics (name, PID, department/service 4. Reason for visit 5. Consent for visit 6. Consent for information sharing 7. eSignature for Registration Staff 8. Wristband (patient ID bracelet)   Risk Management (RM)/Infection Control (IC)/ Public Health/ Population Health (PH) information  Audit record: Who, When, Why, Wh**a**t | |
| 2 | Registration staff identifies patient, asks patient to complete necessary forms (paper or electronic), and checks in the visit in R-ADT System. Refer to Pt Matching Use Case as described in DG9  In the case of “trauma/unidentified patient”, registration staff assigns a tag with the ID number to be used in the episode of care. | | |
| 3 | HIS creates an audit record of the encounter | | |
| 4 | R-ADT System searches and obtains patient and visit-relevant information from HIS, EHR, Financial Systems, EDMS, HIE, mHealth app, PHR | | |
| 5 | Registration staff validates patient information, prints ID bracelet and correspondent labels with barcodes for the patient, and signs the record with e-signature. | | |
| 6 | Registration staff sends patient to Insurance verifier registrar. Insurance verification may be done by the Registration staff. | | | Insurance information:   1. Payor demographic 2. Insurance ID 3. Coverage 4. Co-pay 5. eSignature for Insurance Verifier   Payment information:  1. Invoice for service  2. Payment receipt  3. Payment plan, if needed  4. Payment type  4. eSignature for Billing Staff | |
| 7 | Insurance verifier registrar verifies patient insurance information; contacts payor, if needed; and requests/collects co-pay or makes payment arrangements | | |
| 8 | R-ADT System communicates with the payor system directly or via HIE to obtain patient insurance information. Patient information is updated in the Financial System | | |
| 9 | R-ADT System updates patient information in PHR via mHealth app | | | Updated Patient Registration Information | |
| 10 | Registration staff completes the registration by signing the Episode of Care Record with e-Signature in EHR. This may be done automatically when the staff completes the record (all data are entered and verified) and closes the registration record for this patient. Staff sends patient to clinician for assessment. Clinician opens patient record to begin assessment and sends the acknowledgement of receipt. | | | Episode of Care Record  eSignature for Registration Staff  Notification of Record Availability  RM/IC/PH Notification to Care Team  Acknowledgement of Receipt | |
| 11 | Registration information is uploaded into EHR. EHR sends Notification of Record Availability to clinician. | | | Episode of Care Record  Notification of Record Availability | |
| 12 | EHR sends back to the R-ADT the Acknowledgement of receipt. | | | Acknowledgement of Receipt | |
| 13 | Audit trail for the personnel and systems involved in patient registration is completed in HIS | | | Audit Record: Who, When, Why, What | |
| Entry Condition | | | R-ADT System | |
| Exit Condition | | | HIS with record for assessment function and with audit trail record | |
| Quality Requirements | | | Real time patient information verification | |

Attachment 3: Workflow Diagram: Registration of Walk-in/Patient Presentation in ED



1. Office of the National Coordinator for Health Information Technology. Patient Identification and Matching. Final Report. February 7, 2014. URL: https://www.healthit.gov/sites/default/files/patient\_identification\_matching\_final\_report.pdf [↑](#footnote-ref-1)
2. The American Heath Information Management Association (AHIMA). Draft Specification of Checklists and Use Cases for Information Management Practices in Healthcare. 2016. URL: http://wiki.ihe.net/index.php/HIT\_Standards\_for\_HIM\_Practices-2016#Project\_Description [↑](#footnote-ref-2)
3. Health Level Seven. HL7 Messaging Standard Version 2.3.1: Section 3: Clinical and Administrative Domains. 2013. URL: <http://www.hl7.org/implement/standards/product_brief.cfm?product_id=141> [↑](#footnote-ref-3)
4. The American Heath Information Management Association (AHIMA). Draft Specification of Checklists and Use Cases for Information Management Practices in Healthcare. 2016. URL: http://wiki.ihe.net/index.php/HIT\_Standards\_for\_HIM\_Practices-2016#Project\_Description [↑](#footnote-ref-4)
5. The American Heath Information Management Association (AHIMA). Draft Specification of Checklists and Use Cases for Information Management Practices in Healthcare. 2016. URL: http://wiki.ihe.net/index.php/HIT\_Standards\_for\_HIM\_Practices-2016#Project\_Description [↑](#footnote-ref-5)