AHIMA Standards Task Force

HIM Practice Standards Project

Specification of Use Cases for

Information Management Practices in Healthcare:

Patient Registration Use Case

Chicago, Illinois, USA

2016

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AHIMA Standards Task Force Members 2016 – To Be Updated

| **Name** | **Affiliation** |
| --- | --- |
| Kathleen Addison | Alberta Health Services |
| Linda Bailey-Woods | Plante Moran |
| DeShawna Hill-Burns | Advocate Trinity Hospital |
| Carlyn Doyle | Multnomah County Department of Assets |
| Susan Clark | eHealthcare Consulting |
| Alane Combs | Coastal Healthcare |
| Vicki Delgado | Kindred Hospital Albuquerque |
| Robert Giannini | ECRI Institute PSO |
| Elisa Gorton | St. Vincent's Medical Center |
| Darice Grzybowski | H.I. Mentors, LLC |
| Aaron Haskett | Sutter Health |
| Beth Horn | Chapa-De Indian Health Services |
| Sandra Huyck | Beaumont Health System |
| Theresa Jones | Resurrection University |
| Satyendra Kaith | Kaplan Higher Education Group |
| Robin Keeney | VHC, Inc. |
| Katherine Lusk | Dallas Children’s Medical Center |
| Susan Lucci | Just Associates |
| Jennifer Manahan | Via Christi Clinic, PA |
| Marcia Matthias | Southern Illinois Healthcare |
| Tabitha McDaniel | Nuance Communications |
| Lori McNeil Tolley | Boston Children's Hospital |
| Sharon Meyer | Ministry Health Care |
| Nicole Miller | Miller And Miller Associates |
| Neysa Noreen | Children's Hospitals and Clinics of Minnesota |
| Sandra Nunn | KAMC Consulting |
| Michael Nusbaum | M.H. Nusbaum & Associates Ltd. |
| Teri Phillips | HSHS St Anthony’s Memorial Hospital |
| William Reisbick | William B Reisbick, Esq |
| Deana Stillar | Alberta Health Services |
| Christine Taylor | University of Washington Medicine |
| DeAnn Tucker | Owensboro Health |
| Christine Watts | University of Chicago Medicine |
| Traci Waugh | North Valley Hospital |
| Valerie Wilson | HCA Information Technology Services |
| Lee Wise | Summit Medical Center |
| Donna Young | Memorial Hospital of Carbondale |
| **AHIMA Staff** | |
| Dr. Anna Orlova | Senior Director, Standards |
| Harry Rhodes | Director, National Standards |
| Diana Warner | Director, HIM Practice Excellence |

# Synopsis

## Overview

This document specifies the AHIMA Use Case for Patient Registration in Healthcare Organizations (Patient Registration Use Case, Use Case). The Use Case is developed as a continuation of the AHIMA efforts for specifying health information management (HIM) practices to guide the development of health information technology (HIT) standards for information sharing in healthcare. The AHIMA effort of standardization of information management in healthcare started in 2015 as described in the White Paper entitled *HIT Standards for HIM Practices*.[[1]](#footnote-1) The White Paper was developed by AHIMA in collaboration with the Integrating the Healthcare Enterprise (IHE) - a collaborative of HIT vendors and professional associations aimed to developed interoperability standards.

The AHIMA Patient Registration Use Case is one of the series AHIMA use cases developed to guide standardization of both HIM practices and HIT products in healthcare. Table 1 presents the list of the current and future AHIMA Use Cases. Please note that 2015-2016 lists do not reflect all possible HIM practice use cases. The use cases listed in Table 1 were selected as examples by the AHIMA Standards Task Force. The Task Force has been working on identifying a comprehensive list of HIM practice use cases in the context of clinical care workflow depicted on Figure 1. In addition, the Task Force has been also working on developing the methodology to prioritize the use cases for the development of HIT standards supporting HIM practices.

Table 1. HIM Checklists and Use Cases for HIT Standards

|  |  |
| --- | --- |
| Use Cases for HIT Standards | |
| 2015 AHIMA-IHE White Paper | 2016 AHIMA Specifications |
| 1. All documents in the episode of care record are accounted for 2. Episode of care record is complete and closed 3. Release of Information (ROI) to external requestor 4. Audit for the episode of care record 5. Audit for the ROI | 1. Patient registration 2. Record and data quality 3. Copy and paste 4. Patient matching 5. Transition of care |

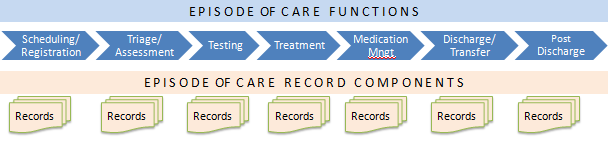
Specifications of Use Cases is a part of the collaborative informatics-based approach for translating HIM practices into HIT standards that was deployed in the 2015 AHIMA-IHE White Paper.

## Target Audience

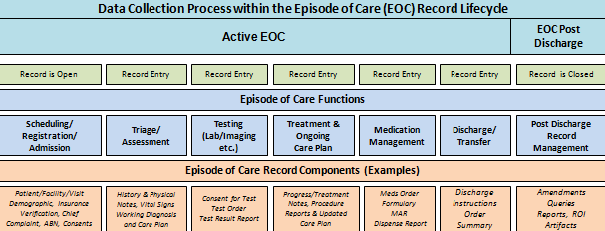
This specification is targeted to

1. Organizations (e.g. healthcare organizations, public health agencies, payers/insurance companies, academia) involved in origination, management, and use of healthcare data
2. Health professionals that originate, manage, and use healthcare data
3. Implementers - organization’s staff involved in implementation of HIT Systems
4. HIT vendors and consultants involved in the design, development and implementation of HIT systems
5. Health information exchange (HIE) entities that collect, manage, and exchange data
6. Standards developers at various standards development organizations (SDOs)
7. Consumers (e.g. patients, care givers, employees, employers) involved in creation, management, and use of healthcare data and
8. Educators involved in HIT, HIM and informatics training.

In 2016, we are focusing on target audiences #1 through #6.



**a**



**b**

Figure 1. Clinical Workflow - Episode of Care (EOC) Functions and Records:

**a**-high level view; **b**-detailed view of the record life cycle with examples of EOC Components[[2]](#footnote-2)

## Scope

This AHIMA Use Case specification standards cover all health information (clinical, financial and operational), on all media and formats, created by a healthcare organization in its enterprise information management system. This includes legal health records and information contributed by patients.

## Development Process

The Patient Registration Use Case has been developed based on the functional requirement analysis[[3]](#footnote-3) as well as literature review of the best HIM practices related to documentation management.

First, we developed a Use Case description specifying

(a) **actors** - business (personas, people) and technical (information systems) - and their roles in the use case

(b) **actions (functional requirements)**  - workflow steps, documents/records/data types by each step (data flow), and the role of actors in each step

(c) **the boundaries** of the use case (start-end) by specifying entry and exit conditions, and

(d) **non-functional requirements** (quality, etc.)

Use Cases were presented in the tabular format[[4]](#footnote-4) and accompanied by the Unified Modeling Language (UML) sequence diagram.[[5]](#footnote-5)

Please note that we used two terms for the actors in the Use Cases:

* Business actors (people: HIM professionals, clinicians, patients, and other) and
* Technical actors (information systems: EHR, PHR, mHealth, and other).

This separation between business and technical actors is important to align the roles of HIM professionals (business actors) specified in the Use Cases with the information system functions (collect, manage, integrate, analyze data and generate reports) performed by technical actors. Specification of activities performed by the business actors (HIM professionals) and technical actors (information systems) in the same use case allows aligning the business needs with the applicable technical actors from the IHE interoperability standards, e.g., Content Creator (information systems that acts as information creator and sender) and Content Consumer (information systems that acts as information receiver) and others.

The AHIMA Use Case serves as a foundation for the IHE Patient Registration Content Profile (to be developed in the IHE 2017 development cycle).

## References

References to the HIM and other materials used in the specification are presented in the footnotes. They include examples of HIM practice documentation (operational procedures) and samples of respective documents/records/data types from healthcare organizations, published sources, and other.

## Use Case Specification Format

The AHIMA Use Case and Practice Checklist specification consists of the following sub-sections:

**Use Case: *<Name>***

Overview

Problem Description

Solutions: Use Case Scenario(s)

Scope

Actors (Business, Technical)

Use Case Description

* Name
* List of Actors
* List of Workflow Steps
* Information Items (Documents/Records/Data) by Actor, by Workflow Step
* Entry and Exit Conditions
* Non-functional Requirements

UML Workflow and Dataflow Diagram (Sequence Diagram)

Data Specifications

# Patient Registration Use Case

## Overview

Patient Registration is the **process** of checking-in a person to initiate the episode of care. Patient registration takes place in various healthcare settings and at the various functions of the episode of care (Figure 1). Patient registration can be done by patient and/or by the designated (authorized, legal) patient’s representative (guardian) (parent, caregiver, decision-maker, etc.). In some cases pre-registration may take place prior to the actual registration process at the healthcare organization. This may happen as a part of scheduling a procedure during the episode of care, a follow-up visit, etc..

Registration department (or Patient Access or Admitting departments, or Call Centers, or Online Scheduling Services) is responsible for management of patient registration activities. In some situations for an unknown patient [e.g., trauma unknown patient, unconscious patient, patient with acute condition (stroke, heart attack), child who was brought up to the emergency department without a representative], patient registration can be conducted by other authorized staff, e.g., clinicians. During the patient registration, insurance verification and pre-authorization may take place. In this case, insurance verifier is involved in verifying payment information as a part of the patient registration process. Please see Business Actor list below.

The patient or patient’s representative (guardian) provides registration information to the registration staff verbally, via facility registration portal/kiosk, or phone interview. Data collected during the registration process include those provided by the patient or patient’s representative (guardian) as well as received/uploaded from the various data sources, e.g., Electronic Health Record (EHR) systems, payor systems, Health Information Exchanges (HIE) and other (please see Technical Actor list below).

Information collected at the registration initiates the creation of a new episode of care record. This information will be further used at the next functions of the episode of care (triage/assessment, testing, treatment, medication management and discharge/transfer). Figure 2 presents Patient Registration Use Case in the overall context of Episode of Care’s functions and record components generated at a specific function in the process of care. [[6]](#footnote-6)

Specific **information** collected during registration includes:

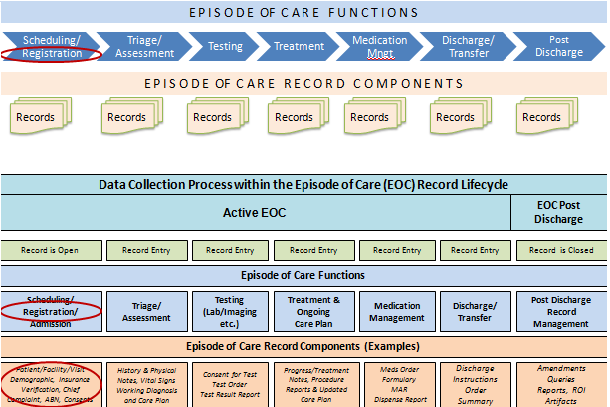
Generated by Business Actors

1. Demographics (Patient, Facility, Provider, Payor/Guarantor and Episode of Care)
2. Chief complaint/reason for visit (medical necessity)
3. Insurance information including billing data from the payors and remittance, as appropriate
4. Payment information (charge capture)
5. Physician order (for in-inpatient registration scenarios)
6. Consents

Generated by Technical Actors

1. Notification of document svailability
2. Acknowledgement of receipt
3. Audit record (Who, When, Why, How information was obtained and released) created in the information systems

This information is to be input into the Registration–Admission, Discharge, and Transfer (R-ADT) System as well as other health information systems (HIS) as appropriate (please see Technical Actor list below). Use Case description below shows how specific information from the list above is generated by the workflow step. Detail list of data elements by information category is provided in Data Specification section below.

Figure 2. Patient Registration in the Episode of Care

Specific **actions** conducted by the registration and insurance verification staff include:

1. Activation or the Episode of Care (EOC) record
2. Demographic information collection, verification and correction as needed
3. Data capture (input) and information retrieval (access) from various sources
4. Information reconciliation, validation and verification including patient identity matching (master patient index (MPI) management, census reconciliation)
5. Concurrent analysis, queries and responses to ensure record correctness and completeness including final scrubbing, editing, cleansing, and adjustments
6. Preparation for the coding and abstracting
7. Preparation for record archival
8. Establishing of the audit trail record for the episode of care
9. Electronic signing/authentication of registration record and
10. Release (or transfer) of information (output) to the next function of the episode of care, e.g. triage/assessment

## Problem Description

Problems with Patient Registration can be classified into two categories: 1- Record/Data Quality and 2-Information Access as described below.

|  |
| --- |
| **Record/Data Quality** |
| Insufficient information accuracy to support other functions in the episode of care   * 1. Inaccurate patient ID information   Error in data entered[[7]](#footnote-7)  Redundant information, which causes the inability to determine current information, i.e. “field of noise”[[8]](#footnote-8) (see “redundant information” also below). |
| Lack of clinical documentation, e.g.   * 1. Missing medical records from the previous encounters   Refusal to sign consent  Inability to obtain advanced beneficiary notice (ABN)  Inability to obtain prior authorization from payer  Missing orders for encounter/procedure/test/treatment  Missing adequate content in the physician’s order (e.g., admitting diagnosis, reason for visit on the orders) |
| 1. Lack of provider identification or contact information    1. Patient does not remember his provider    2. Patient does not have contact information for his provider |
| **Information Access** |
| Inability to get information about the unknown patient (e.g., trauma unknown patient, unconscious patient, patient with acute condition (stroke, heart attack), child who was brought up to the emergency department without a representative) |
| 1. Lack of information access from various sources to support patient registration |
| 1. Redundant information may restrict efficient access to critically need clinical information |

## Solutions: Use Case Scenarios

The following is the list of scenarios that involve patient registration:

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

## Scope

In 2016, we will focus on the following Patient registration scenarios:

* + - 1. Emergency department visit:
  1. Registration of walk-in/patient presentation in ED
  2. Registration initiated/conducted by clinicians

These two scenarios were selected from the 17 Patient Registration scenarios above because of the following reasons:

**Scenario 1** represents the generic example of patient registration/checking-in across various settings.

**Scenario** 2 describes the life-threatening situation that often occurs in the ED.

Use cases for the remaining 15 scenarios will be developed in the future.

## Actors (Business and Technical)

The following are the actors involved in the Patient Registration Use Case

|  |  |
| --- | --- |
| **Actors** | **Description of the Role in the Use Case** |
| **Business Actors** | |
| Patient or guardian (patient’s representative) | Individual and/or his legal representative who are seeking healthcare |
| Registration staff | Staff responsible for registering patients[[9]](#footnote-9) |
| Billing staff | Staff responsible for generating a bill for healthcare services performed. This includes Insurance Verifier Registrar, who verifies patient insurance information and communicates with the payor |
| Payor | Entities involved in paying for medical care |
| Clinician[[10]](#footnote-10) | Clinician who receives patient registration information to conduct assessment |
| **Technical Actors** | |
| Registration–Admission, Discharge, and Transfer (R-ADT) System | An administrative information system that stores demographic information and performs functions related to registration, admission, discharge, and transfer of patients within the organization[[11]](#footnote-11) |
| Electronic Health Record (EHR) System | An information system that ensures the longitudinal collection of electronic health information for and about persons; enables immediate electronic access to person- and population-level information by authorized users; provides knowledge and decision support that enhances the quality, safety, and efficiency of patient care; and supports efficient processes for healthcare deliver.[[12]](#footnote-12) These include EMR, EPR, CPR systems (see Glossary section for the definitions). |
| Health Information System (HIS) | Information system that supports healthcare delivery within a healthcare organization. It includes R-ADT, EHR, laboratory, radiology, pharmacy, financial, administrative and other information systems. |
| Electronic Document Management System (EDMS) | Software consisting of many component technologies that enable healthcare businesses to use documents to achieve significant improvements in work processes[[13]](#footnote-13) |
| Financial System | Information system used by a healthcare organization to perform administrative and financial transactions associated with healthcare delivery |
| Payor System | Information system used by health plans to manage administrative and financial functions associated with the coverage and financing of healthcare for individuals enrolled in the health plan (health plan members). These functions manage information regarding the individual’s enrollment, eligibility, coverage and benefits, authorizations, claims, care coordination and other information related to the member |
| Personal Health Record (PHR) System | Information system used to create, review, annotate and maintain records by the patient or the caregiver for a patient. The PHR may include medications, medical problems, allergies, vaccination history, test results, visit history or communications with healthcare providers |
| Health Information Exchange (HIE) | An infrastructure to support information exchange between information exchange participants |
| Mobile Health (mHealth) Application | mHealth application (apps), i.e. portable device including but not limited to mobile phones, Personal Digital Assistants (PDAs) and other, that enables access to patient information across various information systems |

## Use Case Description

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Use Case Name: Registration of Walk-in/Patient Presentation in ED**  *Italic font and grey highlights indicate steps performed/data created by Technical Actors* | | | | |
| 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  (Documents/Records/Data) |
| 1 | Patient enters into ED and presents to the Registration staff | | | Patient Registration Record   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/register the visit in R-ADT System. 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 various systems (HIS, EHR, Financial Systems, EDMS, HIE, PHR, mHealth app)* | | |
| 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. eSignature for Billing Staff  *Audit record: Who, When, Why, Wh****a****t* | |
| 7 | Insurance verifier registrar verifies patient insurance information; contacts payor, if needed; and requests/collects co-pay or makes payment arrangements – Need to be developed at more granular lavel | | |
| *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 Record  *Audit record: Who, When, Why, Wh****a****t* | |
| 10 | Registration staff assembles all documents necessary for the episode of care and 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. | | | Updated Patient Registration Record  eSignature for Registration Staff  Notification of Record Availability  including notification to Care Team  Acknowledgement of Receipt | |
| *11* | *Registration information is uploaded into EHR. EHR sends Notification of Record Availability to clinician.* | | | *Updated Patient Registration 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 | |

## UML Workflow and Dataflow Diagram

Figure 2 presents the Unified Modeling Language (UML) sequence diagram to demonstrate roles and relationship of the actors (business and technical), workflow and data flow associated with the use case.

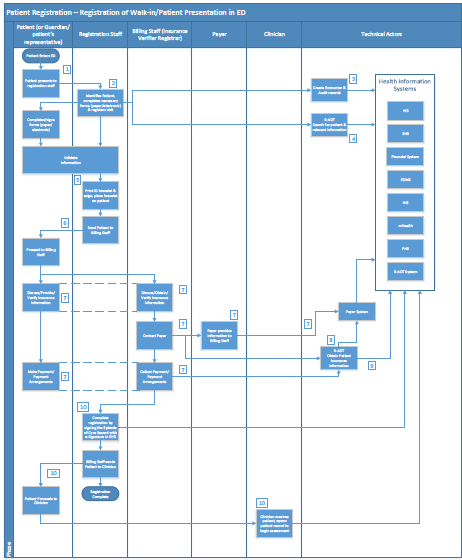


Figure 2: UML Sequence Diagram: Use Case A1 - Registration of Walk-in/Patient Presentation in ED.

Numbers 1-13 indicate the workflow steps. Update to add new steps and actor (clinician.)

## Data Specifications for Information Items

The following information items (documents/records/data) were identified in the Patient Registration Use Case:

|  |  |
| --- | --- |
| Patient Registration Information   1. Patient/guardian demographics (e.g., name, DoB, address) 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) 4. Chief complaint, Reason for visit, ABN 5. Consent for visit 6. Consent for information sharing 7. eSignature for Registration Staff 8. Wristband (patient ID bracelet with barcodes) | 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. eSignature for Billing Staff |
| Risk Management/Infection Control/Public Health/ Population Health Information   1. Have you been out of the country in the last three weeks? | Notification of Record Availability  Acknowledgement of Receipt  Audit Record: Who, When, Why, What |

Please note that during patient registration, clinical information may be collected, however this information is out of scope for the Patient Registration Use Case.

Tables below provide list of data elements by information item for the Patient Registration Record. Each data element contains the description of its attributes: sequence (**SEQ**, based on Health level Seven (HL7) version 2.x (v2.x) sequence), data element name, optionality (**OPT**),format, length of the field (**Len**, based on HL7v2.x length), HL7 data types and IHE data element names.

For Optionality (OPT) **[[14]](#footnote-14)** we used the following legend:

|  |  |  |
| --- | --- | --- |
| **Option** | **Symbol** | **Definition** |
| **SHALL** | **R** - Required | Field must be populated with a valid value. |
| **SHOULD** | **C** - Conditional | Field will be populated if value does exist depending on the specific condition. For example, US Passport may be available only from the US citizens; Non-US citizens will have their green cards or visas, instead. |
| **MAY** | **O - Optional** | Field may be populated at the discretion of organization. |

### Patient Registration Information

Based on HL7 Patient Identity (PID) and IHE PID Segments[[15]](#footnote-15)

\* asterisk in SEQ column means that this data element is not available in the HL7 PID segment. It is available in the HL7 PV1 (Patient Visit) segment. This data element is included in the AHIMA data set for completeness of patient registration information from the user perspectives.

***NNN*** –Bold, italic font, shaded row indicates the data element that contains additional data element components. Blank SEQ cell indicates that the data element components carry the same SEQ number as the main data element.

| **SEQ** | **Data Element** | **Opt** | **Format** | **Len** | **HL7 Data Type** | **IHE Data Element Name** |
| --- | --- | --- | --- | --- | --- | --- |
|  | ***Visit/Encounter Identification*** |  |  |  |  |  |
| 1 | Enterprise Master Patient Index (EMPI) | R | Alphanumeric | 20 | SI | Set-ID - Patient ID |
| 2 | Medical Record Number (MRN) | R | Alphanumeric | 250 | CX |  |
| \* | Episode of Care Number[[16]](#footnote-16) | R | Alphanumeric | 250 | CX |  |
| \* | Visit/Encounter Number (account number)[[17]](#footnote-17) | C | Alphanumeric | 250 | CX | Patient Account Number |
| ***3[[18]](#footnote-18)*** | ***Forms of Patient Identification*** |  |  | ***250*** | ***CX*** | ***Patient Identifier List*** |
|  | Photo | O | Image |  |  |  |
| 19[[19]](#footnote-19) | Social Security Number | C | Numeric | 16 | ST | SSN Number-Patient |
| 20[[20]](#footnote-20) | Driver’s License Number | C | Alphanumeric | 25 | DLN | Driver License-Patient |
|  | State ID Card | C | Alphanumeric | 25 |  |  |
|  | Military ID | C | Alphanumeric | 25 |  |  |
|  | Passport Number | C | Alphanumeric | 25 |  |  |
|  | Green Card Number | C | Alphanumeric | 25 |  |  |
|  | Visa Number | C | Alphanumeric | 25 |  |  |
|  | Student ID | C | Alphanumeric | 25 |  |  |
|  | Insurance Card | C | Alphanumeric | 25 |  |  |
| ***5*** | ***Patient Name*** | ***R*** | ***Alphanumeric*** | ***250*** | ***XPN*** | ***Patient Name*** |
|  | Name, Prefix | O | Text | 20 | ST | Prefix |
|  | Name, Last | R | Text | 194 | FN | Family Name |
|  | Name, Suffix | C | Alphanumeric | 20 | ST | Suffix |
|  | Name, First | R | Alphanumeric | 30 | ST | Given Name |
|  | Name, Middle | C | Text | 30 | ST | Second and Further Given Names or Initials Thereof |
| 6 | Mother’s Maiden Name | O | Text | 250 | XPN | Mother’s Maiden Name |
| ***7*** | ***Date of Birth*** | ***R*** |  | ***26*** | ***TS*** | ***Date/Time of Birth*** |
|  | Time of Birth (e.g., newborn) | C |  | 5 | DTM | Date/Time |
| 8 | Administrative Gender | R |  | 1 | IS | Administrative Sex[[21]](#footnote-21) (F/M/U)[[22]](#footnote-22),[[23]](#footnote-23) |
| ***9*** | ***Patient Alias*** |  |  | ***250*** | ***XPN*** | ***Patient Alias*** |
|  | Alias, Last | O | Text | 194 | FN | Family Name |
|  | Alias, First | O | Text | 30 | ST | Given Name |
|  | Alias, Middle | O | Text | 30 | ST | Second and Further Given Names or Initials Thereof |
| 10 | Race[[24]](#footnote-24) | R | Text | 250 | CE | Race |
| ***11*** | ***Primary Address*** | ***R*** |  | ***250*** | ***XAD*** | ***Patient Address*** |
|  | Building Number | R | Alphanumeric | 12 | SAD | Dwelling Number |
|  | Line 1 (Street Name) | R | Alphanumeric | 184 | SAD | Street Address |
|  | Line 2 (Apt. No or Unit No) | O | Alphanumeric | 120 | ST | Street Address |
|  | City | R | Text | 50 | ST | City |
|  | County[[25]](#footnote-25) | R | Text | 20 | IS | County |
|  | State/Province | R | Text | 50 | ST | State or Province |
|  | Zip Code | R | Alphanumeric | 12 | ST | Zip or Postal Code |
|  | Country Name | R | Text | 3 | ID | Country |
| ***13*** | ***Phone Number Home*** |  |  | **250** | ***XTN*** |  |
|  | Phone Number – Home | R | Numeric | 199 | ST | Telephone Number |
|  | Phone Number – Cell | C | Numeric | 199 | ST | Telephone Number |
|  | Email Address – Business | O | Alphanumeric | 199 | ST | Email Address |
| ***14*** | ***Phone Number Business*** |  |  | **250** | **XTN** |  |
|  | Phone Number – Business | R | Numeric | 199 | ST | Telephone Number |
|  | Phone Number – Fax | C | Numeric | 199 | ST | Telephone Number |
|  | Email Address – Business | O | Alphanumeric | 199 | ST | Email Address |
| ***11*** | ***Alternate Address*** | ***O*** |  | ***250*** | ***XAD*** | ***Patient Address*** |
|  | Building Number | R | Alphanumeric | 12 | SAD | Dwelling Number |
|  | Line 1 (Street Name) | R | Alphanumeric | 184 | SAD | Street Address |
|  | Line 2 (Apt. No or Unit No) | O | Alphanumeric | 120 | ST | Street Address |
|  | City | R | Text | 50 | ST | City |
|  | County | R | Text | 20 | IS | County |
|  | State/Province | R | Text | 50 | ST | State or Province |
|  | Zip Code | R | Alphanumeric | 12 | ST | Zip or Postal Code |
|  | Country Name | R | Text | 3 | ID | Country |
| ***13*** | ***Phone Number Home*** |  |  | **250** | ***XTN*** |  |
|  | Phone Number – Home | R | Numeric | 199 | ST | Telephone Number |
|  | Phone Number – Cell | C | Numeric | 199 | ST | Telephone Number |
|  | Email Address – Home | O | Alphanumeric | 199 | ST | Email Address |
| ***14*** | ***Phone Number Business*** |  |  | **250** | **XTN** |  |
|  | Phone Number – Business | R | Numeric | 199 | ST | Telephone Number |
|  | Phone Number – Fax | C | Numeric | 199 | ST | Telephone Number |
|  | Email Address – Business | O | Alphanumeric | 199 | ST | Email Address |
| 15 | Primary(Preferred) Language | R | Text | 250 | CE | Primary Language |
| 16 | Marital Status | O | Text | 250 | CE | Marital Status |
| 17 | Religion | O | Text | 250 | CE | Religion |
| 21 | Mother’s Identifier | C | Alphanumeric | 250 | CX | Mother’s Identifier |
| 22 | Ethnic Group[[26]](#footnote-26) | R | Text | 250 | CE | Ethnic Group |
| ***23*** | ***Place of Birth*** | ***O*** |  | ***250*** | ***ST*** | ***Birth Place*** |
| 11 | City | O | Text | 50 | ST | City |
| 11 | State/Province | O | Text | 50 | ST | State |
| 11 | Country | O | Text | 3 | ST | Country |
| 24 | Multiple Birth Indicator | C | Numeric | 1 | ID | Multiple Birth Indicator |
| 25 | Birth Order | C | Numeric | 2 | NM | Birth Order |
|  | ***Other Information*** |  |  |  |  |  |
| 26 | Citizenship | O | Country | 250 | CE | Citizenship |
| 27 | Veterans Military Status | O | Text | 250 | CE | Veterans Military Status |
|  | ***Occupational Information[[27]](#footnote-27)*** |  |  |  |  |  |
|  | Employment Status | O | Text | 250 | CE | Insured's Employment Status |
|  | Employer | O | Text | 250 | XAD | Insured’s Employer Address |
|  | Occupation | O | Text | 250 |  |  |
|  | Industry | O | Text | 250 |  |  |

**Patient Registration Associated Parties Information** (Based on HL7 NK1 Segment)

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **SEQ** | **Data Element** | **Opt** | **Format** | **Len** | **HL7 Data Type** | **HL7 Data Element Name** |
| ***2*** | ***Emergency Contact Name*** | ***O*** |  | ***250*** | ***XPN*** | ***Name*** |
|  | Name, Prefix | O | Text | 20 | ST | Prefix |
|  | Name, Last | R | Text | 194 | FN | Family Name |
|  | Name, Suffix | C | Alphanumeric | 20 | ST | Suffix |
|  | Name, First | R | Alphanumeric | 30 | ST | Given Name |
|  | Name, Middle | C | Text | 30 | ST | Second And Further Given Names Or Initials Thereof |
| 3 | Relationship | O | Alphanumeric | 250 | CE | Relationship |
| ***5*** | ***Phone Number Home*** |  |  | **250** | ***XTN*** |  |
|  | Phone Number – Home | R | Numeric | 199 | ST | Telephone Number |
|  | Phone Number – Cell | C | Numeric | 199 | ST | Telephone Number |
|  | Email Address – Home | O | Alphanumeric | 199 | ST | Email Address |
| ***6*** | ***Phone Number Business*** |  |  | **250** | **XTN** |  |
|  | Phone Number – Business | R | Numeric | 199 | ST | Telephone Number |
|  | Phone Number – Fax | C | Numeric | 199 | ST | Telephone Number |
|  | Email Address – Business | O | Alphanumeric | 199 | ST | Email Address |
|  |  |  |  |  |  |  |
| ***2*** | ***Legal Healthcare Representative/Guardian of the Person (Surrogate Decision Maker) Name*** | ***O*** |  | ***250*** | ***XPN*** | ***Name*** |
|  | Name, Prefix | O | Text | 20 | ST | Prefix |
|  | Name, Last | R | Text | 194 | FN | Family Name |
|  | Name, Suffix | C | Alphanumeric | 20 | ST | Suffix |
|  | Name, First | R | Alphanumeric | 30 | ST | Given Name |
|  | Name, Middle | C | Text | 30 | ST | Second And Further Given Names Or Initials Thereof |
| 3 | Type of Legal Representative (Surrogate Decision Maker, Guardian, Conservator, Durable Power of Attorney HC)[[28]](#footnote-28),[[29]](#footnote-29),[[30]](#footnote-30) | C | Alphanumeric | 250 | CE | Relationship |
| ***4*** | ***Legal Healthcare Representative/Guardian of the Person (Surrogate Decision Maker) Address*** |  |  | ***250*** | ***XAD*** | ***Address*** |
|  | Building Number | R | Alphanumeric | 12 | SAD | Dwelling Number |
|  | Line 1 (Street Name) | R | Alphanumeric | 184 | SAD | Street Address |
|  | Line 2 (Apt. No or Unit No) | O | Alphanumeric | 120 | ST | Street Address |
|  | City | R | Text | 50 | ST | City |
|  | County | R | Text | 20 | IS | County |
|  | State/Province | R | Text | 50 | ST | State or Province |
|  | Zip Code | R | Alphanumeric | 12 | ST | Zip or Postal Code |
|  | Country Name | R | Text | 3 | ID | Country |
| ***5*** | ***Phone Number Home*** |  |  | **250** | ***XTN*** |  |
|  | Phone Number – Home | R | Numeric | 199 | ST | Telephone Number |
|  | Phone Number – Cell | C | Numeric | 199 | ST | Telephone Number |
|  | Email Address – Home | O | Alphanumeric | 199 | ST | Email Address |
| ***6*** | ***Phone Number Business*** |  |  | **250** | **XTN** |  |
|  | Phone Number – Business | R | Numeric | 199 | ST | Telephone Number |
|  | Phone Number – Fax | C | Numeric | 199 | ST | Telephone Number |
|  | Email Address – Business | O | Alphanumeric | 199 | ST | Email Address |

To Be Developed for the 12/19 Call

### Insurance Information

### Payment Information

### Chief Complaint, Reason for Visit, ABN

1. Chief complaint
2. Reason for visit
3. Advance Beneficiary Notice (ABN)

### Consent for Visit

(BCCP/ APPC)

1. Conditions of Admission and Treatment (Consent form)
2. Guardianship/Power of attorney
3. Personal Representative Authorization
4. Consent for surgical procedure
5. Advance directives (Living will)
6. Do not resuscitate
7. EBOLA & MERS screening

### Consent for Information Sharing

### Wristband (patient ID bracelet with barcodes)

### Notification of Record Availability

Get from IHE NAV Profile

### Acknowledgement of Receipt

Get from IHE NAV Profile

### Audit Record

Who, When, Why, What

Get from S&I Data Provenance or HL7

1. Patient’s Full Name
2. Medical Record Number
3. Date of birth
4. Address
5. Date(s) of Service Accessed
6. Information Accessed
7. Name of person accessing record
8. Date Record Accessed
9. Access Purpose (treatment, payment, operations [TPO])

1. Integrating the Healthcare Enterprise (IHE). Information Technology Infrastructure (ITI) Technical Framework (TF) Supplement. Health IT Standards for HIM Practices. White Paper. 2015. URL: <http://qrs.ly/lb4vec0> [↑](#footnote-ref-1)
2. Integrating the Healthcare Enterprise (IHE). Information Technology Infrastructure (ITI) Technical Framework (TF) Supplement. Health IT Standards for HIM Practices. White Paper. 2015. URL: <http://qrs.ly/lb4vec0> [↑](#footnote-ref-2)
3. Bruegge B. and Dutoit AH. Object-Oriented Software Engineering. Pearson Prentice Hall. Upper Saddle River, NJ. 3rd Edition. pp.121-170. [↑](#footnote-ref-3)
4. Bruegge B. and Dutoit AH. Object-Oriented Software Engineering. Pearson Prentice Hall. Upper Saddle River, NJ. 3rd Edition. p.50. [↑](#footnote-ref-4)
5. Ibid. p.30-74. [↑](#footnote-ref-5)
6. Integrating the Healthcare Enterprise (IHE). Information Technology Infrastructure (ITI) Technical Framework (TF) Supplement. Health IT Standards for HIM Practices. White Paper. 2015. URL: <http://qrs.ly/lb4vec0> [↑](#footnote-ref-6)
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8. Kuhn T, Basch P, Barr M, etal. Clinical Documentation in the 21st Century. An Executive Summary of a Position Paper from The American College of Physicians. Annals of Internal Medicine. 2015. 162(4): 301-314. URL: http://annals.org/aim/article/2089368/clinical-documentation-21st-century-executive-summary-policy-position-paper-from [↑](#footnote-ref-8)
9. AHIMA, Pocket Glossary of Health Information Management and Technology. Chicago, IL. 2014, p. 127. [↑](#footnote-ref-9)
10. Ibid, p. 29. [↑](#footnote-ref-10)
11. Ibid, p. 127. [↑](#footnote-ref-11)
12. Ibid, p. 53. [↑](#footnote-ref-12)
13. Grzybowski D. Strategies for electronic document and health record management. AHIMA. Chicago, IL. 2014. pp. 31,40,47,159. [↑](#footnote-ref-13)
14. Health Level Seven (HL7). Conformance Implementation Manual. 2.B.7.2 Usage in v2.x Standard. 2006. URL: <http://wiki.hl7.org/index.php?title=Conformance_Implementation_Manual>. Please note that HL7 optionality codes include R, C and O. In some cases, when in the HL7 standard the data field was listed as optional or otherwise not required , IHE further constrains the HL7 optionality as follows:

    **R** - sending application shall provide a valid value for all “R” fields.  The value shall be of the specified type and within the range specified for the field; **R2** - an IHE extension - if the sending application has data for the field, it is required to populate the field. If the value is not known, the field may not be sent; **R+ -** an IHE extension - in the context of a specific transaction, IHE requires that this field be present and populated with data.” (IHE Terminology. URL:) IHE uses R+ to help call out to the reader that the baseline standard does not require this attribute, but the IHE transaction does make this mandatory. [↑](#footnote-ref-14)
15. Integrating Healthcare Enterprise (IHE). Information Technology Infrastructure (ITI) Committee. Technical Framework (TF). Patient Identity Segment. Volume 2a. p.40-42. URL: <http://www.ihe.net/uploadedFiles/Documents/ITI/IHE_ITI_TF_Vol2a.pdf> [↑](#footnote-ref-15)
16. NOTE: Episode of care may have multiple visits to different departments, or series of visits under an account number. Some systems call this an encounter number; CSN – Contact Serial Number – in EPIC [↑](#footnote-ref-16)
17. NOTE: Encounter Number is an individual visit number with unique start and end time under a series of visits in the episode of care. [↑](#footnote-ref-17)
18. HL7 SEQ Number 4 represents Alternate Patient ID. It is retained for back compatibility with HL7v2.3 where this code was used. It is not used in the newer versions of HL7 standards where Alternate Patient ID is a part of Forms of Patient Identification (SEQ 3). [↑](#footnote-ref-18)
19. This data element is available in the Hl7 SEQ Number 19 in the HL7v2.x PID segment. [↑](#footnote-ref-19)
20. This data element is available in the HL7 SEQ Number 20 in the HL7v2.x PID segment. [↑](#footnote-ref-20)
21. Trans-gender is not recognized at this time in IHE. [↑](#footnote-ref-21)
22. HL7 v3: Female/Male/Undifferentiated (F/M/U) format. This format is also used by the Centers for Disease Control and Prevention (CDC). Public Health Information Network (PHIN) Vocabulary Access and Distribution System (VADS). PHIN-VADS Administrative Gender. URL: <https://phinvads.cdc.gov/vads/ViewValueSet.action?id=8DE75E17-176B-DE11-9B52-0015173D1785> [↑](#footnote-ref-22)
23. In Meaningful Use: Female/Male/Unknown (F/M/UNK). Common Clinical Data Set (CCDS) for Meaning Use. Birth Sex Codes. URL: <https://www.healthit.gov/sites/default/files/2015Ed_CCG_a5-Demographics.pdf>. [↑](#footnote-ref-23)
24. FIND REFERENCE - Race Table in US Census (X options) and /or CDC (3000 options) [↑](#footnote-ref-24)
25. HL7 SEQ Number 12 represents County Code. It is retained for back compatibility with HL7 v2.3 where this code was used. It is not used in newer versions of HL7 where county is a part of address (SEQ 11). [↑](#footnote-ref-25)
26. Race Table in US Census (X options) and /or CDC (3000 options) [↑](#footnote-ref-26)
27. Occupational Information is not collected in HL7 PID. It is collected in insurance section HL7 IN1. AHIMA NEEDS TO DECIDE – where to have Occupational Information ( in Pt Registration Information or Insurance information) [↑](#footnote-ref-27)
28. State of Connecticut. Probate Court User Guide for Conservators. 2016. URL: ctprobate.gov. [↑](#footnote-ref-28)
29. FindLaw. Web Resource. Definition of Guardian. 2016. URL: http://family.findlaw.com/guardianship/how-to-establish-guardianship-of-a-child-faqs.html [↑](#footnote-ref-29)
30. Reisbick B. Personal Communication, September 20, 2016

    ***Surrogate Healthcare Decision-Makers*** are advocates for incompetent patients due to: Immaturity; Mental Incapacity (Temporary or Permanent); Cognitive Impairment; Nearing End of Life; or otherwise unable/unwilling to make decisions regarding their personal healthcare. There is high variability under various state laws. Often, where there is no designated Surrogate for Healthcare Decisions, the Healthcare Surrogate may be selected in a descending order of priority from: (a) Patient’s Guardian (or Conservator) of the Person; (b) Patient’s Spouse; (c) Either Parent; (d) Adult Son or Daughter. Terms in use: ***Guardian of the Person with Authority*** makes healthcare (not business) decisions; ***Designee of a Durable Power of Attorney for Healthcare*** (not business) decisions. Surrogate healthcare decision-making guiding factors: (a) the Patient’s prior stated wishes or preferences; (b) the Patient’s personal values, religious preference, beliefs about life and death, dignity, etc; or (c) the Patient’s best Interests. [↑](#footnote-ref-30)