**Introduction**

This section presents the Perioperative Plan of Care.

**Profile Abstract**

The Perioperative Patient Plan of Care profile extends the description of the content structures for the plan of care in the current technical framework and is predicated on the data elements from the commonly used Nursing Process. The Perioperative Patient Plan of Care includes the following additional components in a clinical document:

1. Assessment
2. Diagnosis
3. Outcomes Identification
4. Planning
5. Implementation
6. Evaluation

The Perioperative Patient Plan of Care profile provides a mechanism for electronic exchange of plan of care data between and among HIT systems. The Perioperative Patient Plan of Care demonstrates the exchange of this information based on concepts for diagnoses, assessments, interventions, evaluations and outcomes in a standardized framework using the American Nurses Association (ANA) nursing process and Association of periOperative Registered Nurses (AORN) Standardized Perioperative Framework.

**Open Issues and Questions**

*< List of open issues/ questions that need to be addressed prior to publishing of the Technical Framework>*

**Closed Issues**

*< List of closed issues/ questions with their resolutions that have been addressed prior to publishing of the Technical Framework>*

**Integration Profiles**

**Glossary**

**NANDA:** NANDA International is a member driven organization that has as its mission to facilitate the development, refinement, dissemination and use of standardized nursing diagnostic terminology. (NANDA, 2009, p.424).

**Nursing Diagnosis:** A nursing diagnosis is a clinical judgment about individual, family or community responses to actual or potential health problems or life process which provides the basis for selection of nursing interventions to achieve outcomes for which the nurse is accountable. (NANDA, 2009, p.419)

**Perioperative Nursing Data Set (PNDS):** PNDS is an interface terminology that provides uniformity to perioperative documentation and the groundwork for awareness of contributions of the perioperative nurse. (AORN, 2002).

**Standards of Practice**: The six Standards of Practice describe a competent level of nursing care as demonstrated by the critical thinking model known as the **nursing process**. The **nursing process** includes the components of assessment, diagnosis, outcomes identification, planning, implementation and evaluation. The nursing process encompasses all significant actions taken by registered nurses, and forms the foundation of the nurse’s decision making” (ANA, 2004, p.4).

Standard 1: Assessment:

The registered nurse collects comprehensive data pertinent to the patient’s health or the situation.

Standard 2: Diagnosis:

The registered nurse analyzes the assessment data to determine the diagnoses or issues.

Standard 3 Outcomes Identification:

The registered nurse identifies expected outcomes for a plan individualized to the patient and situation.

Standard 4: Planning:

The registered nurse develops a plan then prescribes strategies and alternatives to attain expected outcomes.

Standard 5: Implementation:

The Registered nurse implements the identified plan

Standard 6: Evaluation

The registered nurse evaluates the progress toward attainment of outcomes.

Standardized Perioperative Framework

**Dependencies among Integration Profiles**

|  |  |  |  |
| --- | --- | --- | --- |
| **Integration Profile** | **Dependency** | **Dependency Type** | **Purpose** |
| Perioperative Patient Plan of Care | Functional Status Assessments (FSA) | The Content Creator and Content Consumer actors of the Surgical Services Perioperative Patient Plan of Care profile shall be grouped with Content Creator and Content Consumer actors of the FSA profile respectively. | The Perioperative Patient Plan of Care profile makes use of content modules defined within the FSA profile. |

**History of Annual Changes**

|  |
| --- |
| **None at this time.** |

**X Perioperative Patient Plan of Care Content Profile**

The fundamental building block of any high-performance health system is reliable information about the effectiveness of care (O’Kane, et.al, 2008). Nurses act as the coordinator of care for the whole care process. However, standardized coded documentation by nursing is one of the largest data gaps in care delivery. Furthermore, nursing documentation of the human response to actual or potential health threats can rarely be transferred electronically at the current time.

The Perioperative Patient Plan of Care profile provides a mechanism for capture and electronic exchange of plan of care data between and among HIT systems. This profile enables the exchange of this information based on concepts for diagnoses, assessments, interventions, evaluations and outcomes in a standardized perioperative framework using the American Nurses Association (ANA) nursing process to evolve its information model. These models extend the description of the content structures for the plan of care in the current technical framework. The Perioperative Patient Plan of Care focuses on the following six components in a clinical document:

1. Assessment
2. Nursing Diagnosis
3. Outcomes Identification
4. Planning
5. Implementation

6. Evaluation

When a patient arrives for care (e.g., upon admission or transfer of care) they undergo an initial assessment. The care planning process includes assessment, diagnoses, implementation, evaluations and outcomes identification (goals) utilizing NANDA and PNDS and the planning of care with the patient or their advocate. The nursing process continues with the nurse providing care. These results in actions performed to care for the patient, followed by evaluation of the patient progress against the expected outcomes. Evaluation measures the current patient progress against the expected outcomes through subsequent assessments. These assessments are then used to adjust the nursing process. These components are performed continuously through the nursing process at macro- and micro- levels.

**Perioperative Patient Plan of Care Actors and Transactions**

**Nursing Process**

This profile defines the implementation of an HL7 CDA document to represent the data elements needed for care planning, along with the IHE profile bindings to support the exchange of the information. The Perioperative Patient Plan of Care is a content profile that is intended to eventually sit within a larger folder structure that contains documents related to continuity of care for the patient. This profile also defines mechanisms to group them into a single logical folder.

Regardless of where nurses practice, the Perioperative Patient Plan of Care Profile is able to support coded nursing documentation. This allows healthcare organizations to access quality data on the complexity of patient conditions and the care performed by professional nurses, improve care quality, and facilitate continuity of care.

**Use Case**

A 70 year old male is scheduled for a Right Total Hip Arthroplasty with a diagnosis of osteoarthritis. The patient was instructed to report to Pre-Admission Testing to being the perioperative process with the intent of being admitted to the hospital post the perioperative procedure. The patient has no other significant health history.

**Actors and Transactions**

There are two actors in this profile, the Content Creator and the Content Consumer. Content is created by a Content Creator and is to be consumed by a Content Consumer. The sharing or transmission of content from one actor to the other is addressed by the appropriate use of IHE profiles described below, and is out of scope of this profile. A Document Source or a Portable Media Creator may embody the Content Creator Actor. A Document Consumer, a Document Recipient or a Portable Media Importer may embody the Content Consumer Actor. The sharing or transmission of content or updates from one actor to the other is addressed by the use of appropriate IHE profiles described by Content Bindings with XDS, XDM and XDR found in the Patient Care Coordination Technical Framework

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**PERIOPERATIVE PLAN OF CARE**



**Nursing Process**

**Grouping**

This section describes the behaviors expected of the Content Creator and Content Consumer actors of this profile when grouped with actors of other IHE profiles.

**Content Bindings with XDS, XDM and XDR**

It is expected that the exchanges of this content will occur in an environment where the physician offices and hospitals have a coordinated infrastructure that serves the information sharing needs of this community of care. Several mechanisms are supported by IHE profiles:

1. A registry/repository-based infrastructure is defined by the IHE Cross Enterprise Document Sharing (XDS) and other IHE Integration Profiles such as patient identification (PIX & PDQ) and notification of availability of documents (NAV).
2. A media-based infrastructure is defined by the IHE Cross Enterprise Document Media Interchange (XDM) profile.
3. A reliable messaging-based infrastructure is defined by the IHE Cross Enterprise Document Reliable Interchange (XDR) profile.

All of these infrastructures support Security and privacy through the use of the Consistent Time (CT) and Audit Trail and Node Authentication (ATNA) profiles.

For more details on these profiles, see the IHE IT Infrastructure Technical Framework. Content profiles may impose additional requirements on the transactions used when grouped with actors from other IHE Profiles.

**Cross Enterprise Document Sharing, Media Interchange and Reliable Messages**

Actors from the ITI XDS, XDM and XDR profiles most often embody the Content Creator and Content Consumer sharing function of this profile. A Content Creator or Content Consumer may be grouped with appropriate actors from the XDS, XDM or XDR profiles, and the metadata sent in the document sharing or interchange messages has specific relationships to the content of the clinical document described in the content profile.

**Audit Trail and Node Authentication (ATNA)**

When the Content Creator or Content Consumer actor of this profile is grouped with the Secure Node or Secure Application actor of the ATNA profile, the content creator actor shall generate appropriate audit record events for each of the following trigger events:

|  |  |
| --- | --- |
| **Trigger Event** | **Description** |
| Actor-start-stop | Start up and shut-down of the content creator or content consumer actor. |
| Patient-Record-Event | Creation, access, modification1 or deletion of the content described within this profile. |
| Node-Authentication-Failure | Secure node authentication failure is detected. |

The above list is a minimum set that must be demonstrated by all actors of this profile when grouped with the secure node or secure application actor. Additional audit records shall also be generated depending upon the actions available the product implementing the secure node or secure application actor.

**Notification of Document Availability (NAV)**

A Document Source should provide the capability to issue a Send Notification Transaction per the ITI Notification of Document Availability (NAV) Integration Profile in order to notify one or more Document Consumer(s) of the availability of one or more documents for retrieval. One of the Acknowledgement Request options may be used to request from a Document Consumer that an acknowledgement should be returned when it has received and processed the notification.

A Document Consumer should provide the capability to receive a Receive Notification Transaction per the NAV Integration Profile in order to be notified by Document Sources of the availability of one or more documents for retrieval. The Send Acknowledgement option may be used to issue a Send Acknowledgement to a Document Source that the notification was received and processed.

**Document Digital Signature (DSG)**

When a Content Creator Actor needs to digitally sign a document in a submission set, it may support the Digital Signature (DSG) Content Profile as a Document Source. When a Content Consumer Actor needs to verify a Digital Signature, it may retrieve the digital signature document and may perform the verification against the signed document content.

**Content Modules**

Content Modules describe the content of a payload found in an IHE transaction. Content profiles are transaction neutral. They do not have dependencies upon the transaction in which they appear. This integration profile defines one content module, the Patient Plan of Care, defined in section PCC TF-2:6.1.1.Y.

While the Patient Plan of Care focuses on the nursing process. It is intended to be a summary document containing the necessary information for the care planning process.

This content module incorporates other content modules already present in this Technical Framework. The names of these content modules do not always use the terminology found in nursing (e.g., Review of Systems). However, the data elements found in these sections are identical in content regardless of the scope of practice for the clinician providing that information.

The purpose of section is to identify the type of information found in it. The clinician generating this information is separately identified within the content module. Those two pieces together provide sufficient information to interpret the content.

**Perioperative Patient Plan of Care Process Flow**



This process flow diagram shows the movement of the Perioperative Patient Plan of Care through the perioperative process. This diagram specifically excludes other infrastructure interactions for simplicity and readability. These infrastructure interactions may be found elsewhere in this and other IHE frameworks.

The data from a Perioperative Patient Plan of Care are exchanged electronically between and among health technology information systems for each of the steps of the Nursing Process. The Perioperative Plan of Care may also be exchanged with consultants and other interested providers who may then update the Perioperative Patient Plan of Care, and return the updated record to the sender, primary care provider, patient, and/or other interested providers.



**Basic Process Flow in the Patient Plan of Care Profile**

The following steps show the use of the Perioperative Patient Plan of Care Profile during the nursing process.

1. A patient admitted to a hospital for a surgical procedure requires nursing care. A nurse reviews the clinician orders and develops an individualized Plan of Care with the patient based on the Nursing Process. This model includes medical and nursing orders within the electronic health record (EHR) system. The Nurse documents a specific Plan of Care using coded nursing terminology.
2. The plan of care is stored within an HIT system.2
3. The Perioperative Patient Plan of Care is active as long as the patient remains a patient within the perioperative area. During the perioperative stay, the nurses review the patient’s plan of care frequently to ensure progress and quality care are maintained and nursing actions are evaluated. When there is a change in the patient’s clinical condition the Perioperative Patient Plan of Care is revised as needed.

The following describes these same steps used in the context of a transfer of care.

1. When a patient is transferred to another nursing unit or facility the Perioperative Patient Plan of Care is revised for the continuity of care.
2. The updated patient plan of care is exchanged with the destination nursing unit or facility.
3. The plan of care is reviewed at the destination nursing unit or facility and is updated as needed.

**Perioperative Patient Plan of Care Security Considerations**

*<Description of the Profile specific security considerations. This should include the outcomes of a risk assessment. This likely will include profile groupings, and residual risks that need to be assigned to the product design, system administration, or policy.>*

**Reference:**

American Nurses Association. (2004). *Nursing: Scope & Standards of Practice*. Silver Spring, MD. ANA.

IHE(2009). IHE Technical Framework Supplement-Patient Plan of Care (PPOC).

O'Kane, M., Corrigan, J., Foote, S.M., Tunis, S.R., Isham, G.J., Nichols, L.M., Fisher, E.S., Ebeler, J.C., Block, J.A., Bradley, B.E., Cassel, C.K., Ness, D.L., Tooker, J. Crossroads in Quality. Health Affairs (Millwood). 2008 May-Jun. 27(3). 749-58.

Association of periOperative Registered Nurses. (2007).*Perioperative Nursing Data Set: The Perioperative Nursing Vocabulary.* Denver, Co. AORN.

**Transactions and Content**

The nursing evaluation and management note contains the information relevant to the six components of the nursing process described by the American Nursing Association Standards of Nursing Practice (ANA 2004). These include:

* Assessment -The assessment includes the collection of data pertinent to the patient’s health. This assessment may include review of systems and/or physical examination details and vital signs, functional status or potential risks to the patient. Additional sections may be added to include relevant family / social history, or other key knowledge necessary to the implementation of the nursing plan.
* Nursing Diagnosis- The problem list section includes any diagnoses based on assessment data and information received from other providers.
* Expected Outcomes- Identification of individualized expected outcomes for the patient (the goals)
* Planning - Planning is the stage in the process to prescribe treatments and interventions to be implemented to reach the expected outcomes under the plan. Planning includes patient/advocate expectations.
* Implementation- Implementation of the plan includes the actions and interventions performed along with care provided to the patient.
* Evaluation- Evaluation of the effectiveness of the plan moving the patient toward goal attainment of the predicted outcomes by documentation of patient response to the plan of care implementation.
* In addition to these sections, the care plan also includes other information relevant to the planning process, including the following:
* Orders - The care plan must include a section referencing provider orders and actions that are to be implemented, including any orders for treatment (e.g., medications, therapy, et cetera), monitoring (testing, monitoring, et cetera) or education.
* Allergies- The care plan must document the presence or absence of patient allergies.
* Past Medical History-The care plan shall include past medical history relevant to care planning
* Surgical History-The care plan shall include any relevant prior surgical history.
* Advance Directives -The care plan shall include information about any relevant advance directives or note their absence.
* Immunizations- The care plan should include information about the patient’s immunization status (e.g., recent flu shot).
* Family and Social History-The care plan may include information about relevant family and social history pertinent to care planning.

**SNOMED-CT**

PNDS is mapped to SNOMED-CT. PNDS Codes attached.