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HL7 Version 3 Standard: Role-Based Access Control
Healthcare Permission Catalog, Release 2

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I. Preface

I.1 Notes to Reader

These are documents related to access control permissions to healthcare information.

I.2 Changes from Previous Release

Both the operation and object vocabularies have been expanded considerably since the last release, providing implementers a greater range of control over protected health information.

In expanding the object vocabulary, the HL7 EHR System Functional Model has served as a comprehensive source of clinical, support and infrastructure functions in the health IT domain. As such, its functions interact with and produce all relevant electronic artifacts containing protected health information in the EHR System. For the purposes of the RBAC Permission Catalog, the EHR-S FM provides a source of functions that must either overlap with workflow objects from the object vocabulary or indicate a record type that must be represented in the object vocabulary.

A non-normative Constraint Catalog has been included in this version of the Permission Catalog to provide implementers with controls over access to protected information that could not be provided with operations and objects alone.

1. Introduction

This document presents normative language to the HL7 permission vocabulary in constructing permissions {operation, object} pairs.

Table 1 lists definitions of terms used in this document.

Table 1: Definitions

Term	Definition	Source
Permission	*Permission* is an approval to perform an operation on one or more RBAC protected objects.	[ANSI-RBAC]
Operation	An *operation* is an executable image of a program, which upon invocation executes some function for the user. Within a file system, *operations* might include read, write, and execute. Within a database management system, *operations* might include append, delete, and update. An *operation* is also known as an action or privilege.	[ANSI-RBAC]

Term	Definition	Source
Object	An *object* is an entity that contains or receives information. The *objects* can represent information containers (e.g., files or directories in an operating system, and/or columns, rows, tables, and views within a database management system) or *objects* can represent exhaustible system resources, such as printers, disk space, and CPU cycles. The set of *objects* covered by RBAC includes all of the *objects* listed in the permissions that are assigned to roles. Note: The definition of objects includes objects at rest, in use and in motion.	[ANSI-RBAC]

2. Conformance

Interoperability is dependent upon organizations building roles from normative objects and operations. The vocabulary makes no assumptions regarding any negotiated trust that exists between communicating partners or the protocols used to exchange role information. In terms of the normative vocabulary it is sufficient and complete that interoperating agencies convey which permissions have been granted to a user. There is no presumption of which workflow or process that the user is engaged in or what access the user may be granted by a business partner. The authorization assertion would only convey the rights that the owning organization has bestowed to its business partner. Business partner relationships or policy exchanges may be needed to clarify how trusting organizations will treat a specific permission assertion.

To conform to ANSI INCITS [1]role-based access control standards, a role definition consists of a name and a corresponding set of permissions. In different policy domains, the selection of permissions establishing a special role might be different. When used to define ANSI INCITS compliant healthcare roles, the open list of permissions defined by the HL7 permission vocabulary in the healthcare domain is mandatory.

An implementation is said to be conformant when it contains permissions composed of permission {object, operation} pairs selected from this catalog where such permissions are defined in this catalog. Additions to the catalog are anticipated and allowed, however, any implementation which adopts such extensions prior to having those changes approved by HL7 ballot would be considered non-conformant. This is not to say that only the Permission Catalog vocabulary can be used for RBAC implementation. The Permission Catalog and defined ANSI INCITS healthcare roles should instead be considered as a baseline for interoperability between different policy domains. Permission {object, operation} pairs not currently found in this

[1] ANSI – INCITS (American National Standards Institute- International Committee for Information Technology Standards)

version of the Permission Catalog should be brought forward to the HL7 Security Work Group to be considered for addition to the HL7 normative standard.

Organizations that require non-standard interpretations of the standard vocabulary also have the option of accommodating implementation concerns by simply mapping the standard vocabulary to their own proprietary systems. Regardless, interoperability requires use of the appropriate normative permissions if the organization expects the receiving organization to correctly interpret and apply their assertions.

For example, in the case of orders, the standard vocabulary provides for separation between order creation and order signature as distinct permissions. While some organizations' implementations may not distinguish between these, locally granting signature rights to holders of the "create order" permission, there should be no expectation that receiving parties would be required to follow suit and accordingly they may "deny" signature rights if such rights are not explicitly asserted. In fact, the receiving organization may "deny" signature rights even if asserted by the entity's parent organization. Such policy matters are not a matter for the vocabulary definition which is neutral to these issues, but resides more with intra/extra organization policy negotiation.

3. Scope

The vocabulary contained in this permission catalog provides information supporting access control decision and enforcement functions as defined by ISO 10181-3. Other forms of access control information are possible including entity based access control and context based access control outside the scope of these definitions. This vocabulary does not presume or prevent organizations from executing these controls or other local constraints used for other purposes (e.g., cardinality constraints regarding the number of persons asserting a role with a specific permission at a particular time). Specifically, this vocabulary does not prohibit use of logical rules and policies that an entity may choose to execute. This vocabulary is consistent with OASIS XACML and ANSI INCITS RBAC standards allowing entities to integrate RBAC into their total access management solution. This vocabulary proposed here is appropriate for RBAC only and may not be appropriate for use by other security services. There is nothing in these definitions to suggest that RBAC completely defines all aspects of access control information, only that which is necessary for interoperability defined by roles.

The HL7 Security WG has future plans to consider situations that reflect the policies of specific domains. These domain specific considerations are out of scope of the current permission definitions.

4. Extensibility

This catalog includes a non-normative "Role Engineering Process" which is based on the process described by Neumann and Strembeck[2]. This process may be used by organizations to create new permissions that are consistent with the HL7 permission definitions. Such permissions may be submitted to the HL7 Security WG along with associated scenarios and artifacts for proposed extensions to the normative vocabulary or simply adopted as proprietary non-interoperable or local domain extensions.

As an alternative to RBAC, implementers may use Digital Rights Management. ISO/IEC 21000-6:2004 which describes a Rights Data Dictionary comprises a set of clear, consistent, structured, integrated and uniquely identified terms to support the MPEG-21 Rights Expression Language (REL), ISO/IEC 21000-5. Future work will examine extensions of this vocabulary to harmonize with ISO 21000.

5. Operation Definitions

Table 2 lists normative 'operation definition' vocabulary for the purpose of having privileges to perform an action on an object. The operations below are examples of access types.

- ID
  - P = Indicates code for O**p**eration
  - 0000 = numeric identifier
- Code – Operation title
- Taxonomy – indicates by indentation, the hierarchy of the Operation Code
- Definition – definition of the operation

Table 2: Operation Definitions[3]

ID	Code	Taxonomy	Definition
P1001	OPERATE	OPERATE	Act on an object or objects.
P1002	CREATE	CREATE	Fundamental operation in an Information System (IS) that results only in the act of bringing an object into existence.
P1003	READ	READ	Fundamental operation in an Information System (IS) that results only in the flow of information about an object to a subject.

[2] Neumann, G. and M. Strembeck, A Scenario-driven Role Engineering Process for Functional RBAC Roles, SACMAT '02, June 3-4, 2002, Monterey, California, USA.

[3] Note each action applies to that action ONLY and there is no presumed subsumption. For example, use of "reproduce" does not imply any form of "Copy"

ID	Code	Taxonomy	Definition
P1004	UPDATE	UPDATE	Fundamental operation in an Information System (IS) that results only in the revision or alteration of an object.
P1005	APPEND	APPEND	Fundamental operation in an Information System (IS) that results only in the addition of information to an object already in existence.
P1006	ANNOTATE	ANNOTATE	Add commentary, explanatory notes, critical notes or similar content to an object.
P1007	DELETE	DELETE	Fundamental operation in an Information System (IS) that results only in the removal of information about an object from memory or storage.
P1008	PURGE	PURGE	Operation that results in the permanent, unrecoverable removal of information about an object from memory or storage (e.g., by multiple overwrites with a series of random bits).
P1009	EXECUTE	EXECUTE	Fundamental operation in an IS that results only in initiating performance of a single or set of programs (i.e., software objects).
P1010	REPRODUCE	REPRODUCE	Produce another online or offline object with the same content as the original. [Use of reproduce does not imply any form of Copy]
P1011	COPY	COPY	Produce another online object with the same content as the original.
P1012	BACKUP	BACKUP	Produce another object with the same content as the original for potential recovery (i.e., create a spare copy).
P1013	RESTORE	RESTORE	Return/recreate content to original content. Produce another object with the same content as one previously backed up (i.e., recreates a readily usable copy).
P1014	EXPORT	EXPORT	Reproduce an object (or a portion thereof) so that the data leaves the control of the security subsystem.
P1015	PRINT	PRINT	Render an object in printed form (typically hardcopy).
P1016	DERIVE	DERIVE	Make another object with content based on but different from that of an existing object.
P1017	CONVERT	CONVERT	Derive another object with the same content in a different form (different data model, different representation, and/or different format).
P1018	EXCERPT	EXCERPT	Derive another object which includes part but not all of the original content.
P1019	TRANSLATE	TRANSLATE	Derive object in a different natural language (e.g., from English to Spanish).
P1020	MOVE	MOVE	Relocate (the content of) an object.
P1021	ARCHIVE	ARCHIVE	Move (the content of) an object to long term storage.
P1022	REPLACE	REPLACE	Replace an object with another object. The replaced object becomes obsolete in the process.

ID	Code	Taxonomy	Definition
P1023	FORWARD	FORWARD	Communicate (the content of) an object to another covered entity.
P1024	TRANSFER	TRANSFER	Communicate (the content of) an object to an external clearinghouse without examining the content.
P1025	SIGN	SIGN	Affix authentication information (i.e. An electronic signature) to an object so that its origin and integrity can be verified.
P1026	VERIFY	VERIFY	Determine whether an object has been altered and whether its signature was affixed by the claimed signer.

6. Object Definitions

Table 3 lists normative 'objection definition' vocabulary. The objects defined in the vocabulary are defined at a level that does not require detailed knowledge of their structure at a data element level as this is not standard across vendor implementations.

- ID
  - B = indicates code for Object
  - 0000 = numeric identifier
- Object
  - Definition from ANSI-INCITS 359-2004:

    An object can be any system resource subject to access control, such as a file, printer, terminal, database record, etc. An object is an entity that contains or receives information. For a system that implements RBAC, the objects can represent information containers (e.g., files, directories, in an operating system, and/or columns, rows, tables, and views within a database management system) or objects can represent exhaustible system resources, such as printers, disk space, and CPU cycles.
- Record
  - Definition adapted from SNOMED CT:

    A record is an entity that is created by a person or persons for the purpose of providing other people with information about events or states of affairs. In general, a record is virtual, that is, it is independent of its particular physical instantiation(s), and consists of its information elements (usually words, phrases and sentences, but also numbers, graphs, and other information elements). Records need not be complete reports or complete records. They can be parts of larger records. For example, a complete health record is a record that also may contain other records in the form of individual documents or reports, which in turn may contain more finely granular records such as sections and even section headers.

- R= indicates object type identified is a record

- Workflow
  - Definition from ASTM E2595-07 Standard Guide for Privilege Management Infrastructure:

    A workflow is a representation of an organizational or business process in which documents, information, or tasks are passed from one participant to another in a way that is governed by rules or procedures; a workflow separates the various activities of a given organizational process into a set of well-defined tasks.

  - W=indicates object type identified is a workflow
- Definition – definition of the object
- EHR-S Functional Model – Object mapping to HL7 EHR-S Functional Model
  - From EHR-S Functional Model, Release 1, February 2007:

    The HL7 EHR System Functional Model provides a reference list of functions that may be present in an Electronic Health Record System (EHR-S). The function list is described from a user perspective with the intent to enable consistent expression of system functionality. This EHR-S Functional Model, through the creation of Functional Profiles for care settings and realms, enables a standardized description and common understanding of functions sought or available in a given setting (e.g., intensive care, cardiology, office practice in one country or primary care in another country).

- Source of Definition– authoritative source of the definition of the object

Table 3: Object Definitions

ID	Object	Record or Workflow	Definition	EHRS Functional Model	Source of Definition
B2001	Account Receivable	R	A record of an account for collecting charges, reversals, adjustments and payments, including deductibles, copayments, coinsurance (financial transactions) credited or debited to the account receivable account for a patient's encounter.		ANSI/HL7 V3 RBAC, R1-2008

ID	Object	Record or Workflow	Definition	EHRS Functional Model	Source of Definition
B2002	Administrative Ad Hoc Report	R	A record of information generated on an ad hoc (one time) basis that contains administrative data; no clinical data will be included.	DC.1.1.5	ANSI/HL7 V3 RBAC, R1-2008
B2003	Administrative Report	R	A record of data (patient-specific and/or summary) generated for a variety of administrative purposes.		ANSI/HL7 V3 RBAC, R1-2008
B2004	ADT (Admission, Discharge, Transfer) Function	W	The administrative functions of patient registration status, admission, discharge, and transfer.		ANSI/HL7 V3 RBAC, R1-2008
B2005	Admission Record	R	A record of patient registration upon being admitted to (accepted into) hospital.		ASTM E1239-04
B2006	Advance Directive	R	A record of a living will written by the patient to the physician in case of incapacitation to give further instructions.	DC.1.3.2	ANSI/HL7 V3 RBAC, R1-2008
B2007	Alert	R	A record of a brief online notice that is issued to users as they complete a cycle through the menu system. An alert is designed to provide interactive notification of pending computing activities, such as the need to reorder supplies or review a patient's clinical test results.	DC.1.8.6 DC.2.1.2 DC.2.5.1 DC.2.6.2 DC.2.6.3	ANSI/HL7 V3 RBAC, R1-2008
	Ambulance Run Report	R	See On-site Care Record		Emergency Responder Electronic Health Record, Detailed Use Case, ONCHIT, 2006.

ID	Object	Record or Workflow	Definition	EHRS Functional Model	Source of Definition
B2008	Appointment Schedule	R	A record of an appointment representing a booked slot or group of slots on a schedule, relating to one or more services or resources. Two examples might include a patient visit scheduled at a clinic and a reservation for a piece of equipment. A record of an appointment including past, present, and future appointments.		ANSI/HL7 V3 RBAC, R1-2008
B2009	Appointment Schedule Function	W	The process of interacting with systems and applications for the purpose of scheduling time for healthcare resources or patient care.	S.1.6	ANSI/HL7 V3 RBAC, R1-2008
B2010	Assessment	R	A record of a clinical evaluation consisting of a careful and complete history from the patient (or those who have information about the patient) and the reason(s) for their need of medical care in order to establish a diagnosis.	DC.1.5 DC.2.1.2	Adapted from Tabers Cyclopedic Medical Dictionary, 1993
B2011	Audit Trail	R	A record of access attempts and resource usage to verify enforcement of business, data integrity, security and access control rules.	IN.2.2	ISO TS 18330, EHR-Fm specification, Chapter 5, Section IN.2.2
B2012	Billing Attachment	R	A record of the processing of financial transactions related to the provision of healthcare services including the processing of eligibility verification, prior authorization, pre-determination, claims and remittance advice. The processing of patient information in the context of the EHR for reimbursement support.		ANSI/HL7 V3 RBAC, R1-2008
B2013	Blood Bank Order	R	A record of a request for whole blood or certain derived blood components.	DC.17.2.3 DC 2.4.5.1	Adapted from Tabers Cyclopedic Medical Dictionary, 1993
B2014	Blood Product Administration Record	R	A record of the blood products or certain derived blood components administered to a particular patient.	DC.17.2.3 DC 2.4.5.1	EHR-FM specification, Chapter 3, Section DC.2.4.5.1

ID	Object	Record or Workflow	Definition	EHRS Functional Model	Source of Definition
B2015	Biologic Order	R	A record of a request for (general) medicinal compounds which are prepared from living organisms and their products. Includes serums, vaccines, antigens and antitoxins.	DC.17.2.3 DC 2.4.5.1	Adapted from Tabers Cyclopedic Medical Dictionary, 1993
B2016	Business Rule	R	A record of a computable statement that alters system behavior in accordance with specified policies or clinical algorithms. Alerts that provide clinical decisions support typically rely on underlying business rules.	IN.6	EHR-FM specification, Chapter 5, Section IN.6
B2017	Care Plan	R	A record of expected or planned activities, including observations, goals, services, appointments and procedures, usually organized in phases or sessions, which have the objective of organizing and managing health care activity for the patient, often focused upon one or more of the patient's health care problems.	DC.1.6.1 DC.1.6.2	EHR-S Functional Model, Glossary
B2018	Chief Complaint	R	A record of the reason for the episode/encounter and patient's complaints and symptoms reflecting their own perceptions of their needs. The nature and duration of symptoms that caused the patient to seek medical attention, as stated in the patient's own words.		ANSI/HL7 V3 RBAC, R1-2008
B2019	Claims and Reimbursement	R	A record of a request for payment from third-party payers for health-care-related services received by a patient.	S.3.3.4 S.3.3.5	HL7 Claims and Reimbursement Glossary
B2020	Clinical Ad Hoc Report	R	A record of information generated on an ad hoc (one time) basis that contains clinical data.	DC.1.1.5	EHR-FM specification, Chapter 3 Section DC.1.1.5; HL7 RBAC Task Force
B2021	Clinical Guideline	R	A record that describes the processes used to evaluate and treat a patient having a specific diagnosis, condition, or symptom. Clinical practice guidelines are found in the literature under many		ANSI/HL7 V3 RBAC, R1-2008

ID	Object	Record or Workflow	Definition	EHRS Functional Model	Source of Definition
			names - practice parameters, practice guidelines, patient care protocols, standards of practice, clinical pathways or highways, care maps, and other descriptive names. Clinical practice guidelines should be evidence-based, authoritative, efficacious and effective within the targeted patient populations.		
B2022	Clinical Report	R	A record that summarizes clinical, as opposed to administrative, information about a patient.	DC.1.1.4	EHR-FM specification, Chapter 3 Section DC.1.1.4; HL7 RBAC Task Force
B2023	Coding	W	A process where medical records produced by the health care provider are translated into a code that identifies each diagnosis and procedure utilized in treating the patient.	S.3.2.1, S.3.2.2	ANSI/HL7 V3 RBAC, R1-2008
B2024	Consent Directive (informational)	R	A record of a patient's consent or dissent to collection, access, use or disclosure of individually identifiable health information as permitted under the applicable privacy policies about which they have been informed.		ANSI/HL7 V3 RBAC, R1-2008
B2025	Consent Directive (consent to treat)	R	A record of a patient's consent indicating that (s)he has been informed of the nature of the treatment, risks, complications, alternative forms of treatment and treatment consequences and has authorized that treatment.		ANSI/HL7 V3 RBAC, R1-2008

ID	Object	Record or Workflow	Definition	EHRS Functional Model	Source of Definition
B2026	Consult Order	R	A record of a request for a consult (service/sub-specialty evaluation) or procedure (i.e., Electrocardiogram) to be completed for a patient. Referral of a patient by the primary care physician to another hospital service/ specialty, to obtain a medical opinion based on patient evaluation and completion of any procedures, modalities, or treatments the consulting specialist deems necessary to render a medical opinion.		ANSI/HL7 V3 RBAC, R1-2008
B2027	Consultation Finding	R	A record of the recommendations made by the consulting practitioner.		ANSI/HL7 V3 RBAC, R1-2008
B2028	Current Directory of Provider Information	R	The current directory of provider information in accordance with relevant laws, regulations, and conventions, including full name, address or physical location, and a 24x7 telecommunications address (e.g., phone or pager access number) to support delivery of effective healthcare.	S.1.3.7	ANSI/HL7 V3 RBAC, R1-2008
B2029	De-identified Patient Data	R	A record of patient data from which important identifiers (Birth date, gender, address, age, etc.) have been removed before they can be used for research or other purposes.	S.1.5	http://www.informatics-review.com/wiki/index.php/De-Identified_Patient_Data
B2030	Diet Order	R	A record of a patient diet. A patient may have only one effective diet order at a time.		ANSI/HL7 V3 RBAC, R1-2008
B2031	Discharge Summary	R	A record of a summary of hospitalization to the Primary Care Provider (PCP) who will follow the patient in clinic after his/her stay or to the admitting doctor at next hospitalization.		ANSI/HL7 V3 RBAC, R1-2008

ID	Object	Record or Workflow	Definition	EHRS Functional Model	Source of Definition
B2032	Do Not Resuscitate (DNR) Order	R	A record in the patient's medical record instructing the medical staff not to try to revive the patient if breathing or heartbeat has stopped.		ANSI/HL7 V3 RBAC, R1-2008
B2033	Durable Medical Equipment Order	R	A record of a request for durable medical equipment.	DC.1.7.2.1	http://www.ssa.gov/OP_Home/ssact/title18/1861.htm#n
	Emergency Care Record	R	A record of patient care given in an Emergency Department		Emergency Responder Electronic Health Record, Detailed Use Case, ONCHIT, 2006.
	Emergency Contact Information	R	A record of information required to contact an individual selected by the patient in case of an emergency.		Emergency Responder Electronic Health Record, Detailed Use Case, ONCHIT, 2006.
B2034	Emergency Healthcare Resource Information	R	A record of health care resources (such as beds, operating theatres, medical supplies, and vaccines) which are available in response to local or national emergencies.	S.1.7	EHR-FM specification, Chapter 4, Section S.1.7
B2035	Encounter Data	R	A record of data relating to treatment or service rendered by a provider to a patient. Used in determining the level of service.		ANSI/HL7 V3 RBAC, R1-2008
B2036	Explanation of Benefits (EOB)	R	A record which identifies paid amount, adjudication results and informational items for invoice grouping. The provider may forward EOB details from a primary payer unaltered to a secondary adjudicator for co-ordination of benefits.	S.3.3.2	HL7 Claims and Reimbursement glossary
B2037	External Clinical Information	R	A record of clinical data and documentation (such as diagnostic images) from outside the institution's Electronic Health Record system.	DC.1.1.3.1	EHRS Functional Model, Release 1, 2007
B2038	Family History	R	A record of the patient family's relationships, major illnesses and causes of death.	PH.2.5.8	PHRS Functional Model, Release 1, May 2008.

ID	Object	Record or Workflow	Definition	EHRS Functional Model	Source of Definition
B2039	Formulary	R	A record of the list of medications that are a benefit for an individual or a defined group.	DC.1.7.1	HL7 Claims and Reimbursement glossary
B2040	Genetic Information	R	A record of a genetic test that reveals information about a patient's genotype, mutations or chromosomal changes	S.2.1	PHRS Functional Model, Release 1, May 2008.
B2041	Health Outcome Record	R	A record of the effects of the health care process on patients and populations. Examples of health outcome records include chronic disease and morbidity, physical functional status, and quality of life.	S.2.1	http://www.nlm.nih.gov/nichsr/corelib/houtcomes.html
B2042	Health Record Extraction	R	A record of patient data aggregated for analysis, reporting, or distribution. May include de-identified patient data.	IN.2.4	EHR-FM specification, Chapter 5, Section IN.2.4
B2043	Health Status Data	R	A record of the state of the health of a specified individual, group, or population. Health Status Data Elements and Indicators - this item lists the data elements and indicators used in the data set to describe the health status of an individual or target population(s).		ANSI/HL7 V3 RBAC, R1-2008
B2044	History and Physical	R	A record of a patient's history and physical examinations.		ANSI/HL7 V3 RBAC, R1-2008
B2045	Immunization List	R	A detailed record of the immunizations administered to a patient over a given time period.	DC.1.4.4	ANSI/HL7 V3 RBAC, R1-2008
B2046	Inpatient Medication Order	R	A record of (a) the identity of the drug to be administered, (b) dosage of the drug, (c) route by which the drug is to be administered, (d) time and/or frequency of administration, (e) registration number and address for a controlled substance.		ANSI/HL7 V3 RBAC, R1-2008

ID	Object	Record or Workflow	Definition	EHRS Functional Model	Source of Definition
B2047	Inter-Provider Communication	W	The process of supporting electronic messaging (inbound and outbound) between providers to trigger or respond to pertinent actions in the care process and document non-electronic communication (such as phone calls, correspondence or other encounters). Messaging among providers involved in the care process can range from real time communication (for example, fulfillment of an injection while the patient is in the exam room), to asynchronous communication (for example, consult reports between physicians).		ANSI/HL7 V3 RBAC, R1-2008
B2048	Laboratory Order	R	A record of a request for clinical laboratory services for a specified patient.		ANSI/HL7 V3 RBAC, R1-2008
B2049	Master Patient Index	R	A record used for of the tracking of patient information by assigning each patient an identifying series of characters.		ANSI/HL7 V3 RBAC, R1-2008
B2050	Medical History	R	A record of information about a patient's medical, procedural/surgical, social and family history that can provide information useful in formulating a diagnosis and providing medical care to the patient.	DC.1.2	ANSI/HL7 V3 RBAC, R1-2008
B2051	Medication Administration Record (M.A.R.)	R	A record of a medication administration is generated by the EHR, based upon the medical orders and the patient's plan of care. This document is used to conduct rounds and dispense medications. (i.e., The medication bar code, patient wristband, and the provider bar are used to uniquely identify each administration of a medication in the hospital and nursing home settings.)		ANSI/HL7 V3 RBAC, R1-2008

ID	Object	Record or Workflow	Definition	EHRS Functional Model	Source of Definition
B2052	Nursing Order	R	A record of a request to a nurse in a ward regarding nursing procedures for a patient.	DC.1.6.2 DC.1.7.1 DC.1.7.2 DC.1.7.3	ANSI/HL7 V3 RBAC, R1-2008
	On-Site Care Record	R	A record that is used to collect information at the scene of a healthcare incident by on-site care providers. On-site healthcare is often provided in emergency situations. Also called Ambulance Run Report.		Emergency Responder Electronic Health Record, Detailed Use Case, ONCHIT, 2006.
B2053	Order Set	R	A record of a pre-filled ordering template, or electronic protocol that is derived from evidence based best practice guidelines. The collection of proposed acts within the order set has been developed and edited to promote consistent and effective organization of health care activity.	DC.1.6.2DC.1.7.1DC.1.7.2DC.1.7.3	HL7 Glossary (1) Kamal J, Rogers P, Saltz J, Mekhjian HS. Information Warehouse as a Tool to Analyze Computerized Physician Order Entry Order Set Utilization: Opportunities for Improvement. In: AMIA 2003 Symposium Proceedings; 2003; Washington, DC; 2003. p. 336-41.
B2054	Outpatient Prescription Order	R	A record of request for a prescription medication to be dispensed to an outpatient.		ANSI/HL7 V3 RBAC, R1-2008
B2055	Past Visit	R	A record of all prior admissions to a facility that may have been documented in Provider Visit notes, Non-Visit Encounter notes, and Non-Scheduled Provider Visit notes.		ANSI/HL7 V3 RBAC, R1-2008
B2056	Patient Acuity	R	A record of the measurement of the intensity of care required for a patient accomplished by a registered nurse. There are six categories ranging from minimal care (I) to intensive care (VI).		ANSI/HL7 V3 RBAC, R1-2008

ID	Object	Record or Workflow	Definition	EHRS Functional Model	Source of Definition
B2057	Patient Allergy or Adverse Reaction	R	A record of a misguided reaction to a foreign substance by the immune system, the body system of defense against foreign invaders, particularly pathogens (the agent/s of infection). This includes noxious reaction from the administration of over-the-counter, prescription, or investigational/research drugs.		ANSI/HL7 V3 RBAC, R1-2008
B2058	Patient Bed Assignment	R	A record of the available beds to which a patient can be assigned to optimize care and minimize risk (such as exposure to contagious patients).	S.1.4.4	EHR-FM specification, Chapter 4, Section S.1.4.4
B2059	Patient Demographics (see also Patient Identification)	R	A record of the patient's demographic characteristics (such as age, gender, race/ethnicity, marital status, and occupation).	DC.2.5.1 DC.2.6.1 DC.3.2.5	http://www.usc.edu/schools/medicine/departments/preventive_medicine/divisions/epidemiology/research/csp/CSPedia/WebHelp/Patient_Demographics/Patient_Demographics_Introduction.htm
B2060	Patient Education	W	A teaching program or information data sheet given to patients concerning their own health needs.		ANSI/HL7 V3 RBAC, R1-2008
B2061	Patient Health Data from Administrative or Financial Source	R	A record of patient health data extracted from administrative or financial information source. Such derived data should be clearly labeled to distinguish it from clinically authenticated data.	DC 1.1.3.3	EHR-FM specification, Chapter 3, Section S.1.1.3.3
B2062	Patient Identification	R	A record of permanent identifying and demographic information about a patient used by applications as the main means of communicating this information to other systems.		ANSI/HL7 V3 RBAC, R1-2008
B2063	Patient Lookup (see also Patient Demographic)	W	A process by which the user queries the EHR for patient information by criteria such as name, date of birth, last name, and sex.		ANSI/HL7 V3 RBAC, R1-2008

ID	Object	Record or Workflow	Definition	EHRS Functional Model	Source of Definition
B2064	Patient-Specific Instructions	R	A record of specific directions given to a patient in connection with his or her health care. Examples include directions for taking medication, for activities that are required or prohibited shortly before or after a surgical procedure, or for a regimen to be followed after discharge from a hospital.	DC.1.7.1 DC.1.7.2.1 DC.1.9	EHR-FM specification, Chapter 3 Sections DC.1.7.1, DC.1.7.2.1, and DC.1.9
B2065	Patient Location Information	R	A record of a patient's location within the premises of a health care facility during an episode of care.	S.1.4.2	HL7 RBAC Task Force
B2066	Patient Test Report	R	A record of the result of any test or procedure performed on a patient or patient specimen.		ANSI/HL7 V3 RBAC, R1-2008
B2067	Patient/Family Preferences	R	A record of patient/family preferences and concerns, such as with native speaking language, medication choice, invasive testing, and consent and advance directives. Improves patient safety and facilitates self-health management.		ANSI/HL7 V3 RBAC, R1-2008
B2068	Patient Originated Data	R	A record containing data provided by the patient. Such a record should be clearly labeled to distinguish it from clinically authenticated data entered by a provider.	DC.1.1.3.2	EHR-FM specification, Chapter 3, Section DC.1.1.3.2
B2069	Patient Residence Information	R	A record of the patient's residence, for the purpose of providing in-home health services or providing transportation assistance.	S.1.4.3	EHR-FM specification, Chapter 4, Section S.1.4.3
B2070	Point of Care Testing Results	R	A record of the results of a diagnostic test performed at or near the site of patient care.		ANSI/HL7 V3 RBAC, R1-2008
B2071	Population Group	R	A record which includes information from a group of individuals united by a common factor (e.g., geographic location, ethnicity, disease, age, gender)	DC.2.2.2	NCI Thesaurus/A7589551

ID	Object	Record or Workflow	Definition	EHRS Functional Model	Source of Definition
B2072	Prescription Costing Information	R	A record of the cost of a prescription.		ANSI/HL7 V3 RBAC, R1-2008
B2073	Problem List	R	A record of brief statements that catalog a patient's medical, nursing, dental, social, preventative and psychiatric events and issues which are relevant to that patient's health care (e.g., signs, symptoms, and defined conditions).		ANSI/HL7 V3 RBAC, R1-2008
B2074	Progress Note	R	A record of a description of the health care provider's observations, their interpretations and conclusions about the clinical course of the patient or the steps taken, or to be taken, in the care of the patient.		ANSI/HL7 V3 RBAC, R1-2008
B2075	Prosthetic Order	R	A record of a request for an appropriate prosthetic that affects the care and treatment of the beneficiary.		ANSI/HL7 V3 RBAC, R1-2008
B2076	Provider Access Level	R	A record showing the system resources that each practitioner in a provider directory is authorized to use.	S.1.3.1	EHR-FM specification, Chapter 4, Section S.1.3.1
B2077	Provider Caseload Information	R	A record of the caseload (i.e., panel of patients) for a given provider. Information about the caseload or panel includes such things as whether or not a new member/patient/client can be added.	S.1.3.6	EHR-FM specification, Chapter 4, Section S.1.3.6
B2078	Provider Group Information	R	A record, directory, registry or repository containing information about teams or groups of providers.	S.1.3.5	EHR-FM specification, Chapter 4, Section S.1.3.5
B2079	Provider Location Information	R	A record of the location of a provider within a facility, at offices outside a facility, and when on call.	S.1.3.2 S.1.3.3 S.1.3.4	EHR-FM specification, Chapter 4, Sections S.1.3.2, S.1.3.3, and S.1.3.4
B2080	Public Health Report	R	A record of information submitted to public health authorities regarding a particular patient.	DC.1.1.4 S.3.3.6	EHR-FM specification, Chapter 3 Section DC.1.1.4 and Chapter 4 Section S.3.3.6

ID	Object	Record or Workflow	Definition	EHRS Functional Model	Source of Definition
B2081	Quality of Care Information	R	A record containing information used by performance and accountability measures for health care delivery.	S.2.1.2	EHR-FM specification, Chapter 4, Section S.2.1.2
B2082	Radiology Order	R	A record of a request for radiology and diagnostic services for a specified patient.		ANSI/HL7 V3 RBAC, R1-2008
B2083	Record Tracking	W	A process for managing and tracking the location of patient medical records.		ANSI/HL7 V3 RBAC, R1-2008
B2084	Referral Information	R	A record of a referral of a patient from one health care provider to another, regardless of whether a provider is internal or external to the organization.	DC.1.7.2.4	EHR-FM specification, Chapter 3, Section S.1.7.2.4
B2085	Registration	R	A record of information for legal or other records. Information may be gathered by interview or other source documentation.		ANSI/HL7 V3 RBAC, R1-2008
B2086	Release of Information	R	A record of a request by a patient or patient representative to release specified medical information to a third party.		ANSI/HL7 V3 RBAC, R1-2008
B2087	Remotely Monitored Device Data	R	A record of information from a medical device measuring a patient's physiological, diagnostic, medication tracking or activities of daily living measurements in a non-clinical setting remote from the healthcare provider. Such information can be communicated to the provider's EHR or the patient's PHR directly.	PH.3.1.2 S.3.1.4	PHRS Functional Model, Release 1, May 2008 EHRS Functional Model, Release 1, February 2007
B2088	Research Protocol	R	A record describing an action plan for a research study, including enrollment criteria, interventions to be performed, and data to be collected.	DC.2.2.3	EHR-FM specification, Chapter 3, Section DC.2.2.3
B2089	Result Interpretation	R	A record of how results (from a diagnostic test) were interpreted in the context of the patient's health care data.	DC.2.4.3	EHR-FM specification, Chapter 3, Section S.2.4.3

ID	Object	Record or Workflow	Definition	EHRS Functional Model	Source of Definition
B2090	Service Authorization	R	A record of information needed to support verification of medical necessity and prior authorization of services at the appropriate juncture in the encounter workflow.	S.3.3.3	EHR-S FM, Chapter 4, Section S.3.3.3.
B2091	Service Request	R	A record of a request for additional clinical information.	S.3.3.4	EHR-S FM, Chapter 4, Section S.3.3.4.
B2092	Skin Test Order	R	A request for an epucutaneous or intradermal application of a sensitizer for demonstration of either delayed or immediate hypersensitivity. Used in diagnosis of hypersensitivity or as a test for cellular immunity.		ANSI/HL7 V3 RBAC, R1-2008
B2093	Standing Order(s) PRN	R	Standing Orders - The record of a request to be carried out PRN orders - A record of a request to be carried out as needed.		ANSI/HL7 V3 RBAC, R1-2008
B2094	Supply Order	R	A record of a request for a quantity of manufactured material to be specified either by name, ID, or optionally, the manufacturer.		ANSI/HL7 V3 RBAC, R1-2008
B2095	Surgical Report	R	A report containing information regarding the surgical team, diagnoses, surgical interventions, and the method of anesthesia.		ANSI/HL7 V3 RBAC, R1-2008
B2096	Task Assignment	R	A record of the assignment or delegation of health care tasks to appropriate parties.	DC.3.3.1	EHR-FM specification, Chapter 3, Section DC.3.3.1
B2097	Transcription	W	The process of dictating or otherwise documenting information into an electronic format.		ANSI/HL7 V3 RBAC, R1-2008

ID	Object	Record or Workflow	Definition	EHRS Functional Model	Source of Definition
B2098	Transfer Summary	R	A record of a patient's health information necessary to facilitate the transition of the patient from one healthcare provider to another and enable efficient and effective care.		FORE Library: HIM Body of Knowledge
B2099	Treatment Plan	R	See Care Plan		(see Care Plan)
B2100	Verbal and Telephone Order	R	A record describing the healthcare services requested in a verbal or telephone communication.		ANSI/HL7 V3 RBAC, R1-2008
B2101	Vital Signs/Patient Measurements	R	A record of physical signs that indicate an individual is alive, such as heart beat, breathing rate, temperature, and blood pressure. These signs may be observed, measured, (documented in the patient's chart) and monitored to assess an individual's level of physical functioning.		ANSI/HL7 V3 RBAC, R1-2008

7. Permission Constraints

Constraints are restrictions (conditions or obligations) that are enforced upon access permissions. In RBAC, a constraint may restrict for example, a user to continue to operate on the object they are accessing. This could include contextual properties such as separation of duties, time-dependency, mutual exclusivity, cardinality, location, etc. More recent documentation also includes in the healthcare realms, the addition of patient consent and confidentiality codes[4] directed toward patient specific privacy issues in accessing Electronic Healthcare Record (EHR) and/or Personal Healthcare Record (PHR) information. For the complex healthcare environments, constraints provide the higher flexibility required in RBAC implementation (see Strembeck and Neumann[5]).

Constraints are restrictions that are enforced upon access permissions

[4] Document links, examples can be found on the HL7 Community Based Collaborative Care WiKi main page: http://wiki.hl7.org/index.php?title=Community-Based_Collaborative_Care

[5] Strembeck, M. and G. Neumann, An Integrated Approach to Engineer and Enforce Context Constraints in RBAC Environments; ACM Transactions on Information and System Security, Vol. 7, No. 3, August 2004.

According to Strembeck and Neumann "A *context constraint* is defined as a dynamic RBAC constraint that checks the actual values of one or more contextual attributes for pre-defined conditions. If these conditions are satisfied, the corresponding access request can be permitted. Accordingly, a *conditional permission* is an RBAC permission that is constrained by one or more context constraints." Thus, constraints are restrictions that are enforced upon access permissions. Context constraints are used to define conditional permissions.

For further detailed information on constraints, please reference the HL7 RBAC Constraint Catalog.

Appendix A - Healthcare Permission Tables

Listed below are non-normative examples of "Standard" Healthcare permissions that may be assigned to licensed, certified and non-licensed healthcare personnel created from the normative vocabulary.

Legend for the following healthcare permission table examples:

- **ID (xyy-nnn) Legend**:
  - x = P (permission)
    S (scenario)
  - yy = OE (order entry)
    RD (review documentation)
    PD (perform documentation)
    SC (scheduling)
    AD (administration)
  - nnn = Sequential number starting at 001 (note: permissions may be eliminated as a result of on-going analysis and review, thus numbers may not be sequential in this document)
- **Scenario ID** - refers to the scenario (reference the RBAC Healthcare Scenarios document) from which the abstract permission name was derived
- **Unique Permission ID** - refers to the identifier assigned to the permission name
- **Permission Name** – the name given to the {operation, object} pair using operations from Table 2 and objects from Table 3.
- **{Operation, Object}** – the actual operation and object pair that make up the permission.

Permissions are organized according to the following tasks:

A.1 Order Entry Task

Table 4 lists the permissions associated with order entry.

Table 4: Order Entry Permissions

Scenario ID	Unique Permission ID	Permission Name	{Operation, Object}
SOE-002	POE-001	New Laboratory Order	{CREATE, Laboratory Order}
SOE-002	POE-002	Change/Discontinue Laboratory Order	{UPDATE, Laboratory Order}
SOE-001	POE-003	New Radiology Order	{CREATE, Radiology Order}
SOE-007	POE-004	Change/Discontinue Radiology Order	{UPDATE, Radiology Order}
SOE-001	POE-005	New/Renew Outpatient Prescription Order	{CREATE, Outpatient Prescription Order}
SOE-001	POE-006	Change/Discontinue/Refill Outpatient Prescription Order	{UPDATE, Outpatient Prescription Order}, {CREATE, Outpatient Prescription Order}
SOE-003	POE-007	New Inpatient Medication Order	{CREATE, Inpatient Medication Order}
SOE-003	POE-008	Change/Discontinue Inpatient Medication Order	{UPDATE, Inpatient Medication Order}
SOE-002	POE-009	New Diet Order	{CREATE, Diet Order}
SOE-002	POE-010	Change/Discontinue Diet Order	{UPDATE, Diet Order}
SOE-001	POE-011	New Consult Order	{CREATE, Consult Order}
SOE-006	POE-012	Change/Discontinue Consult Order	{UPDATE, Consult Order}
SOE-003	POE-013	New Nursing Order	{CREATE, Nursing Order}
SOE-003	POE-014	Change/Discontinue Nursing Order	{UPDATE, Nursing Order}
SOE-002	POE-015	New Standing Order(s) PRN	{CREATE, Standing Order(s) PRN}
SOE-002	POE-016	Change/Discontinue Standing Order(s) PRN	{UPDATE, Standing Order(s) PRN}
SOE-005	POE-017	New Verbal and Telephone Order	{CREATE, Verbal and Telephone Order}
SOE-005	POE-018	Change/Discontinue Verbal and Telephone Order	{UPDATE, Verbal and Telephone Order}
SOE-002	POE-019	New Supply Order	{CREATE, Supply Order}
SOE-002	POE-020	Change/Discontinue Supply Order	{UPDATE, Supply Order}

Scenario ID	Unique Permission ID	Permission Name	{Operation, Object}
SOE-006	POE-021	New Prosthetic Order	{CREATE, Prosthetic Order}
SOE-006	POE-022	Change/Discontinue Prosthetic Order	{UPDATE, Prosthetic Order}
SOE-001	POE-023	Sign Order	{SIGN, Laboratory Order} {SIGN, Radiology Order} {SIGN, Outpatient Prescription Order} {SIGN, Inpatient Medication} {SIGN,Diet Order} {SIGN, Consult Order} {SIGN, Nursing Order} {SIGN, Standing Order(s) PRN} {SIGN, Verbal and Telephone Order} {SIGN, Supply Order} {SIGN, Prosthetic Order}
SOE-003	POE-026	New Do Not Resuscitate (DNR) Order	{CREATE, Do Not Resuscitate (DNR) Order}
SOE-003	POE-027	Change/Discontinue Do Not Resuscitate (DNR) Order	{UPDATE, Do Not Resuscitate (DNR) Order}
SOE-008	POE-028	Release Order	{UPDATE, Laboratory Order} {UPDATE, Radiology Order} {UPDATE, Outpatient Prescription Order} {UPDATE, Inpatient Medication} {UPDATE, Diet Order} {UPDATE, Consult Order} {UPDATE, Nursing Order} {UPDATE, Standing Order(s) PRN} {UPDATE, Verbal and Telephone Order} {UPDATE, Supply Order} {UPDATE, Prosthetic Order}

A.2 Review Documentation Task

Table 5 lists the permissions associated with reviewing documentation.

Table 5: Review Documentation Permissions

Scenario ID	Unique Permission ID	Permission Name	{Operation, Object}
SRD-001	PRD-001	Review Patient Test Report	{READ, Patient Test Report}
SRD-001	PRD-002	Review Chief Complaint	{READ, Chief Complaint}
SRD-001	PRD-003	Review Medical History	{READ, Medical History}
SRD-001	PRD-004	Review Existing Order	{READ, Laboratory Order} {READ, Radiology Order} {READ, Outpatient Prescription Order} {READ, Inpatient Medication} {READ, Diet Order} {READ, Consult Order} {READ, Nursing Order} {READ, Standing Order(s) PRN} {READ, Verbal and Telephone Order} {READ, Supply Order} {READ, Prosthetic Order} {READ, Do Not Resuscitate (DNR) Order}
SRD-001	PRD-005	Review Vital Signs/Patient Measurements	{READ, Vital Signs/Patient Measurements}
SRD-001	PRD-006	Review Patient Identification	{READ, Patient Identification}
SRD-001	PRD-007	Review Clinical Guideline	{READ, Clinical Guideline}
SRD-001	PRD-008	Review Alert	{READ, Alert}
SRD-001	PRD-009	Review Current Directory of Provider Information	{READ, Current Directory of Provider Information}
SRD-001	PRD-010	Review Patient Medications	{READ, Outpatient Prescription Order}, {READ, Inpatient Medication Order}
SRD-001	PRD-011	Review Patient Allergy or Adverse Reaction	{READ, Patient Allergy or Adverse Reaction}
SRD-001	PRD-012	Review Past Visits	{READ, Past Visits}
SRD-001	PRD-013	Review Immunization List	{READ, Immunization List}
SRD-001	PRD-014	Review Health Status Data	{READ, Health Status Data}
SRD-001	PRD-015	Review Prescription Costing Information	{READ, Prescription Costing Information}
SRD-001	PRD-016	Review Problem List	{READ, Problem List}

Scenario ID	Unique Permission ID	Permission Name	{Operation, Object}
SAD-004	PRD-017	Review Progress Note	{READ, Progress Note}

A.3 Perform Documentation Task

Table 6 lists the permissions associated with performing documentation activities.

Table 6: Perform Documentation Permissions

Scenario ID	Unique Permission ID	Permission Name	{Operation, Object}
SPD-001	PPD-001	New Progress Note	{CREATE, Progress Note}
SPD-001	PPD-002	Edit/Append/Sign Progress Note	{UPDATE, Progress Note}, {APPEND, Progress Note}, {SIGN, Progress Note}
SPD-001	PPD-006	New Patient Education	{CREATE, Patient Education}
SPD-001	PPD-007	Edit/Append/Sign Patient Education	{UPDATE, Patient Education}, {APPEND, Progress Note}, {SIGN, Progress Note}
SPD-005	PPD-009	New History and Physical	{CREATE, History and Physical}
SPD-001	PPD-010	Edit/Append/Sign History and Physical	{UPDATE, History and Physical}, {APPEND, History and Physical}, {SIGN, History and Physical}
SPD-009	PPD-012	New Consultation Finding	{CREATE, Consultation Finding}
SPD-009	PPD-013	Edit/Append/Sign Consultation Finding	{UPDATE, Consultation Finding}, {APPEND, Consultation Finding}, {SIGN, Consultation Finding}
SPD-011	PPD-015	New Surgical Report	{CREATE, Surgical Report}
SPD-011	PPD-016	Edit/Append/Sign Surgical Report	{UPDATE, Surgical Report}, {APPEND, Surgical Report}, {SIGN, Surgical Report}
SPD-001	PPD-018	New Patient Allergy or Adverse Reaction	{CREATE, Patient Allergy or Adverse Reaction}
SPD-004	PPD-019	Edit Patient Allergy or Adverse Reaction	{UPDATE, Patient Allergy or Adverse Reaction}
SPD-007	PPD-020	New Patient Test Report	{CREATE, Patient Test Report}
SPD-007	PPD-021	Edit/Append/Sign Patient Test Report	{UPDATE, Patient Test Report}, {APPEND, Patient Test Report},

Scenario ID	Unique Permission ID	Permission Name	{Operation, Object}
			{SIGN, Patient Test Report}
SPD-003	PPD-023	New Point of Care Testing Results	{CREATE, Point of Care Testing Results}
SPD-003	PPD-024	Edit/Append/Sign Point of Care Lab Testing Results	{UPDATE, Point of Care Testing Results}, {APPEND, Point of Care Testing Results}, {SIGN, Point of Care Testing Results}
SPD-005	PPD-025	New Problem List	{CREATE, Problem List}
SPD-005	PPD-026	Edit/Append Problem List	{UPDATE, Problem List}, {APPEND, Problem List}
SPD-013	PPD-029	New Discharge Summary	{CREATE, Discharge Summary}
SPD-013	PPD-030	Edit/Append/Sign Discharge Summary	{UPDATE, Discharge Summary}, {APPEND, Discharge Summary}, {SIGN, Discharge Summary}
SPD-004	PPD-032	New Consent Directive (consent for treatment)	{CREATE, Consent Directive (consent for treatment)}
SPD-004	PPD-033	Edit/Append/Sign Consent Directive (consent for treatment)	{UPDATE, Consent Directive (consent for treatment)}, {APPEND, Consent Directive (consent for treatment)}, {SIGN, Consent Directive (consent for treatment)}
SPD-004	PPD-034	Verify Presence or Absence of Advance Directive	{VERIFY, Advance Directive}
SPD-015	PPD-035	Replace Advance Directive	{REPLACE, Advance Directive}
SPD-004	PPD-036	New Patient/Family Preferences	{CREATE, Patient/Family Preferences}
SPD-005	PPD-037	Edit/Append Patient/Family Preferences	{UPDATE, Patient/Family Preferences}, {APPEND, Patient/Family Preferences}
SPD-005	PPD-038	New Inter-Provider Communication	{CREATE, Inter-Provider Communication}
SPD-005	PPD-039	Edit/Append Inter- Provider Communication	{UPDATE, Inter- Provider Communication}, {APPEND, Inter-Provider Communication}
SPD-001	PPD-040	New Encounter Data	{CREATE, Encounter Data}
SPD-001	PPD-041	Edit/Append/Sign Encounter Data	{UPDATE, Encounter Data}, {APPEND, Encounter Data}, {SIGN, Encounter Data}

Scenario ID	Unique Permission ID	Permission Name	{Operation, Object}
SPD-014	PPD-044	New Patient Acuity	{CREATE, Patient Acuity}
SPD-014	PPD-045	Edit/Append Patient Acuity	{UPDATE, Patient Acuity}, {APPEND, Patient Acuity}
SPD-003	PPD-046	Record Medication Administration Record (M.A.R.)	{CREATE, Medication Administration Record (M.A.R.)}
SPD-005	PPD-047	New Immunization List	{CREATE, Immunization List}
SPD-005	PPD-048	Edit/Append/Sign Immunization List	{UPDATE, Immunization List }, {APPEND, Immunization List }, {SIGN, Immunization List }
SPD-005	PPD-049	New Skin Test Order	{CREATE, Skin Test Order}
SPD-005	PPD-050	Edit/Append/Sign Skin Test Order	{UPDATE, Skin Test Order }, {APPEND, Skin Test Order }, {SIGN, Skin Test Order }
SPD-002	PPD-051	New Vital Signs/Patient Measurements	{CREATE, Vital Signs/Patient Measurements}
SPD-005	PPD-052	Edit/Append Vital Signs/Patient Measurements	{UPDATE, Vital Signs/Patient Measurements}, {APPEND, Vital Signs/Patient Measurements}
SPD-005	PPD-053	New Health Status Data	{CREATE, Health Status Data}
SPD-005	PPD-054	Edit/Append/Sign Health Status Data	{UPDATE, Health Status Data}, {APPEND, Health Status Data}, {SIGN, Health Status Data}
SPD-016	PPD-055	New Clinical Report	{CREATE, Clinical Report}
SPD-016	PPD-056	Edit/Append Clinical Report	{UPDATE, Clinical Report}, {APPEND, Clinical Report}

A.4 Scheduling Task

Table 7 lists the permissions associated with scheduling.

Table 7: Scheduling Permissions

Scenario ID	Unique Permission ID	Permission Name	{Operation, Object}
SSC-001	PSC-001	New Appointment Schedule	{CREATE, Appointment Schedule}
SSC-001	PSC-002	Edit/Access Appointment Schedule	{UPDATE, Appointment Schedule} {READ, Appointment Schedule}
SSC-001	PSC-003	Display/Print Appointment Schedule	{READ, Appointment Schedule} {PRINT, Appointment Schedule}
SSC-001	PSC-004	Perform Appointment Schedule Function	{CREATE, Appointment Schedule} {READ, Appointment Schedule} {UPDATE, Appointment Schedule}

A.5 Administration Task

Table 8 lists the permissions associated with administration.

Table 8: Administration Permissions

Scenario ID	Unique Permission ID	Permission Name	{Operation, Object}
SAD-001	PAD-001	Perform Admission/Discharge/Transfer Function	{CREATE, Admission Record}, {READ, Admission Record}, {UPDATE, Admission Record}, {CREATE, Discharge Summary}, {READ, Discharge Summary }, {UPDATE, Discharge Summary }, {CREATE, Transfer Summary}, {READ, Transfer Summary }, {UPDATE, Transfer Summary},
SAD-005	PAD-008	New Registration	{CREATE, Registration}
SAD-005	PAD-009	Edit/Append Registration	{UPDATE, Registration} {APPEND, Registration)
SAD-002	PAD-010	Perform Coding	{CREATE, Coding} {UPDATE, Coding}
SAD-002	PAD-011	Review Coding	{READ, Coding}

Scenario ID	Unique Permission ID	Permission Name	{Operation, Object}
SAD-002	PAD-012	Perform Billing Function	{CREATE, Billing Attachment}, {UPDATE, Billing Attachment}, {CREATE, Claims and Reimbursement}, {UPDATE, Claims and Reimbursement}
SAD-003	PAD-013	Review Billing Data	{READ, Billing Attachment}, {READ, Claims and Reimbursement}
SAD-008	PAD-014	New Account Receivable	{CREATE, Account Receivable}
SAD-003	PAD-015	Review Account Receivable	{READ, Account Receivable}
SAD-004	PAD-016	Display/Print Administrative Report	{READ, Administrative Report}, {PRINT, Administrative Report}
SAD-004	PAD-017	Create/Display/Print Administrative Ad Hoc Report	{CREATE, Administrative Ad Hoc Report}, {READ, Administrative Ad Hoc Report}, {PRINT, Administrative Ad Hoc Report}
SAD-006	PAD-018	Perform Record Tracking	{CREATE, Record Tracking} {UPDATE, Record Tracking}
SAD-003	PAD-019	Review Record Tracking	{READ, Record Tracking}
SAD-010	PAD-021	New Master Patient Index	{CREATE, Master Patient Index}
SAD-010	PAD-022	Edit/Append Master Patient Index	{UPDATE, Master Patient Index} {READ, Master Patient Index}
SAD-012	PAD-024	Perform Release of Information	{CREATE, Release of Information} {UPDATE, Release of Information} {READ, Release of Information}