Role Based Access Control (RBAC) Healthcare Permission Catalog

Version 3.3

HL7 Security Technical Committee

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REVISION HISTORY

Date	Reason For Changes	Version
11/09/2005	DSTU Draft	2.2
05/31/2006	Additional content from Ballot Review (Sections 1.1-1.3)	3.0
02/23/2007	Update to DSTU Draft post ballot review, Addition of Operation Vocabulary	3.1
02/23/2007	Quality Assurance Review/Revision	3.2
06/03/2007	Revisions for Out of Cycle Ballot	3.3
06/11/2007	Revisions for Out of Cycle Ballot	3.31
06/15/2007	Quality Assurance Review/Revision	3.32

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 insert, delete, append, and update. An *operation* is also known as an action or privilege.	[ANSI-RBAC]
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.	[ANSI-RBAC]

1.1   Conformance

Interoperability is dependent upon organizations building roles from normative objects and actions defined within this vocabulary and nothing more. 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 an entity. There is no presumption of which workflow or process that the user is engaged in or what accesses the entity may be granted by a business partner. The authorization assertion only conveys the rights that the owing organization has bestowed. 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 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 only permissions selected from the HL7 defined permission catalog. Additions to the HL7 permission catalog are anticipated and allowed using the described process that has become part of the HL7 HDF; however, any implementation which adopts such extensions prior to having those changes approved by HL7 ballot would be considered non-conformant.

For example, in the case of orders, the standard vocabulary provides for separation between order creation and signature as distinct permissions. While some organization implementation 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. 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.

1.2   Scope

This vocabulary provides access control 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 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 Security TC plans to consider situations including domains that reflect specific types of policies in the future suitable for use in one domain and not another. Domain considerations are out of scope of the current permission definitions.

1.3   Extensibility

This vocabulary includes a non-normative "Role Engineering Process" which has been added to the HL7 HDR. 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 Technical Committee along with associated scenarios and artifacts for proposed extensions to the normative vocabulary or simply adopted as proprietary non-interoperable or local domain extensions.

1.4   Operation Definitions

Table 2 lists normative 'operation definition' vocabulary

- Action – as listed in the "Basic Permission Name {Operation, Object}" column in the healthcare permission tables in Section 2

- Definition – definition of the operation

- Source – authoritative source of the definition of the operation

Table 2: Operation Definitions

Action	Definition	Source of Definition
Append	For the purpose of having privileges to perform an action on an object. Read, execute, append, modify, delete, and create are examples of access types. Append: Fundamental operation in an IS that results only in the addition of information to an object or subject already in existence	National Information Assurance (IA) Glossary; CNSS Instruction No. 4009 Revised June 2006 DataModel.org Dictionary of Terms http://www.datamodel.org/dictionary.php#C
Create	In computing, CRUDE is an acronym for Create, Read, Update, Delete and Execute Create: Fundamental operation in an Information System (IS) that results only in the act of bringing an object into existence For the purpose of having privileges to perform an action on an object. Read, execute, append, modify, delete, and create are examples of access types. [General modeling] CRUD describes the operations that processes, activities or tasks can make regarding data elements. This also refers to the "CRUD Chart", which is used to diagram all processes against all data in a system. As a rule, a single activity should not perform all operations, and all data should have each activity performed on it.	National Information Assurance (IA) Glossary; CNSS Instruction No. 4009, Revised June 2006 DataModel.org Dictionary of Terms http://www.datamodel.org/dictionary.php#C

Action	Definition	Source of Definition
Delete	In computing, CRUDE is an acronym for Create, Read, Update, Delete and Execute. For the purpose of having privileges to perform an action on an object. Read, execute, append, modify, delete, and create are examples of access types. Delete: Fundamental operation in an IS that results only in the removal of information about an object from memory or storage.	National Information Assurance (IA) Glossary; CNSS Instruction No. 4009, Revised June 2006
Execute	For the purpose of having privileges to perform an action on an object. Read, execute, append, modify, delete, and create are examples of access types. Execute: Fundamental operation in an IS that results only in initiating performance of a single or set of programs.	National Information Assurance (IA) Glossary; CNSS Instruction No. 4009, Revised June 2006
Read	In computing, CRUDE is an acronym for Create, Read, Update, Delete and Execute. Read: Fundamental operation in an IS that results only in the flow of information about an object to an subject For the purpose of having privileges to perform an action on an object. Read, execute, append, modify, delete, and create are examples of access types.	National Information Assurance (IA) Glossary; CNSS Instruction No. 4009 Revised June 2006 DataModel.org Dictionary of Terms http://www.datamodel.org/dictionary.php#C

Action	Definition	Source of Definition
Update	In computing, CRUDE is an acronym for Create, Read, Update, Delete and Execute. For the purpose of having privileges to perform an action on an object. Read, execute, append, modify, delete, and create are examples of access types. Update: Fundamental operation in an IS that results only in the revision or alteration of an object Create, Read, Update & Delete (CRUD) [General modeling] CRUD describes the operations that processes, activities or tasks can make regarding data elements. This also refers to the "CRUD Chart", which is used to diagram all processes against all data in a system. As a rule, a single activity should not perform all operations, and all data should have each activity performed on it.	National Information Assurance (IA) Glossary; CNSS Instruction No. 4009 Revised June 2006 DataModel.org Dictionary of Terms http://www.datamodel.org/dictionary.php#C

1.5 Object Definitions

Table 3 lists normative 'objection definition' vocabulary

- Object – as listed in the "Basic Permission Name {Operation, Object}" column in the healthcare permission tables in Section 2

- Definition – definition of the object

- Source – authoritative source of the definition of the object

Table 3: Object Definitions

Object	Definition	Source of Definition
Accounts Receivable	Processing patient and insurance company payments.	HL7 RBAC Task Force
Administrative Ad Hoc Report	A report of information generated on an ad hoc (one time) basis that contains administrative data; no clinical data will be included.	HL7 RBAC Task Force
Administrative Report	A collection of data (patient-specific and/or summary) generated for a variety of administrative purposes.	HL7 RBAC Task Force
ADT Functions	The administrative functions of patient registration, admission, discharge, and transfer.	http://www.wrongdiagnosis.com/medical-dictionary/adt.htm http://www.jeron.com/adt.html
Advance Directives	A living Will written by the patient to the physician in case of incapacitation to give further instructions.	ASTM E 1384 – 02a Standard Practice for Content and Structure of the Electronic Health Record
Alerts	Brief online notices that are issued to users as they complete a cycle through the menu system. Alerts are designed to provide interactive notification of pending computing activities, such as the need to reorder supplies or review a patient's clinical test results.	Computerized Patient Record System (CPRS) TECHNICAL MANUAL Version 1.0, December 1997 http://www.va.gov/vista/VistAdocs/Clinical/Comp_Patient_Recrd_Sys_(CPRS)/CPRSLMTM.PDF

Object	Definition	Source of Definition
Appointment Schedule	1. An appointment represents 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. 2. Includes past, present, and future appointments.	HL7 RBAC Task Force
Appointment Schedule Functions	For example, patient check-in, check-out, no show, etc.	HL7 RBAC Task Force
Billing	Processing patient and insurance company bills.	HL7 RBAC Task Force
Chief Complaint	The reason for the episode/encounter and patient's complaints and symptoms reflecting his/her own perceptions of his needs. The nature and duration of symptoms that caused the patient to seek medical attention, as stated in the patient's own words.	ASTM E 1384 – 02a Standard Practice for Content and Structure of the Electronic Health Record
Coding	Coding is a process where medical records produced by the health care provider are translated into a code that identifies each diagnoses and procedure utilized in treating the patient. Coding uses special computer programs to determine insurance reimbursements, and tabulate and analyze data. Health information technicians work under the supervision of the health information administrator.	Mississippi Hospital Association Health Career Center, http://www.mshealthcareers.com/careers/healthinfo.htm
Consents and Authorizations	Patient indicates in writing that (s)he has been informed of the nature of the treatment, risks, complications, alternative forms of treatment and treatment consequences.	ASTM E 1384 – 02a Standard Practice for Content and Structure of the Electronic Health Record

Object	Definition	Source of Definition
Consult Order	A request for a consult (service/sub-specialty evaluation) or procedure (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.	CONSULT/REQUEST TRACKING USER MANUAL Version 3.0, December 1997, June 2002, Update Department of Veterans Affairs Technical Services Computerized Patient Record System Product Line http://www.va.gov/vdl/documents/Clinical/CPRS-Consult_Request_Tracking/constm.doc
Consultation Findings	The text of the recommendations made by the consulting practitioner.	ASTM E 1384 – 02a Standard Practice for Content and Structure of the Electronic Health Record
Current Directory of Provider Information	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.	HL7 EHR System Functional Model, Draft Standard for Trial Use, July 2004 http://www.ihs.gov/cio/ehr/files/HL7_EHR_DSTU.pdf
Diet Order	An order for a patient diet. A patient may have only one effective diet order at a time.	Health Level Seven, Version 2.3 © 1997 http://www2.dmi.columbia.edu/resources/hl7doc/hl72.3/APPE.PDF
Discharge Summary	The Discharge Summary is a concise summary of hospitalization to the Primary Care Provider (PCP) who will follow the patient in clinic after his/her stay or the admitting doctor at next hospitalization	OU-Tulsa Department of Internal Medicine Discharge Summary Format http://tulsa.ou.edu/im/Discharge%20Summary%20Guide.pdf

Object	Definition	Source of Definition
DNR Order	A do-not-resuscitate (DNR) order in the patient's medical chart instructs the medical staff not to try to revive the patient if breathing or heartbeat has stopped. This means physicians, nurses and others will not initiate such emergency procedures as mouth-to-mouth resuscitation, external chest compression, electric shock, insertion of a tube to open the patient's airway, injection of medication into the heart or open chest heart massage. If the patient is in a nursing home, a DNR order instructs the staff not to perform emergency resuscitation and not to transfer the patient to a hospital for such procedures.	Stony Brook University Hospital, New York http://www.stonybrookhospital.com/index.cfm?print=yes&id=1388&num=
Encounter Data	1. Data relating to treatment or service rendered by a provider to a patient. Used in determining the level of service. 2. Encounter: (1) An instance of direct provider/practitioner to patient interaction, regardless of the setting, between a patient and a practitioner vested with primary responsibility for diagnosing, evaluating or treating the patient's condition, or both, or providing social worker services. (2) A contact between a patient and a practitioner who has primary responsibility for assessing and treating the patient at a given contact, exercising independent judgment.	1. Adapted from Glossary of Managed Care Terms http://www.pohly.com/terms_e.html 2. ASTM E1384-02a -- Standard Guide for Content and Structure of the Electronic Health Record

Object	Definition	Source of Definition
Health Status Data	1. Health Status - the state of health of a specified individual, group, or population. It may be measured by obtaining proxies such as people's subjective assessments of their health; by one or more indicators of mortality and morbidity in the population, such as longevity or maternal and infant mortality; or by using the incidence or prevalence of major diseases (communicable, chronic, or nutritional). Conceptually, health status is the proper outcome measure for the effectiveness of a specific population's medical care system, although attempts to relate effects of available medical care to variations in health status have proved difficult. 2. 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).	1. Management Resources for Healthcare & Medical Professionals http://www.pohly.com/terms_h.html 2. Department of Maternal and Child Health - School of Public Health - University of North Carolina-Chapel Hill http://mchneighborhood.ichp.edu/eds/901031809.html
History and Physical	A permanent record preserved in writing in either printed or electronic form. The written report of a history and physical examination not only serves to supplement the memory of the treating physician but may also provide essential information to other physicians months, years, or decades later. In addition, it may assume great legal significance, documenting the thoroughness and appropriateness of the physician's evaluation and the accuracy of the diagnosis, providing a basis for health insurance benefit payments, or supplying data for disability determination or workers' compensation.	H & P: A Nonphysician's Guide to the Medical History and Physical Examination, John H. Dirckx, M.D., Health Professions Institute, Modesto, California 2001 http://www.hpisum.com/downloads/H&P3.pdf

Object	Definition	Source of Definition
Immunization	A treatment given to a patient to confer immunity for a specific disease.	HL7 RBAC Task Force
Inpatient Medication Order	An inpatient medication order to the pharmacy system might include (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.	Business Requirements for an Automated Patient Medical Record http://www.uprforum.com/Chapter7.htm
Inter-Practitioner Communication	Support electronic messaging (inbound and outbound) between providers to trigger or respond to pertinent actions in the care process, document non-electronic communication (such as phone calls, correspondence or other encounters) and generate paper message artifacts where appropriate. 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). Some forms of inter-practitioner communication will be paper based and the EHR must be able to produce appropriate documents.	HL7 EHR SIG Functional Descriptors http://www.providersedge.com/ehdocs/ehr_articles/Public_Response_to_HL7_Ballot1-EHRs.pdf
Laboratory Order	A request for clinical laboratory services for a specified patient.	HL7 RBAC Task Force
Master Patient Index	A computer-based system that facilitates the tracking of patient information by assigning each patient an identifying series of characters.	Healthcare Informatics http://www.va.gov/vista/vistadocs/clinical/MPI_Patient_Demographics_(MPI-PD)/mpi%20monograph.pdf

Object	Definition	Source of Definition
Medical History	The Medical History, along with a Physical Exam, together referred to as an 'H and P', is a comprehensive evaluation that forms the basis for diagnosis and treatment of patients.	myDNA http://www.mydna.com/resources/tests/topics/tests/medical/medhistory
Medication Administration Record (M.A.R.)	The medication administration record (MAR) and other documents such as the patient care summary are generated by the EHR, based upon the medical orders and the patient's plan of care. These documents are used to conduct rounds and dispense medications. 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. Medications are provided in unit doses for each patient and stored in a cart that includes a wireless laptop with a bar code reader to be used for administration. For each dosage, the electronic medication administration record is used and the codes read for the medication, the patient, and the person administering it. Any conflicts between medication or dosage and patient are noted electronically, and the medication administration is ceased until resolved. Missed doses and refusals are recorded electronically in the electronic record, and all documentation of administration is electronic. Controlled substances also are signed out electronically.	U.S. Department of Health and Human Services - Assistant Secretary for Planning and Evaluation - Office of Disability, Aging and Long-Term Care Policy http://aspe.dhhs.gov/daltcp/reports/ehrpaltc.pdf

Object	Definition	Source of Definition
Nursing Order	1. Physician's orders to a nurse in a ward regarding nursing procedures 2. Recorded in the worksheet etc. regarding procedures to be carried out by a nurse 3. Unlike other orders, a nursing order is placed not only by a physician but also by a nurse. 4. A physician in charge of a ward has an obligation to give orders regarding nursing procedures as a "nursing order." 5. A nurse in charge of a ward has authorization to record the nursing procedures upon the relevant patient carried out by a nurse in charge of a ward on the worksheet etc., as a "nursing order." A nursing order for a nurse (or a nurse group) in order to carry out work is input by the nurse. Using the electronic patient record system, the worksheet regarding work flow to be carried out by a nurse, such as nursing and induction to examinations, is created, based on orders/nursing orders. 6. A nurse inputs a nurse order and its implementation result into the electronic patient record system terminal at the bedside or in a nurse station.	Electronic Patient Record System Enterprise Model for Tertiary Hospital ,June 7, 2002, Japanese Association of Healthcare Information Systems Industry http://www.hl7.jp/work/epr-english/Enterprise.pdf
Outpatient Prescription Order	A request for a prescription medication to be dispensed to an outpatient.	HL7 RBAC Task Force
Overbook	To assign a patient to an appointment slot that is already booked by another patient in accordance with the policy of the facility.	HL7 RBAC Task Force

Object	Definition	Source of Definition
Past Visits	All prior "Provider Visit" notes, "Non-Visit Encounter" notes, and "Non-Scheduled Provider Visit" notes.	SmartDoctor Automated Patient Care System - User Manual COPYRIGHT 2004 http://www.smartdoctor.com/system_walk.htm
Patient Acuity	The measurement of the intensity of care required for a patient accomplished by a registered nurse. There are six categories ranging from minimal care (f) to intensive care (VI).	Department of Defense Glossary of Healthcare Terminology - Assistant Secretary of Defense Health Affairs - Washington, DC 20301 - January 1999 http://www.tricare.osd.mil/imtr/glossary.html#toc
Patient Allergies	A misguided reaction to foreign substances by the immune system, the body system of defense against foreign invaders, particularly pathogens (the agents of infection). The allergic reaction is misguided in that these foreign substances are usually harmless. The substances that trigger allergy are called allergen. Examples include pollens, dust mite, molds, danders, and certain foods. People prone to allergies are said to be allergic or atopic.	http://www.answers.com/topic/hay-fever

Object	Definition	Source of Definition
Patient Allergy or Adverse Reaction	Untoward noxious reaction associated with drug use. It may result from administration of over-the-counter, prescription, or investigational/research drugs. It includes adverse events occurring from drug overdose, whether accidental or intentional, drug abuse, drug withdrawal, and significant failure of expected pharmacological action. A proven cause-and-effect relationship between the reaction and suspected drug(s) is not required before a reaction is reportable; reasonable suspicion is sufficient. Blood products are specifically excluded from adverse drug event monitoring and should be reported utilizing reporting mechanisms specifically designed for these products. An allergy is an adverse reaction mediated by an immunologic mechanism.	Department of Veterans Affairs - Network Memorandum 10N2-120-03 - VA Healthcare Network - July 31, 2003 - Upstate New York http://www1.va.gov/visns/visn02/network/policies/10n2-120-03.doc
Patient Education	The teaching or training of patients concerning their own health needs.	Medical Dictionary Online http://www.online-medical-dictionary.org/Patient+Education.asp?q=Patient+Education
Patient Identification and Lookup	Patient Identification contains permanent identifying and demographic information about a patient used by applications as the main means of communicating this information to other systems.	LINKTools® IDK Tutorial: Creating Mapper Template http://www.linkmed.com/Support/Content_15.htm
	Patient look-up functions enable the user to search by criteria such as name, date of birth, last name, and sex. Patient data is retrieved from the most recent visit or, upon request, recalls the patient's entire visit history.	MEDITECH.com, the corporate web site for Medical Information Technology, Inc. http://www.meditech.com/ProductBriefs/Pages/ProductBriefsMagicUkWL.htm

Object	Definition	Source of Definition
Patient or Disease-Specific Clinical Guidelines	Clinical practice guideline - 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 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.	Joint Commission on Accreditation of Healthcare Organizations Disease-Specific Care (DSC) Certification Program Clinical Practice Guideline Information Form http://www.jcaho.org/dscc/dsc/application/dsc_cpg_info_form.pdf
Patient Testing Reports	Results of any tests or procedures performed on a patient or patient specimen.	HL7 RBAC Task Force
Patient/Family Preferences	Patient/family preferences and concerns, such as with language, medication choice, invasive testing, and advance directives. Improves patient safety and facilitates self-health management. (Capture patient and family preferences at the time of information intake and integrate them into clinical - decision support at all appropriate opportunities.)	HL7 EHR SIG Functional Descriptors http://www.providersedge.com/ehdocs/ehr_articles/Public_Response_to_HL7_Ballot1-EHRs.pdf
Point of Care Testing Results	1. Diagnostic testing performed at or near the site of patient care. 2. Analytical patient activities provided within the institution, but performed outside the physical facilities of the clinical laboratories. It does not require permanent dedicated space but instead includes kits and instruments, which are either hand carried or transported to the vicinity of the patient for immediate testing at that site.	1. Kost, GJ. Guidelines for point-of-care testing: improving patient outcomes. American Journal of Clinical Pathology 1995. 104 (Sup1);S111-S127 2. College of American Pathologists

Object	Definition	Source of Definition
Prescription Costing Information	The cost of a prescription.	HL7 RBAC Task Force
Problem List	A series of brief statements that catalog a patient's medical, nursing, dental, social, preventative and psychiatric events and issues that are relevant to that patient's health care (e.g. signs, symptoms, and defined conditions).	Consolidated Health Initiative
Progress Notes	A textual 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.	ASTM E 1384 – 02a Standard Practice for Content and Structure of the Electronic Health Record
Prosthetic Order	A prosthetic order is an appropriate prosthetic request that affects the care and treatment of the beneficiary.	Department of Veterans Affairs VHA HANDBOOK 1173.1, Veterans Health Administration Transmittal Sheet, Washington, DC 20420 November 2, 2000 http://www1.va.gov/vhapublications/ViewPublication.asp?pub_ID=337
Radiology Order	A request for radiology and diagnostic services for a specified patient.	Australian Radiology Messaging, Implementation of HL7 Version 2.3.1, January 20, 2004
Record Tracking	Managing and tracking the location of patient medical records.	HL7 RBAC Task Force
Registration	The process of interviewing persons to compile information for legal or other records.	Dictionary of Occupational Titles, http://www.occupationalinfo.org/20/205367042.html
Release of Information	A request by a patient or patient representative to release specified medical information to a third party.	HL7 RBAC Task Force
Skin Test	Epicutaneous 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	The Medical Dictionary Online http://www.online-medical-dictionary.org/Skin+Test.asp?q=Ski

Object	Definition	Source of Definition
	immunity.	n+Test
Standing Order(s) PRN	Standing Orders - carried out until the physician cancels it PRN orders - as needed	Business Requirements for an Automated Patient Medical Record http://www.uprforum.com/Chapter7.htm
Supply Order	Allows for a quantity of manufactured material to be specified either by name, id, or optionally, the manufacturer.	Implementation Guide for Transmission of Laboratory, Pharmacy and Supply Orders as Public Health Information using V 2.3.1 of the HL7 Standard Protocol http://www.cdc.gov/phin/architecture/implementation_guides/Healthcare%20Related/PHIN_Lab_Pharmacy_Supply_Orders_v231.pdf
Surgical Report	Surgical report contains the surgical team, diagnoses, surgical interventions, and the method of anesthesia.	WebDoctor - Doctor's Assistant in Providing Service to Patients http://www.marand.com/files/webdoctor.pdf
Transcription	Something written, especially copied from one medium to another, as a typewritten version of dictation. A process of transforming dictated or otherwise documented information into an electronic format.	Ask.com http://webk.ask.com/dc?q=define+transcription&qsrc=8 HL7 Glossary of Terms, Copyright © 2002 by Health Level Seven http://www.ruralcommunityhealth.org/projects/HL7glossary.pdf

Object	Definition	Source of Definition
Verbal and Telephone Order	Telephone or verbal orders are taken only by a pharmacist, registered nurse, or licensed practical nurse, transcribed into the patient record, noted as a telephone or verbal order, and countersigned by the attending physician within 72 hours. The authority to receive telephone or verbal orders must be officially granted in the institution's rules and regulations or medical staff bylaws. A telephone or verbal order is a valid order when reduced to writing in the patient's medical record by the pharmacist, nurse, or other practitioner and may be regarded by nurses, or others as a valid order to be executed as if it had been written directly in the medical record by the prescriber.	Vermont State Profile http://www.go2ec.org/ProfileVermont.htm
Vital Signs/Patient Measurements	Vital signs are physical signs that indicate an individual is alive, such as heart beat, breathing rate, temperature, and blood pressure. These signs may be observed, measured, and monitored to assess an individual's level of physical functioning. Normal vital signs change with age, sex, weight, exercise tolerance, and condition.	Medline Plus - US National Library of Medicine and the National Institutes of Health http://www.nlm.nih.gov/medlineplus/ency/article/002341.htm

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 abstract permission name

- **Basic Permission Name Operations**:

    C   =   Create

    R   =   Read

    U   =   Update

    D   =   Delete

    E   =   Execute

Permissions are organized according to the following tasks:
- Order Entry
- Review Documentation
- Perform Documentation
- Scheduling
- Administration

A.1 Order Entry Task

Table 4 lists the permissions associated with order entry.

Table 4: Order Entry Permissions

Scenario ID	Unique Permission ID	Abstract Permission Name	Basic Permission Name {Operation, Object}
SOE-002	POE-001	New Laboratory Order	{C, Laboratory Order}
SOE-002	POE-002	Change/Discontinue Laboratory Order	{U, Laboratory Order}
SOE-001	POE-003	New Radiology Order	{C, Radiology Order}
SOE-007	POE-004	Change/Discontinue Radiology Order	{U, Radiology Order}
SOE-001	POE-005	New/Renew Outpatient Prescription Order	{C, Outpatient Prescription Order}
SOE-001	POE-006	Change/Discontinue/Refill Outpatient Prescription Order	{U, Outpatient Prescription Order}
SOE-003	POE-007	New Inpatient Medication Order	{C, Inpatient Medication Order}
SOE-003	POE-008	Change/Discontinue Inpatient Medication Order	{U, Inpatient Medication Order}
SOE-002	POE-009	New Diet Order	{C, Diet Order}
SOE-002	POE-010	Change/Discontinue Diet Order	{U, Diet Order}
SOE-001	POE-011	New Consult Order	{C, Consult Order}
SOE-006	POE-012	Change/Discontinue Consult Order	{U, Consult Order}
SOE-003	POE-013	New Nursing Order	{C, Nursing Order}
SOE-003	POE-014	Change/Discontinue Nursing Order	{U, Nursing Order}
SOE-002	POE-015	New Standing Order(s) PRN	{C, Standing Order(s) PRN}
SOE-002	POE-016	Change/Discontinue Standing Order(s) PRN	{U, Standing Order(s) PRN}
SOE-005	POE-017	New Verbal and Telephone Order	{C, Verbal and Telephone Order}
SOE-005	POE-018	Change/Discontinue Verbal and Telephone Order	{U, Verbal and Telephone Order}
SOE-002	POE-019	New Supply Order	{C, Supply Order}
SOE-002	POE-020	Change/Discontinue Supply Order	{U, Supply Order}
SOE-006	POE-021	New Prosthetic Order	{C, Prosthetic Order}
SOE-006	POE-022	Change/Discontinue Prosthetic Order	{U, Prosthetic Order}

Scenario ID	Unique Permission ID	Abstract Permission Name	Basic Permission Name {Operation, Object}
SOE-001	POE-023	Sign Order(s)	{U, Laboratory Order} {U, Radiology Order} {U, Outpatient Prescription Order} {U, Inpatient Medication} {U, Diet Order} {U, Consult Order} {U, Nursing Order} {U, Standing Order(s) PRN} {U, Verbal and Telephone Order} {U, Supply Order} {U, Prosthetic Order}
SOE-003	POE-026	New DNR Order	{C, DNR Order}
SOE-003	POE-027	Change/Discontinue DNR Order	{U, DNR Order}
SOE-008	POE-028	Release Orders	{U, Laboratory Order} {U, Radiology Order} {U, Outpatient Prescription Order} {U, Inpatient Medication} {U, Diet Order} {U, Consult Order} {U, Nursing Order} {U, Standing Order(s) PRN} {U, Verbal and Telephone Order} {U, Supply Order} {U, 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	Abstract Permission Name	Basic Permission Name {Operation, Object}
SRD-001	PRD-001	Review Patient Testing Reports	{R, Patient Testing Reports}
SRD-001	PRD-002	Review Chief Complaint	{R, Chief Complaint}
SRD-001	PRD-003	Review Medical History	{R, Medical History}
SRD-001	PRD-004	Review Existing Order(s)	{R, Laboratory Order} {R, Radiology Order} {R, Outpatient Prescription Order} {R, Inpatient Medication} {R, Diet Order} {R, Consult Order}

Scenario ID	Unique Permission ID	Abstract Permission Name	Basic Permission Name {Operation, Object}
			{R, Nursing Order}
			{R, Standing Order(s) PRN}
			{R, Verbal and Telephone Order}
			{R, Supply Order}
			{R, Prosthetic Order}
			{R, DNR Order}
SRD-001	PRD-005	Review Vital Signs/Patient Measurements	{R, Vital Signs/Patient Measurements}
SRD-001	PRD-006	Patient Identification and Lookup	{R, Patient Identification and Lookup}
SRD-001	PRD-007	Review Patient or Disease-Specific Clinical Guidelines	{R, Patient or Disease-Specific Clinical Guidelines}
SRD-001	PRD-008	Review Alerts	{R, Alerts}
SRD-001	PRD-009	Review Current Directory of Provider Information	{R, Current Directory of Provider Information}
SRD-001	PRD-010	Review Patient Medications	{R, Outpatient Prescription Order}, {R, Inpatient Medication Order}
SRD-001	PRD-011	Review Patient Allergies	{R, Patient Allergies}
SRD-001	PRD-012	Review Past Visits	{R, Past Visits}
SRD-001	PRD-013	Review Immunizations	{R, Immunizations}
SRD-001	PRD-014	Review Health Status Data	{R, Health Status Data}
SRD-001	PRD-015	Review Prescription Costing Information	{R, Prescription Costing Information}
SRD-001	PRD-016	Review Problem Lists	{R, Problem Lists}
SAD-004	PRD-017	Review Progress Notes	{R, Progress Notes}

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	Abstract Permission Name	Basic Permission Name {Operation, Object}
SPD-001	PPD-001	New Progress Notes	{C, Progress Notes}
SPD-001	PPD-002	Edit/Addend/Sign Progress Notes	{U, Progress Notes}
SPD-001	PPD-006	New Patient Education	{C, Patient Education}
SPD-001	PPD-007	Edit/Addend/Sign Patient Education	{U, Patient Education}
SPD-005	PPD-009	New History and Physical	{C, History and Physical}
SPD-001	PPD-010	Edit/Addend/Sign History and Physical	{U, History and Physical}
SPD-009	PPD-012	New Consultation Findings	{C, Consultation Findings}
SPD-009	PPD-013	Edit/Addend/Sign Consultation Findings	{U, Consultation Findings}
SPD-011	PPD-015	New Surgical Report	{C, Surgical Report}
SPD-011	PPD-016	Edit/Addend/Sign Surgical Report	{U, Surgical Report}
SPD-001	PPD-018	New Patient Allergy or Adverse Reaction	{C, Patient Allergy or Adverse Reaction}
SPD-004	PPD-019	Edit Patient Allergy or Adverse Reaction	{U, Patient Allergy or Adverse Reaction}
SPD-007	PPD-020	New Patient Testing Reports	{C, Patient Testing Reports}
SPD-007	PPD-021	Edit/Addend/Sign Patient Testing Reports	{U, Patient Testing Reports}
SPD-003	PPD-023	New Point of Care Lab Testing Results	{C, Point of Care Lab Testing Results}
SPD-003	PPD-024	Edit/Addend/Sign Point of Care Lab Testing Results	{U, Point of Care Lab Testing Results}
SPD-005	PPD-025	New Problem List	{C, Problem List}
SPD-005	PPD-026	Edit/Addend Problem List	{U, Problem List}
SPD-013	PPD-029	New Discharge Summary	{C, Discharge Summary}
SPD-013	PPD-030	Edit/Addend/Sign Discharge Summary	{U, Discharge Summary}
SPD-004	PPD-032	New Consents and Authorizations	{C, Consents and Authorizations}
SPD-004	PPD-033	Edit/Addend/Sign Consents and Authorizations	{U, Consents and Authorizations}
SPD-004	PPD-034	Record Presence or Absence of Advance Directives	{C, Presence or Absence of Advance Directives}
SPD-015	PPD-035	Record Rescinded or Superseded	{C, Rescinded or Superseded

Scenario ID	Unique Permission ID	Abstract Permission Name	Basic Permission Name {Operation, Object}
		Advance Directives	Advance Directives}
SPD-004	PPD-036	New Patient/Family Preferences	{C, Patient/Family Preferences}
SPD-005	PPD-037	Edit/Addend Patient/Family Preferences	{U, Patient/Family Preferences}
SPD-005	PPD-038	New Inter-Practitioner Communication	{C, Inter-Practitioner Communication}
SPD-005	PPD-039	Edit/Addend Inter-Practitioner Communication	{U, Inter-Practitioner Communication}
SPD-001	PPD-040	New Encounter Data	{C, Encounter Data}
SPD-001	PPD-041	Edit/Addend/Sign Encounter Data	{U, Encounter Data}
SPD-014	PPD-044	New Patient Acuity	{C, Patient Acuity}
SPD-014	PPD-045	Edit/Addend Patient Acuity	{U, Patient Acuity}
SPD-003	PPD-046	Record Medication Administration Record (M.A.R.)	{C, Medication Administration Record (M.A.R.)}
SPD-005	PPD-047	New Immunization	{C, Immunization}
SPD-005	PPD-048	Edit/Addend/Sign Immunization	{U, Immunization}
SPD-005	PPD-049	New Skin Test	{C, Skin Test}
SPD-005	PPD-050	Edit/Addend/Sign Skin Test	{U, Skin Test}
SPD-002	PPD-051	New Vital Signs/Patient Measurements	{C, Vital Signs/Patient Measurements}
SPD-005	PPD-052	Edit/Addend Vital Signs/Patient Measurements	{U, Vital Signs/Patient Measurements}
SPD-005	PPD-053	New Health Status Data	{C, Health Status Data}
SPD-005	PPD-054	Edit/Addend/Sign Health Status Data	{U, Health Status Data}
SPD-016	PPD-055	New Transcription	{C, Transcription}
SPD-016	PPD-056	Edit/Addend Transcription	{U, Transcription}

A.4 Scheduling Task

Table 7 lists the permissions associated with scheduling.

Table 7: Scheduling Permissions

Scenario ID	Unique Permission ID	Abstract Permission Name	Basic Permission Name {Operation, Object}
SSC-001	PSC-001	New Appointment Schedule	{C, Appointment Schedule}
SSC-001	PSC-002	Edit/Access Appointment Schedule	{U, Appointment Schedule} {R, Appointment Schedule}
SSC-001	PSC-003	Display/Print Appointment Schedule	{R, Appointment Schedule}
SSC-001	PSC-004	Performs Appointment Scheduling Functions	{U, Appointment Schedule}
SSC-001	PSC-005	Performs 'Overbook'	{C, Overbook}

A.5 Administration Task

Table 8 lists the permissions associated with administration.

Table 8: Administration Permissions

Scenario ID	Unique Permission ID	Abstract Permission Name	Basic Permission Name {Operation, Object}
SAD-001	PAD-001	Performs ADT Functions	{C, ADT} {U, ADT} {R, ADT}
SAD-005	PAD-008	New Registration	{C, Registration}
SAD-005	PAD-009	Edit/Addend Registration	{U, Registration} {R, Registration)
SAD-002	PAD-010	Perform Coding Functions	{C, Coding} {U, Coding}
SAD-002	PAD-011	Review Coding Data	{R, Coding}
SAD-002	PAD-012	Perform Billing Functions	{C, Billing} {U, Billing}
SAD-003	PAD-013	Review Billing Data	{R, Billing}
SAD-008	PAD-014	Perform Accounts Receivable Functions	{C, Accounts Receivable} {U, Accounts Receivable}
SAD-003	PAD-015	Review Accounts Receivable Data	{R, Account Receivable}

Scenario ID	Unique Permission ID	Abstract Permission Name	Basic Permission Name {Operation, Object}
SAD-004	PAD-016	Display/Print Administrative Report	{R, Administrative Report}
SAD-004	PAD-017	Create/Display/Print Administrative Ad Hoc Report	{C, Administrative Ad Hoc Report} {R, Administrative Ad Hoc Report}
SAD-006	PAD-018	Perform Record Tracking Functions	{C, Record Tracking} {U, Record Tracking}
SAD-003	PAD-019	Review Record Tracking Data	{R, Record Tracking}
SAD-010	PAD-021	Perform Master Patient Index Functions	{C, Master Patient Index} {U, Master Patient Index} {R, Master Patient Index}
SAD-012	PAD-024	Perform Release of Information Functions	{C, Release of Information} {U, Release of Information} {R, Release of Information}