Eye Care
Functional Profile

Eye Care Functional Profile Workgroup

Health Level Seven

Based on the Electronic Health Record-System Functional Model, Version 1.0

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Draft Version 1.0 (12/2008)

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Eye Care Functional Profile: Introduction

The Eye Care Functional Profile (Eye Care-FP) is a new project of the HL7 Eye Care Data Standards Workgroup. It conforms to the HL7 Electronic Health Record-Systems Functional Model (EHR-S FM), and it is aimed at developing an HL7 Normative Functional Profile for electronic health record (EHR) systems that are used to care for adults and children with eye care needs.

This first iteration provides the essential general eye care functions and specific conformance criteria that are important to include in any system through which a patient might receive eye care in the United States in the outpatient setting. The intent is to assist all eye care providers and associated IT vendors in helping to ensure safe, effective and reliable care of patients through the safe and effective use of information technology. Specifically, the Eye Care-FP describes additional EHR-S functionality that is necessary to provide eye care for patients.

Background

Founded in 1987, Health Level Seven (HL7) is a not-for-profit healthcare standards development organization (SDO) accredited by the American National Standards Institute (ANSI). While traditionally involved in the development of messaging standards used by healthcare systems to exchange data, HL7 has begun to develop other standards related to healthcare information systems. In 2002, a newly formed HL7 EHR Special Interest Group began development of a functional model for EHR systems. Shortly thereafter, a number of organizations approached HL7 to develop a consensus standard to define the necessary functions for an EHR system. The EHR Special Interest Group was promoted to a full technical committee (EHR-TC), and in 2004 published the *EHR-S Functional Model* as a Draft Standard for Trial Use (DSTU). [1] The Functional Model underwent membership level ballot in September 2006 and January 2007, and it was approved as standard in February 2007. The EHR-TC intends that unique functional profiles be developed by subject matter experts in various care settings to inform developers, purchasers, and other stakeholders of the functional requirements of systems developed for these domains.

The HL7 Eye Care Group was formed primarily to inform healthcare standards development organizations of the unique requirements and workflows for Eye Care. The group solicited input and membership from organizations such as the American Society of Cataract and Refractive Surgery and other eye care professional organizations.

With eye care diseases being the prevalent conditions in the elderly population and thus increasing significantly, the workgroup believed it important to ensure that the HL7 EHR-S FM include functionality critical for Eye Care. Over the previous four years, the Workgroup has worked to identify and refine a broad list of functions required of EHR systems for eye care. Most of the functions identified by the Workgroup are included in the current EHR-S FM standard.

The next opportunity to impact the core HL7 EHR-S FM standard is in 2009. In the meantime, the workgroup decided to build the Eye Care-FP as a companion document to the EHR-S FM that includes important general Eye Care functionality not addressed in the EHR-S FM.

A Eye Care-FP workgroup convened in March 2007, and it currently includes physicians, medical informatics experts, and representatives from the vendor community. In the development of the Eye Care-FP, the workgroup employs a traditional, open, standards development approach. Everyone's contributions and concerns were addressed, and everyone's input was welcome.

Methods and Project Plan

The EHR-TC provides specific methodologies for profile development and conformance, which are outlined in the *How-To Guide for Creating Functional Profiles* and *Conformance Clause* sections of the EHR-S FM. [3]

Organization Phase	▪ Recruit volunteers ▪ Form workgroup ▪ Define project scope ▪ Develop project plan ▪ Educate volunteers on project and assignments	March-April 2007
Formalization Phase	▪ Refine previously identified Eye Care functions and conformance criteria ▪ Identify new Eye Care functions and conformance criteria	April 2007
Harmonization Phase	▪ Compare with, incorporate into, and align with the EHR-S FM o Define functional priorities and timeframes for functions o Accept or reject other functions from EHR-S FM o Incorporate unique functions through sibling child relationships with EHR-S FM functions o Incorporate and modify conformance criteria ▪ Consolidate feedback ▪ Workgroup review and voting	April-Dec 2008
Finalization Phase	▪ Edit document (detail, wording, language, and conformance) ▪ Submit to EHR-TC for verification and registration	
Preparation for Ballot	▪ Work with EHR-TC to prepare for HL7 ballot	

Definition, Standards, Implementation and Interoperability
The Eye Care-FP is a standards work derived from the HL7-S EHR FM, which is in turn based on *ISO/TR-20514 Health Informatics -- Electronic health record -- Definition, scope and context.* [4] According to the ISO EHR standard:

> *"The primary purpose of the EHR is to provide a documented record of care that supports present and future care by the same or other clinicians…Any other purpose for which the health record is used may be considered secondary."*
>
> *"The Core EHR contains principally clinical information; it is therefore chiefly focused on the primary purpose. The Core EHR is a subset of the Extended EHR. The Extended EHR includes the whole health information landscape; its focus therefore is not only on the primary purpose, but also on all of the secondary purposes as well. The Extended EHR is a superset of the Core EHR."*

Systems, Components & Applications
An EHR system allows providers and other users to access and use the data in the EHR. Often, the HER is integrated into the EHR system, forms an integral part of it, and special protocols may allow access to the HER itself by other EHR systems. A special type of EHR, the Personal Health Record or PHR, is not embedded in an EHR system [MDA: we have to include Google Health etc] An EHR system used to provide eye care may likely consist of a collection of systems, applications, modules, or components, developed on different architectures. For example, a provider might pair one vendor's clinical documentation system with another's tracking, discharge, or prescribing system. An EHR system used in Eye Care may be provided by a single vendor, multiple vendors, or by one or more development teams.

Interoperability
All components, modules, or applications within an EHR system should respond to users in a well integrated fashion. Each component, module or application must be interoperable to the degree required by the function description and conformance criteria specified in this profile. ISO 20514 states: *The key to interoperability is through standardization of requirements for the EHR (record) architecture (e.g. ISO/TS 18308:2004) and ultimately the standardization of the EHR architecture itself (e.g. ENV 13606-1:2000).*

Organization of this Document
The profile is divided into three sections: *Direct Care*, *Information Infrastructure and Supportive Functions*. Each section defines a broad category of functions applicable to an EHR system used to provide eye care. Because of this organization, many traditional concepts and tasks typical of traditional EHR systems can be found interspersed throughout the document, depending upon whether aspects constitute patient tracking, administrative functions, clinical workflow, tasks/orders, clinical documentation, or clinical decision support, etc.

Direct Care	Functions employed in the provision of care to individual patients. Direct care functions are the subset of functions that enable delivery of healthcare or offer clinical decision support.
Information Infrastructure	Functions that define the heuristics of a system necessary for reliable, secure and interoperable computing. These functions are not involved in the provision of healthcare, but are necessary to ensure that the EHR system provides safeguards for patient safety, privacy and information security, as well as operational efficiencies and minimum standards for interoperability. Functions may be provided by the EHR system itself, by the supporting infrastructure, or a combination of both.
Supportive Functions	Functions that support the delivery and optimization of care, but generally do not impact the direct care of an individual patient. These functions assist with the administrative and financial requirements associated with the delivery of healthcare, provide support for medical research and public health, and improve the global quality of healthcare.

Functional Priorities
All of the functions in this profile are assigned the priority, "essential now" – meaning that the functions must be available and users must be able to implement them.

Conformance Clause
This profile is based on the HL7 EHR-TC approved standard: Electronic Health Record-Systems Functional Model, Release One. Key to the Functional Model and derived profiles is the concept of *conformance,* which may be defined as *"verification that an implementation faithfully meets the requirements of a standard or specification"* [5]. In the Functional Model and in derived profiles, the general concept of conformance may be expressed in a number of forms. For instance, a profile can be said to conform to the functional model if it adheres to the defined rules specified by the functional model specification. Similarly, an EHR system used to provide eye care may claim conformance to this profile if it meets all the requirements outlined in the profile.

Conformance Criteria
Each function defined in the model or profiles is associated with specific *conformance criteria* which are statements used to determine if a particular function is met. Conformance criteria have been developed in accordance with the standards set forth by the EHR-TC. In order to ensure consistent, unambiguous understanding and application of the Functional Profile, the use of a consistent set of keywords (normative verbs) have been employed to describe conformance requirements.

The key words SHALL, SHOULD and MAY in this document are to be interpreted as described in RFC 2119 (available at: http://www.ietf.org/rfc/rfc2119.txt). To differentiate the normative key words from when they are used in an informative sentence, the key words are presented in upper case and bold.

- SHALL: "Is required." Indicates a mandatory, required action.
- SHOULD: "Is recommended." Indicates an optional, recommended action that is particularly suitable, without mentioning or excluding other actions.
- MAY: "Is permitted." Indicates an optional, permissible action.
- SHALL NOT: "Is not permitted."

Conformance of EHR Systems Used to Provide Eye Care

To claim conformance with the Eye Care-FP, an EHR system (or systems) employed for the provision of eye care **SHALL** satisfy the conformance criteria designated as SHALL.

Conformance of Derived Profiles

The Eye Care-FP workgroup recognizes that developers, users, and other members of the pediatric community may wish to develop their own profiles. The workgroup contends that the Eye Care-FP includes all the general functions that might be reasonably expected to be available in an EHR system used to care for children in the United States. However, we also recognize the value in the development of derived profiles applicable to certain subsets of EHR systems used to care of children. In fact, *the workgroup strongly feels that the development of derived profiles will likely be essential to support the evaluation of systems designed to support subsets of Eye Care functions.* For example, derived profiles for eye care subspecialties, such as *retina,* could be developed to support certification in those niches.

In order for a derived profile to claim conformance with the Eye Care-FP, the profile **SHALL** include all of the Eye Care-FP functions. Also, a derived profile **SHALL NOT** claim conformance if it includes functions that have not been defined in this Eye Care-FP. The workgroup solicits feedback regarding functions encountered in the development of a derived profile not encountered in the Eye Care-FP.

Normative Language

Additional clarification is necessary to understand the standardized nomenclature used to describe the functions of a system. The following chart, adapted from the EHR-S FM, illustrates the hierarchy of nomenclature. For example, “capture” is used to describe a function that includes both direct entry “create” and indirect entry through another device “input.” Similarly, “maintain” is used to describe a function that entails reading, updating, or removal of data.

MANAGE				
Capture		**Maintain**		
Input Device (Ext.)	Create (Int.)	Read (Present)	Update	Remove Access
		View Report Display Access	Edit Correct Amend Augment	Obsolete Inactivate Destroy Nullify Purge

A variety of users need access to EHR systems for various reasons. Furthermore, users may at different times have different roles. For instance, a nurse may on one day work as a nurse, while on another day work as a nurse practitioner. This profile was developed for use in the United States. However, it might be applicable in international settings with the understanding that language used to describe potential users of the system may require clarification.

The following table should be used as a guide to the nomenclature used to describe users who may interact with an EHR system used to care for children. This table is *not* intended to serve as a hierarchical description of roles or as a description of access control policies, attributes, or credentials, but is intended to provide a means to rigorously define different groups of users. For instance, functions pertaining to prescribing are usually granted to physicians, optometrists, physician assistants and nurse practitioners (these are dependent upon state licensure requirements), so users of such functions would be described as a “licensed prescriber” but not as a “user” or a “provider.”

<table>
<tr><th colspan="9">User</th></tr>
<tr><th rowspan="3">Health Care Student</th><th colspan="2">Staff</th><th colspan="6">Provider</th></tr>
<tr><th rowspan="2">Administrator</th><th rowspan="2">Support Staff</th><th rowspan="2">Ancillary Provider</th><th rowspan="2">Nurse</th><th colspan="4">Licensed Prescriber</th></tr>
<tr><th rowspan="2">Nurse Practitioner</th><th rowspan="2">Physician Assistant</th><th colspan="2">Physician</th></tr>
<tr><th>Attending Physician</th><th>Resident</th></tr>
</table>

Overview and Functions
Following are the major functional topics addressed in the Eye Care-FP that are essential for an EHR system used to provide eye care.

1. Drawing capability

- ☐ Support the ability to make drawing to explain findings, without having to open another software application to do so
- ☐ Allows the use of templates so the user only has to fill in the findings, and not have to draw the structures of the eye
- ☐ Supports the use of transparency (overlays), which is important for retina (MAY)

2. Communication with medical devices

- ☐ Support communication and presentation of data captured from medical devices through standards-based activities such as DICOM and HL7
- ☐ Communication with medical devices is supported as appropriate to the care setting. Examples include: fundus photography devices, optical coherence tomography, lensometer, visual field analyzer, etc.
- ☐ *Structured* data, where the data can be used in graphs, comparisons, studies etc, a MAY, is preferable over 'unstructured' data communicated to and from these devices, such as a PDF from a Humphrey VFA, which is a SHALL.

3. Performance and accountability measures

- ☐ Support the capture and reporting of quality, performance and accountability measures to which providers/facilities/delivery systems/communities are held accountable including measures related to process, outcomes, and/or costs of care, may be used in pay for performance monitoring and adherence to best practice guidelines

4. Interchange Standards

- ☐ Support the ability to operate seamlessly with complementary systems by adherence to key interoperability standards (HL7, IHE Eye Care)
- ☐ Provide automated health delivery processes and seamless exchange of key clinical and administrative information through standards-based solutions (HL7, IHE Eye Care)

5. Granular Problem List

☐ Support the ability for a clinician or group of clinicians to maintain a problem list that is separate from the patient's overall problem list. This will facilitate easy viewing of the most important data for particular clinicians to view, without causing information overload for others who do not need that information.

6. Discrete Data Elements

- ☐ Support the capture of relevant clinical measures in eye care as discrete data elements, such as intraocular pressure, visual acuity, corneal thickness, etc.

Our additions and edits to the EHR-S FM, version 1.0 are indicated in red on the following pages.

References

1. Electronic Health Record Technical Committee: Electronic Health Record-System Functional Model, Release One. Health Level 7, 2007. (Available at: http://www.hl7.org/ehr/downloads/)
2. Electronic Health Record Technical Committee: Electronic Health Record-System Functional Model, Release One. *How-To Guide for Creating Functional Profiles* and *Conformance Clause*. Health Level 7, 2007. (Available at: http://www.hl7.org/ehr/downloads/)
3. ISO/TR 20514: Health informatics -- Electronic health record -- Definition, scope and context. 2005-10-17 (Available at: http://www.iso.org)
4. Electronic Health Record Technical Committee: Electronic Health Record-System Functional Model, Release One. Health Level 7, 2007. (Available at: http://www.hl7.org/ehr/downloads/)

Eye Care Functional Profile: Direct Care Functions

ID#	Type	Name	Statement/Description	See Also	Conformance Criteria	Row #
DC.1	**H**	**Care Management**	**Description:** Care Management functions (i.e. DC.1.x functions) are those directly used by providers as they deliver patient care and create an electronic health record. DC.1.1.x functions address the mechanics of creating a health record and concepts such as a single logical health record, managing patient demographics, and managing externally generated (including patient originated) health data. Thereafter, functions DC.1.2.x through DC.1.9.x follow a fairly typical flow of patient care activities and corresponding data, starting with managing the patient history and progressing through consents, assessments, care plans, orders, results etc. Integral to these care management activities is an underlying system foundation that maintains the privacy, security, and integrity of the captured health information – the information infrastructure of the EHR-S. Throughout the DC functions, conformance criteria formalize the relationships to Information Infrastructure functions. Criteria that apply to all DC.1 functions are listed in this header (see Conformance Clause page six for discussion of "inherited" conformance criteria). In the Direct Care functions there are times when actions/activities related to "patients" are also applicable to the patient representative. Therefore, in this section, the term "patient" could refer to the patient and/or the patient's personal representative (e.g. guardian, surrogate).		1. The system **SHALL** conform to function IN.1.1 (Entity Authentication).	1
					2. The system **SHALL** conform to function IN.1.2 (Entity Authorization).	2
					3. The system **SHALL** conform to function IN.1.3 (Entity Access Control).	3
					4. IF the system is used to enter, modify or exchange data, THEN the system **SHALL** conform to function IN.1.5 (Non-Repudiation), to guarantee that the sources and receivers of data cannot deny that they entered/sent/received the data.	4
					5. IF the system exchanges data outside of a secure network, THEN the system **SHALL** conform to Function IN.1.6 (Secure Data Exchange), to ensure that the data are protected.	5
					6. IF the system exchanges data outside of a secure network, THEN the system **SHALL** conform to Function IN.1.7 (Secure Data Routing), to ensure that the exchange occurs only among authorized senders and receivers.	6
					7. IF the system is used to enter or modify data in the health record, THEN the system **SHALL** conform to function IN.1.8 (Information Attestation), to show authorship and responsibility for the data.	7
					8. The system **SHALL** conform to function IN.1.9 (Patient Privacy and Confidentiality).	8
					9. The system **SHALL** conform to function IN.2.1 (Data Retention, Availability and Destruction).	9
					10. The system **SHOULD** conform to function IN.2.3 (Synchronization).	10
					11. IF the system is used to extract data for analysis and reporting, THEN the system **SHALL** conform to function IN.2.4 (Extraction of Health Record Information), to support data extraction across the complete health record of an individual.	11
					12. IF the system stores unstructured data, THEN the system **SHALL** conform to function IN.2.5.1 (Manage Unstructured Health Record Information), to ensure data integrity through all changes.	12

ID#	Type	Name	Statement/Description	See Also	Conformance Criteria	Row #
					13. IF the system stores structured data, THEN the system **SHALL** conform to function IN.2.5.2 (Manage Structured Health Record Information), to ensure data integrity through all changes.	13
					14. The system **SHOULD** conform to function IN.3 (Registry and Directory Services).	14
					15. IF the system processes data for which generally accepted standard terminologies have been established, THEN the system **SHALL** conform to function IN.4.1 (Standard Terminologies and Terminology Models), to support semantic interoperability.	15
					16. IF the system processes data for which generally accepted standard terminologies have been established, THEN the system **SHALL** conform to function IN.4.2 (Maintenance and Versioning of Standard Terminologies), to preserve the semantics of coded data over time.	16
					17. The system **SHOULD** conform to function IN.4.3 (Terminology Mapping).	17
					18. IF the system exchanges data for which generally accepted interchange standards have been established, THEN the system **SHALL** conform to function IN.5.1 (Interchange Standards), to support interoperability.	18
					19. IF the system exchanges data for which generally accepted interchange standards have been established, THEN the system **SHALL** conform to function IN.5.2 (Interchange Standards Versioning and Maintenance), to accommodate the inevitable evolution of interchange standards.	19
					20. The system **SHOULD** conform to function IN.5.3 (Standards-based Application Integration).	20
					21. IF the system exchanges data with other systems outside itself, THEN the system **SHALL** conform to function IN.5.4 (Interchange Agreements), to define how the sender and receiver will exchange data.	21
					22. The system **SHOULD** conform to function IN.6 (Business Rules Management).	22
					23. The system **SHOULD** conform to function IN.7 (Workflow Management).	23
					24. The system **SHALL** conform to function S.2.2.1 (Health Record Output).	24

ID#	Type	Name	Statement/Description	See Also	Conformance Criteria	Row #
DC.1.1	**H**	Record Management	**Description**: For those functions related to data capture, data may be captured using standardized code sets or nomenclature, depending on the nature of the data, or captured as unstructured data. Care-setting dependent data is entered by a variety of caregivers. Details of who entered data and when it was captured should be tracked. Data may also be captured from devices or other tele-health applications.	S.3.1.4		25
DC.1.1.1	**F**	Identify and Maintain a Patient Record	**Statement**: Identify and maintain a single patient record for each patient. **Description**: A single record is needed for legal purposes, as well as to organize it unambiguously for the provider. Health information is captured and linked to the patient record. Static data elements as well as data elements that will change over time are maintained. The patient is uniquely identified, after which the record is tied to that patient. Combining information on the same patient, or separating information where it was inadvertently captured for the wrong patient, helps maintain health information for a single patient. In the process of creating a patient record, it is at times advantageous to replicate identical information across multiple records, so that such data does not have to be re-entered. For example, when a parent registers children as new patients, the address, guarantor, and insurance data may be propagated in the children's records without having to re-enter them.	S.1.4.1 S.2.2.1 S.3.1.2 S.3.1.5 IN.2.1 IN.2.3	1. The system **SHALL** create a single logical record for each patient.	26
					2. The system **SHALL** provide the ability to create a record for a patient when the identity of the patient is unknown.	27
					3. The system **SHALL** provide the ability to store more than one identifier for each patient record.	28
					4. The system **SHALL** associate key identifier information (e.g., system ID, medical record number) with each patient record.	29
					5. The system **SHALL** provide the ability to uniquely identify a patient and tie the record to a single patient.	30
					6. The system **SHALL** provide the ability, through a controlled method, to merge or link dispersed information for an individual patient upon recognizing the identity of the patient.	31
					7. IF health information has been mistakenly associated with a patient, THEN the system **SHALL** provide the ability to mark the information as erroneous in the record of the patient in which it was mistakenly associated and represent that information as erroneous in all outputs containing that information.	32
					8. IF health information has been mistakenly associated with a patient, THEN the system **SHALL** provide the ability to associate it with the correct patient.	33
					9. The system **SHALL** provide the ability to retrieve parts of a patient record using a primary identifier, secondary identifiers, or other information which are not identifiers, but could be used to help identify the patient.	34

ID#	Type	Name	Statement/Description	See Also	Conformance Criteria	Row #
					10. The system **SHOULD** provide the ability to obsolete, inactivate, nullify, destroy and archive a patient's record in accordance with local policies and procedures, as well as applicable laws and regulations.	35
					11. IF related patients register with any identical data, THEN the system **SHOULD** provide the ability to propagate that data to all their records.	36
					12. The system **SHALL** conform to function IN.2.2 (Auditable Records).	37
DC.1.1.2	**F**	Manage Patient Demographics	**Statement**: Capture and maintain demographic information. Where appropriate, the data should be clinically relevant and reportable. **Description**: Contact information including addresses and phone numbers, as well as key demographic information such as date of birth, time of birth, gestation, gender, and other information is stored and maintained for unique patient identification, reporting purposes and for the provision of care. Patient demographics are captured and maintained as discrete fields (e.g., patient names and addresses) and may be enumerated, numeric or codified. Key patient identifiers are shown on all patient information output (such as name and ID# on each screen of a patient's record). The system will track who updates demographic information, and when the demographic information is updated.	S.1.4.1 S.2.2.2 IN.2.2 IN.2.4	1. The system **SHALL** capture demographic information as part of the patient record.	38
					2. The system **SHALL** store and retrieve demographic information as discrete data.	39
					3. The system **SHALL** provide the ability to retrieve demographic data as part of the patient record.	40
					4. The system **SHALL** provide the ability to update demographic data.	41
					5. The system **SHOULD** provide the ability to report demographic data.	42
					6. The system **SHOULD** store historical values of demographic data over time.	43
					7. The system **SHALL** present a set of patient identifying information at each interaction with the patient record.	44
					8. The system **SHOULD** conform to function IN.1.4 (Patient Access Management).	45
					9. The system **SHALL** conform to function IN.2.2 (Auditable Records).	46
DC.1.1.3	**H**	Data and Documentation from External Sources	**Description**: External sources are those outside the EHR system, including clinical, administrative, and financial information systems, other EHR systems, PHR systems, and data received through health information exchange networks.		1. The system **SHOULD** conform to function IN.1.4 (Patient Access Management).	47
					2. The system **SHALL** conform to function IN.2.2 (Auditable Records).	48
DC.1.1.3.1	**F**	Capture Data and Documentation from External Clinical Sources	**Statement**: Incorporate clinical data and documentation from external sources. **Description**: Mechanisms for incorporating external clinical data and documentation (including identification	IN.1.5 IN.1.6 IN.1.7	1. The system **SHALL** provide the ability to capture external data and documentation.	49
					2. IF lab results are received through an electronic interface, THEN the system **SHALL** receive and store the data elements into the patient record.	50

ID#	Type	Name	Statement/Description	See Also	Conformance Criteria	Row #
			of source) such as image documents and other clinically relevant data are available. Data incorporated through these mechanisms is presented alongside locally captured documentation and notes wherever appropriate.	IN.1.8 IN.2.1 IN.2.2 IN.4.2 IN.4.3 IN.5.1 IN.5.2	3. IF lab results are received through an electronic interface, THEN the system **SHALL** display them upon request.	51
					4. The system **SHOULD** provide the ability to receive, store and display scanned documents as images.	52
					5. The system **MAY** provide the ability to store imaged documents or reference the imaged documents via links to imaging systems.	53
					6. The system **SHOULD** provide the ability to receive, store and present text-based externally-sourced documents and reports.	54
					7. The system **SHOULD** provide the ability to receive, store and display clinical result images (such as radiologic images) received from an external source.	55
					8. The system **SHOULD** provide the ability to receive, store and display other forms of clinical results (such as wave files of EKG tracings) received from an external source.	56
					9. The system **SHOULD** provide the ability to receive, store and present medication details from an external source.	57
					10. The system **SHOULD** provide the ability to receive, store and present structured text-based reports received from an external source.	58
					11. The system **SHOULD** provide the ability to receive, store and present standards-based structured, codified data received from an external source.	59
					12.	
					13.	
DC.1.1.3.2	**F**	Capture Patient-Originated Data	**Statement**: Capture and explicitly label patient originated data, link the data source with the data, and support provider authentication for inclusion in patient health record. **Description**: It is critically important to be able to distinguish patient-originated data that is either provided or entered by a patient from clinically authenticated data. Patients may provide data for entry into the health record or be given a mechanism for entering this data directly. Patient-originated data intended for use by providers will be available for their use.	IN.1.4 IN.2.5.1 IN.2.5.2	1. The system **SHALL** capture and explicitly label patient- originated data.	60
					2. IF the system provides the ability for direct entry by the patient, THEN the system **SHALL** explicitly label the data as patient entered.	61
					3. The system **SHALL** capture and label the source of clinical data provided on behalf of the patient.	62

ID#	Type	Name	Statement/Description	See Also	Conformance Criteria	Row #
			Data about the patient may be appropriately provided by: 1. the patient 2. a surrogate (parent, spouse, guardian) or 3. an informant (teacher, lawyer, case worker). An electronic health record may provide the ability for direct data entry by any of these. Patient-originated data may also be captured by devices and transmitted for inclusion into the electronic health record. Data entered by any of these must be stored with source information. A provider must authenticate patient-originated data included in the patient's legal health record.		4. The system **SHALL** present patient-originated data for use by care providers.	63
					5. The system **SHALL** provide the ability for a provider to verify the accuracy of patient-originated data for inclusion in the patient record.	64
					6. The system **SHOULD** provide the ability to view or comment, but not alter, patient-originated data.	65
DC.1.1.3.3	**F**	Capture Patient Health Data Derived from Administrative and Financial Data and Documentation	**Statement**: Capture and explicitly label patient health data derived from administrative or financial data; and link the data source with that data. **Description**: It is critically important to be able to distinguish patient health data derived from administrative or financial data from clinically authenticated data. Sources of administrative and financial data relating to a patient's health may provide this data for entry into the health record or be given a mechanism for entering this data directly. The data must be explicitly labeled as derived from administrative or financial data, and information about the source must be linked with that data. Patient health data that is derived from administrative or financial data may be provided by: 1. the patient 2. a provider 3. a payer, or 4. entities that transmit or process administrative or financial data.	DC.1.1.2 DC.1.2 S.1.4.1	1. The system **SHALL** provide the ability to capture and label patient health data derived from administrative or financial data.	66
					2. The system **SHALL** provide the ability to capture and link data about the source of patient health data derived from administrative and financial data with that patient data.	67
					3. The system **SHALL** provide the ability to present labeled patient health information derived from administrative or financial data and the source of that data for use by authorized users.	68
					4. The system **SHOULD** provide the ability to view or comment on patient health information derived from administrative or financial data.	69

ID#	Type	Name	Statement/Description	See Also	Conformance Criteria	Row #
			Since this data is non-clinical, it may not be authenticated for inclusion in the patient's legal health record. Registration data, which may contain demographic data and pertinent positive and negative histories, is an example of administrative and financial data that may be captured.		5. The system **SHOULD** provide the ability to request correction of the administrative or financial data.	70
DC.1.1.4	**F**	Produce a Summary Record of Care	**Statement**: Present a summarized review of a patient's comprehensive EHR, subject to jurisdictional laws and organizational policies related to privacy and confidentiality. **Description**: Create summary views and reports at the conclusion of an episode of care. Create service reports at the completion of an episode of care such as, but not limited to, discharge summaries and public health reports, without additional input from clinicians.	S.2.2.1 IN.1.9 IN.2.4 IN.2.5.1 IN.2.5.2	1. The system **SHALL** present summarized views and reports of the patient's comprehensive EHR.	71
					2. The system **SHOULD** include at least the following in the summary: problem list, medication list, allergy and adverse reaction list.	72
					3. The system **SHOULD** conform to function S.3.3.6 (Health Service Reports at the Conclusion of an Episode of Care).	73
					4. The system **SHOULD** conform to function IN.1.4 (Patient Access Management).	74
					5. The system **SHALL** conform to function IN.2.2 (Auditable Records).	75
DC.1.1.5	**F**	Present Ad Hoc Views of the Health Record	**Statement**: Subject to jurisdictional laws and organizational policies related to privacy and confidentiality, present customized views and summarized information from a patient's comprehensive EHR. The view may be arranged chronologically, by problem, or other parameters, and may be filtered or sorted. **Description**: A key feature of an electronic health record is its ability to support the delivery of care by enabling prior information to be found and meaningfully displayed. EHR systems should facilitate search, filtering, summarization, and presentation of available data needed for patient care. Systems should enable views to be customized, for example, specific data may be organized chronologically, by clinical category, or by consultant, depending on need. Jurisdictional laws and organizational policies that prohibit certain users from accessing certain patient information must be supported.	S.1.8 S.2.2.3 S.3.1.1 IN.1.3 IN.1.6 IN.1.7 IN.1.9 IN.2.4 IN.2.5.1 IN.2.5.2 IN.4.1 IN.4.2 IN.4.3	1. The system **SHALL** provide the ability to create views that prohibit ~~patients~~ users from accessing certain information according to organizational policy, scope of practice, and jurisdictional law.	76
					2. The system **SHOULD** provide the ability to create customized views of summarized information based on sort and filter controls for date or date range, problem, or other clinical parameters.	77
					3. The system **SHOULD** provide the ability to access summarized information through customized views based on prioritization of chronology, problem, or other pertinent clinical parameters.	78
					4. The system **SHOULD** conform to function IN.1.4 (Patient Access Management).	79

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ID#	Type	Name	Statement/Description	See Also	Conformance Criteria	Row #
				IN.5.1 IN.5.2 IN.5.4 IN.6	5. The system **SHALL** conform to function IN.2.2 (Auditable Records).	80
DC.1.2	**F**	Manage Patient History	**Statement**: Capture and maintain medical, procedural/surgical, social and family history including the capture of pertinent positive and negative histories, patient-reported or externally available patient clinical history. **Description**: The history of the current illness and patient historical data related to previous medical diagnoses, surgeries and other procedures performed on the patient, and relevant health conditions of family members is captured through such methods as patient reporting (for example interview, medical alert band) or electronic or non-electronic historical data. This data may take the form of a pertinent positive such as: "The patient/family member has had..." or a pertinent negative such as "The patient/family member has not had..." When first seen by a health care provider, patients typically bring with them clinical information from past encounters. This and similar information is captured and presented alongside locally captured documentation and notes wherever appropriate.	S.2.2.1 S.3.5 IN.1.7 IN.2.5.1 IN.2.5.2 IN.4.1 IN.4.2 IN.4.3 IN.5.1 IN.5.2 IN.5.4	1. The system **SHALL** provide the ability to capture, update and present current patient history including pertinent positive and negative elements.	81
					2. The system **SHOULD** provide the ability to capture and present previous external patient histories.	82
					3. The system **MAY** provide the ability to capture the relationship between patient and others.	83
					4. The system **SHALL** capture the complaint, presenting problem or other reason(s) for the visit or encounter.	84
					5. The system **SHOULD** capture the reason for visit/encounter from the patient's perspective.	85
					6. The system **SHOULD** conform to function IN.1.4 (Patient Access Management).	86
					7. The system **SHALL** conform to function IN.2.2 (Auditable Records).	87
DC.1.3	**H**	Preferences, Directives, Consents and Authorizations			1. The system **SHOULD** conform to function IN.1.4 (Patient Access Management).	88
					2. The system **SHALL** conform to function IN.2.2 (Auditable Records).	89
DC.1.3.1	**F**	Manage Patient and Family Preferences	**Statement**: Capture and maintain patient and family preferences. **Description**: Patient and family preferences regarding issues such as language, religion, spiritual practices and culture – may be important to the delivery of care. It is important to capture these so that they will be available to the provider at the point of care.	DC.2.1.4 S.3.7.1 IN.2.5.1 IN.2.5.2 IN.6	1. The system **SHALL** provide the ability to capture, present, maintain and make available for clinical decisions patient preferences such as language, religion, spiritual practices and culture.	90
					2. The system **SHALL** provide the ability to capture, present, maintain and make available for clinical decisions family preferences such as language, religion, spiritual practices and culture.	91

ID#	Type	Name	Statement/Description	See Also	Conformance Criteria	Row #
					3. The system **SHOULD** conform to function DC.2.1.4 (Support for Patient and Family Preferences), and incorporate patient and family preferences into decision support systems.	92
DC.1.3.2	**F**	Manage Patient Advance Directives	**Statement**: Capture and maintain patient advance directives. **Description**: Patient advance directives and provider DNR orders are captured as well as the date and circumstances under which the directives were received, and the location of any paper records or legal documentation (e.g. the original) of advance directives as appropriate.	S.3.5.1 S.3.5.3 S.3.5.4 IN.1.5 IN.1.8 IN.1.9 IN.2.2 IN.2.5.1 IN.2.5.2 IN.6	1. The system **SHALL** provide the ability to indicate that advance directives exist for the patient.	93
					2. The system **SHALL** provide the ability to indicate the type of advance directives completed for the patient such as living will, durable power of attorney, preferred interventions for known conditions, or the existence of a "Do Not Resuscitate order".	94
					3. The system **SHOULD** provide the ability to capture, present, maintain and make available for clinical decisions patient advance directives documents and “Do Not Resuscitate” orders.	95
					4. The system **SHOULD** conform to function DC.1.1.3.1 (Capture Data and Documentation from External Clinical Sources) and capture scanned patient advance directive documents and “Do Not Resuscitate” orders.	96
					5. The system **SHOULD** provide the ability to indicate when advanced directives were last reviewed.	97
					6. The system **SHOULD** provide the ability to indicate the name and relationship of the party completing the advance directive for the patient.	98
					7. The system **SHALL** time and date stamp advance directives.	99
					8. The system **SHOULD** provide the ability to document the location and or source of any legal documentation regarding advance directives.	100
					9. The system **SHOULD** conform to function DC.2.1.4 (Support for Patient and Family Preferences).	101
DC.1.3.3	**F**	Manage Consents and Authorizations	**Statement**: Create, maintain, and verify patient decisions such as informed consent for treatment and authorization/consent for disclosure when required. **Description**: Decisions are documented and include the extent of information, verification levels and	DC.1.1.3 S.2.2.2 S.3.5.1 S.3.5.4	1. The system **SHALL** provide the ability to indicate that a patient has completed applicable consents and authorizations.	102
					2. The system **SHALL** provide the ability to indicate that a patient has withdrawn applicable consents and authorizations.	103

ID#	Type	Name	Statement/Description	See Also	Conformance Criteria	Row #
			exposition of treatment options. This documentation helps ensure that decisions made at the discretion of the patient, family, or other responsible party, govern the actual care that is delivered or withheld. There may be several documents active at any one time that may govern a patient's care. Both clinical and administrative consents and authorizations are considered part of this function. A consent or authorization includes patient authorization for re-disclosure of sensitive information to third parties. Consents/Authorizations for printing should include appropriate standardized forms for patients, guardians, foster parents. The system must appropriately present forms for adolescents according to privacy rules. Some states may mandate assent. Assent is agreement by the patient to participate in services when they are legally unable to consent (e.g., an adolescent, an adult with early dementia).	IN.1.5 IN.1.8 IN.1.9 IN.2.2 IN.2.4 IN.2.5.1 IN.2.5.2 IN.6	3. The system **SHOULD** conform to function DC.1.1.3.1 (Capture Data and Documentation from External Clinical Sources) and capture scanned paper consent and authorization documents.	104
					4. The system **SHOULD** provide the ability to view and complete consent and authorization forms on-line.	105
					5. The system **MAY** provide the ability to generate printable consent and authorization forms.	106
					6. The system **MAY** display the authorizations associated with a specific clinical activity, such as treatment or surgery, along with that event in the patient's electronic chart.	107
					7. The system **MAY** provide the ability to display consents and authorizations chronologically.	108
					8. The system **SHOULD** provide the ability to document an assent for patients legally unable to consent.	109
					9. The system **SHALL** provide the ability to document the source of each consent, such as the patient or the patient's personal representative if the patient is legally unable to provide it.	110
					10. The system **SHOULD** provide the ability to document the patient's personal representative's level of authority to make decisions on behalf of the patient.	111
DC.1.4	**H**	Summary Lists		S.2.2.2 IN.2.4 IN.2.5.1 IN.2.5.2	1. The system **SHOULD** conform to function IN.1.4 (Patient Access Management).	112
					2. The system **SHALL** conform to function IN.2.2 (Auditable Records).	113
DC.1.4.1	**F**	Manage Allergy, Intolerance and Adverse Reaction List	**Statement**: Create and maintain patient-specific allergy, intolerance and adverse reaction lists. **Description**: Allergens, including immunizations, and substances are identified and coded (whenever possible) and the list is captured and maintained over time. All pertinent dates, including patient-reported events, are stored and the description of the patient allergy and adverse reaction is modifiable over time.	DC.2.3.1.1 S.2.2.1 S.2.2.3 S.3.7.1 IN.2.5.1 IN.2.5.2	1. The system **SHALL** provide the ability to capture true allergy, intolerance, and adverse reaction to drug, dietary or environmental triggers as unique, discrete entries.	114
					2. The system **SHOULD** provide the ability to capture the reason for entry of the allergy, intolerance or adverse reaction.	115
					3. The system **SHALL** provide the ability to capture the reaction type.	116

ID#	Type	Name	Statement/Description	See Also	Conformance Criteria	Row #
			The entire allergy history, including reaction, for any allergen is viewable. The list(s) includes all reactions including those that are classifiable as a true allergy, intolerance, side effect or other adverse reaction to drug, dietary or environmental triggers. Notations indicating whether item is patient reported and/or provider verified are maintained.	IN.4.1 IN.4.2 IN.4.3 IN.6	4. The system **SHOULD** provide the ability to capture the severity of a reaction.	117
					5. The system **SHALL** provide the ability to capture a report of No Known Allergies (NKA) for the patient.	118
					6. The system **SHOULD** provide the ability to capture a report of No Known Drug Allergies (NKDA) for the patient.	119
					7. The system **SHOULD** provide the ability to capture the source of allergy, intolerance, and adverse reaction information.	120
					8. The system **SHALL** provide the ability to deactivate an item on the list.	121
					9. The system **SHALL** provide the ability to capture the reason for deactivation of an item on the list.	122
					10. The system **MAY** present allergies, intolerances and adverse reactions that have been deactivated.	123
					11. The system **MAY** provide the ability to display user defined sort order of list.	124
					12. The system **SHOULD** provide the ability to indicate that the list of medications and other agents has been reviewed.	125
					13. They system **SHALL** provide the ability to capture and display the date on which allergy information was entered.	126
					14. The system **SHOULD** provide the ability to capture and display the approximate date of the allergy occurrence.	127
DC.1.4.2	**F**	Manage Medication List	**Statement**: Create and maintain patient-specific medication lists. **Description**: Medication lists are managed over time, whether over the course of a visit or stay, or the lifetime of a patient. All pertinent dates, including medication start, modification, and end dates are stored. The entire medication history for any medication, including alternative supplements and herbal medications, is viewable. Medication lists are not limited to medication orders recorded by providers, but may include, for example, pharmacy dispense/supply records, patient-reported medications and additional information such as age specific dosage.	S.2.2.1 IN.2.5.1 IN.2.5.2 IN.4.1 IN.4.2 IN.4.3 IN.5.1 IN.5.2 IN.5.4	1. The system **SHALL** provide the ability to capture patient-specific medication lists.	128
					2. The system **SHALL** display and report patient-specific medication lists.	129
					3. The system **SHALL** provide the ability to capture the details of the medication such as ordering date, dose, route, and SIG (description of the prescription, such as the quantity) when known.	130
					4. The system **SHOULD** provide the ability to capture other dates associated with medications such as start and end dates.	131
					5. The system **SHALL** provide the ability to capture medications not reported on existing medication lists or medication histories.	132

ID#	Type	Name	Statement/Description	See Also	Conformance Criteria	Row #
				IN.6	6. The system **SHALL** provide the ability to capture non-prescription medications including over the counter and complementary medications such as vitamins, herbs and supplements.	133
					7. The system **SHALL** present the current medication lists associated with a patient.	134
					8. The system **SHOULD** present the medication history associated with a patient.	135
					9. The system **SHALL** present the medication, prescriber, and medication ordering dates when known.	136
					10. The system **SHALL** provide the ability to mark a medication as erroneously captured and excluded from the presentation of current medications.	137
					11. The system **SHALL** provide the ability to print a current medication list for patient use.	138
					12. The system **MAY** provide the ability to capture information regarding the filling of prescriptions (dispensation of medications by pharmacies or other providers).	139
DC.1.4.3	**F**	Manage Problem List	**Statement**: Create and maintain patient- specific problem lists. **Description**: A problem list may include, but is not limited to: Chronic conditions, diagnoses, or symptoms, functional limitations, visit or stay-specific conditions, diagnoses, or symptoms. Problem lists are managed over time, whether over the course of a visit or stay or the life of a patient, allowing documentation of historical information and tracking the changing character of problem(s) and their priority. The source (e.g. the provider, the system id, or the patient) of the updates should be documented. In addition all pertinent dates are stored. All pertinent dates are stored, including date noted or diagnosed, dates of any changes in problem specification or prioritization, and date of resolution. This might include time stamps, where useful and appropriate. The entire problem history for any problem in the list is viewable.	DC.2.1.3 S.2.2.1 S.3.3.5 IN.2.4 IN.2.5.1 IN.2.5.2 IN.4.1 IN.4.2 IN.4.3 IN.6	1. The system **SHALL** capture, display and report all active problems associated with a patient.	140
					2. The system **SHALL** capture, display and report a history of all problems associated with a patient.	141
					3. The system **SHALL** provide the ability to capture onset date of problem.	142
					4. The system **SHOULD** provide the ability to capture the chronicity (chronic, acute/self-limiting, etc.) of a problem.	143
					5. The system **SHALL** provide the ability to capture the source, date and time of all updates to the problem list.	144
					6. The system **SHALL** provide the ability to deactivate a problem.	145
					7. The system **MAY** provide the ability to re-activate a previously deactivated problem.	146
					8. The system **SHOULD** provide the ability to display inactive and/or resolved problems.	147
					9. The system **SHOULD** provide the ability to manually order/sort the problem list.	148

ID#	Type	Name	Statement/Description	See Also	Conformance Criteria	Row #
					10. The system **MAY** provide the ability to associate encounters, orders, medications, notes with one or more problems.	149
					11. The system MAY provide the ability to show a specialty (e.g. eye care) specific problem list for that patient	
DC.1.4.4	**F**	Manage Immunization List	**Statement:** Create and maintain patient-specific immunization lists. **Description**: Immunization lists are managed over time, whether over the course of a visit or stay, or the lifetime of a patient. Details of immunizations administered are captured as discrete data elements including date, type, manufacturer and lot number. The entire immunization history is viewable.		1. The system **SHALL** capture, display and report all immunizations associated with a patient	150
					2. The system **SHALL** record as discrete data elements data associated with any immunization	151
					3. The system **SHOULD** prepare a report of a patient 's immunization history upon request for appropriate authorities such as schools or day-care centers	152
DC.1.5	**F**	Manage Assessments	**Statement**: Create and maintain assessments. **Description**: During an encounter with a patient, the provider will conduct an assessment that is germane to the age, gender, developmental or functional state, medical and behavioral condition of the patient, such as growth charts, developmental profiles, and disease specific assessments. Wherever possible, this assessment should follow industry standard protocols although, for example, an assessment for an infant will have different content than one for an elderly patient. When a specific standard assessment does not exist, a unique assessment can be created, using the format and data elements of similar standard assessments whenever possible.	DC.1.5 DC.1.6.2 DC.1.10.1 DC.2.1.1 DC.2.1.2 DC.2.2.1 S.2.2.1 IN.1.6 IN.2.5.1 IN.2.5.2 IN.4.1 IN.4.2 IN.4.3 IN.5.1 IN.5.2 IN.6	1. The system **SHALL** provide the ability to create assessments.	153
					2. The system **SHOULD** provide the ability to use standardized assessments where they exist.	154
					3. The system **SHOULD** provide the ability to document using standard assessments germane to the age, gender, developmental state, and health condition as appropriate to the EHR user's scope of practice.	155
					4. The system **SHOULD** provide the ability to capture data relevant to standard assessment.	156
					5. The system **SHOULD** provide the ability to capture additional data to augment the standard assessments relative to variances in medical conditions.	157
					6. The system **SHOULD** provide the ability to link data from a standard assessment to a problem list.	158
					7. The system **SHOULD** provide the ability to link data from a standard assessment to an individual care plan.	159
					8. The system **MAY** provide the ability to link data from external sources, laboratory results, and radiographic results to the standard assessment.	160
					9. The system **SHOULD** provide the ability to compare documented data against standardized curves and display trends.	161

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ID#	Type	Name	Statement/Description	See Also	Conformance Criteria	Row #
					10. The system **SHOULD** conform to function IN.1.4 (Patient Access Management).	162
					11. The system **SHALL** conform to function IN.2.2 (Auditable Records).	163
DC.1.6	**H**	Care Plans, Treatment Plans, Guidelines, and Protocols				164
DC.1.6.1	**F**	Present Guidelines and Protocols for Planning Care	**Statement**: Present organizational guidelines for patient care as appropriate to support planning of care, including order entry and clinical documentation. **Description**: Guidelines, and protocols presented for planning care may be site specific, community or industry-wide standards.	DC.1.1.2 DC.2.2.1.1 DC.2.2.1.2 DC.2.2.2 DC.2.2.3 DC.2.7.1 S.3.7.1 IN.6	1. The system **SHALL** provide the ability to present current guidelines and protocols to clinicians who are creating plans for treatment and care.	165
					2. The system **SHOULD** provide the ability to search for a guideline or protocol based on appropriate criteria (such as problem).	166
					3. The system **SHOULD** provide the ability to present previously used guidelines and protocols for historical or legal purposes.	167
					4. IF decision support prompts are used to support a specific clinical guideline or protocol, THEN the system **SHALL** conform to function DC.1.8.6 (Manage Documentation of Clinician Response to Decision Support Prompts).	168
					5. The system **SHALL** conform to function DC.2.2.1.2 (Support for Context-Sensitive Care Plans, Guidelines, Protocols).	169
					6. The system **SHOULD** conform to function IN.2.2 (Auditable Records).	170
DC.1.6.2	**F**	Manage Patient-Specific Care and Treatment Plans	**Statement**: Provide administrative tools for healthcare organizations to build care plans, guidelines and protocols for use during patient care planning and care. **Description**: Care plans, guidelines or protocols may contain goals or targets for the patient, specific guidance to the providers, suggested orders, and nursing interventions, among other items. Tracking of implementation or approval dates, modifications and relevancy to specific domains or context is provided. Transfer of treatment and care plans may be implemented electronically using, for example, templates, or by printing plans to paper.	DC.3.1.1 DC.3.1.2 DC.3.1.3 IN.2.2 IN.2.5.1 IN.2.5.2 IN.6	1. The system **SHALL** provide the ability to capture patient-specific plans of care and treatment.	171
					2. The system **SHALL** conform to DC.1.6.1 (Present Guidelines and Protocols for Planning Care) and provide the ability to use locally or non-locally developed templates, guidelines, and protocols for the creation of patient-specific plans of care and treatment.	172
					3. The system **SHALL** provide the ability to use previously developed care plans as a basis for the creation of new plans of care and treatment.	173
					4. The system **SHALL** provide the ability to track updates to a patient's plan of care and treatment including authors, creation date, version history, references, local sources and non-local sources in accordance with scope of practice, organizational policy and jurisdictional law.	174
					5. The system **SHOULD** provide the ability to coordinate order sets with care plans.	175

ID#	Type	Name	Statement/Description	See Also	Conformance Criteria	Row #
					6. The system **SHOULD** provide the ability to derive order sets from care plans.	176
					7. The system **SHOULD** provide the ability to derive care plans from order sets.	177
					8. The system **SHALL** provide the ability to transfer plans of care and treatment to other care providers.	178
					9. The system **SHOULD** conform to function DC.3.1.1 (Clinical Task Assignment and Routing) and incorporate care plan items in the tasks assigned and routed.	179
					10. The system **SHOULD** conform to function DC.3.1.2 (Clinical Task Linking) and incorporate care plan items in the tasks linked.	180
					11. The system **SHOULD** conform to function DC.3.1.3 (Clinical Task Tracking) and incorporate care plan items in the tasks tracked.	181
					12. The system **SHALL** conform to function IN.2.2 (Auditable Records).	182
DC.1.7	**H**	Orders and Referrals Management			1. The system **SHALL** conform to function IN.2.2 (Auditable Records).	183
DC.1.7.1		Manage Medication Orders	**Statement:** Create prescriptions or other medication orders with detail adequate for correct filling and administration. Provide information regarding compliance of medication orders with formularies. **Description**: Different medication orders, including discontinue, refill, and renew, require different levels and kinds of detail, as do medication orders placed in different situations. The correct details are recorded for each situation. Administration or patient instructions are available for selection by the ordering clinicians, or the ordering clinician is facilitated in creating such instructions. The system may allow for the creation of common content for prescription details. Appropriate time stamps for all medication related activity are generated. This includes series of orders that are part of a therapeutic regimen, e.g. Renal Dialysis, Oncology. When a clinician places an order for a medication, that order may or may not comply with a formulary specific to the patient's location or insurance coverage, if applicable. Whether the order complies with the formulary should be communicated to the ordering	DC.2.3.1.1 DC.2.3.1.2 DC.2.3.1.3 DC.2.4.2 DC.3.2.2 S.2.2.1 S.3.3.2 S.3.7.2 IN.2.4 IN.2.5.2 IN.4.1 IN.4.2 IN.4.3 IN.5.1	1. The system **SHALL** provide the ability to create prescription or other medication orders with the details adequate for correct filling and administration captured as discrete data.	184
					2. The system **SHALL** capture user and date stamp for all prescription related events.	185
					3. The system **SHALL** conform to function DC.1.4.2 (Manage Medication List) and update the appropriate medication list with the prescribed medications (in case of multiple medication lists).	186
					4. The system **SHALL** provide a list of medications to search, including both generic and brand name.	187
					5. The system **SHALL** provide the ability to maintain a discrete list of orderable medications.	188
					6. The system **SHALL** conform to function DC.1.7.2.1 (Manage Non-Medication Patient Care Orders) and provide the ability to order supplies associated with medication orders in accordance with scope of practice, organizational policy or jurisdictional law.	189

ID#	Type	Name	Statement/Description	See Also	Conformance Criteria	Row #
			clinician at an appropriate point to allow the ordering clinician to decide whether to continue with the order. Formulary-compliant alternatives to the medication being ordered may also be presented.	IN.5.2 IN.5.4 IN.6	7. The system **MAY** make common content available for prescription details to be selected by the ordering clinician.	190
					8. The system **MAY** provide the ability for the ordering clinician to create prescription details as needed	191
					9. The system **MAY** make available common patient medication instruction content to be selected by the ordering clinician.	192
					10. The system **MAY** provide the ability to include prescriptions in order sets.	193
					11. The system **MAY** provide a list of frequently-ordered medications by diagnosis by provider which could include the full details of the medication, including SIG, quantity, refills, DAW, etc.	194
					12. The system **MAY** provide the ability to select drugs by therapeutic class and/or indication.	195
					13. The system **MAY** conform to function S.3.3.2 (Eligibility Verification and Determination of Coverage) and display the results of electronic prescription eligibility and health plan/payer formulary checking.	196
					14. The system **MAY** provide the ability to re-prescribe medication by allowing a prior prescription to be reordered without re-entering previous data (e.g. administration schedule, quantity).	197
					15. The system **SHOULD** provide the ability to re-prescribe a medication from a prior prescription using the same dosage but allow for editing of details adequate for correct filling and administration of medication (e.g. dose, frequency, body weight).	198
					16. The system **SHOULD** conform to function DC.2.3.1.1 (Support for Drug Interaction Checking) and check and report allergies, drug-drug interactions, and other potential adverse reactions, when new medications are ordered.	199
					17. The system **SHOULD** conform to function DC.2.3.1.2 (Support for Patient Specific Dosing and Warnings) and check and report other potential adverse reactions, when new medications are ordered.	200

ID#	Type	Name	Statement/Description	See Also	Conformance Criteria	Row #
					18. The system **SHOULD** provide the ability to create prescriptions in which the weight-specific dose is suggested.	201
					19. The system **SHOULD** conform to function DC.2.3.1.3 (Support for Medication Recommendations).	202
DC.1.7.2	**H**	Non-Medication Orders and Referrals Management				203
DC.1.7.2.1	**F**	Manage Non-Medication Patient Care Orders	**Statement**: Capture and track patient care orders. Enable the origination, documentation, and tracking of non-medication patient care orders. **Description**: Non-medication orders that request actions or items can be captured and tracked including new, renewal and discontinue orders. Examples include orders to transfer a patient between units, to ambulate a patient, for medical supplies, durable medical equipment, home IV, and diet or therapy orders. Each item ordered includes the appropriate detail, such as order identification and instructions. Orders should be communicated to the correct service provider for completion.	DC.2.4.1 DC.2.4.2 S.2.2.1 S.3.3.3 S.3.7.1 IN.1.6 IN.1.7 IN.2.5.1 IN.2.5.2 IN.6	1. The system **SHALL** provide the ability to capture non-medication patient care orders for an action or item	204
					2. The system **SHALL** provide the ability to capture adequate order detail for correct order fulfillment	205
					3. The system **SHALL** track the status of the ordered action or item	206
					4. The system **SHOULD** provide the ability to capture patient instructions necessary for correct order fulfillment	207
					5. The system **SHOULD** provide the ability to present patient instructions necessary for correct order fulfillment	208
					6. The system **SHOULD** provide the ability to communicate the order to the correct recipient(s) for order fulfillment	209
					7. The system **SHALL** conform to DC.2.4.2 (Support for Non-Medication Ordering)	210
DC.1.7.2.2	**F**	Manage Orders for Diagnostic Tests	**Statement**: Enable the origination, documentation, and tracking of orders for diagnostic tests. **Description**: Orders for diagnostic tests (e.g. diagnostic radiology, blood test) are captured and tracked including new, renewal and discontinue orders. Each order includes appropriate detail, such as order identification, instructions and clinical information necessary to perform the test. Orders and supporting detailed documentation shall be communicated to the service provider for completion of the diagnostic test(s). Some systems may contain instructions, but in some settings, instructions may be provided from external sources (e.g., handouts).	DC.2.4.5.2 S.2.2.1 S.3.7.1 IN.1.6 IN.1.7 IN.2.5.1 IN.2.5.2 IN.6	1. The system **SHALL** provide the ability to capture orders for diagnostic tests.	211
					2. The system **SHALL** provide the ability to capture adequate order detail for correct diagnostic test fulfillment.	212
					3. The system **SHALL** provide the ability to track the status of diagnostic test(s).	213
					4. The system **SHOULD** provide the ability to capture and present patient instructions relevant to the diagnostic test ordered.	214
					5. The system **SHALL** communicate orders to the service provider of the diagnostic test.	215
					6. The system **SHOULD** communicate supporting detailed documentation to the correct service provider of the diagnostic test.	216

ID#	Type	Name	Statement/Description	See Also	Conformance Criteria	Row #
					7. The system **SHALL** conform to DC.2.4.2 (Support for Non-Medication Ordering).	217
DC.1.7.2.3	**F**	Manage Orders for Blood Products and Other Biologics	**Statement**: Communicate with appropriate sources or registries to manage orders for blood products or other biologics. **Description**: Interact with a blood bank system or other source to support orders for blood products or other biologics including discontinuance orders. Use of such products in the provision of care is captured. Blood bank or other functionality that may come under jurisdictional law or other regulation (e.g. by the FDA in the United States) is not required; functional communication with such a system is required.	DC.2.4.5.1 S.1.1 S.1.2	1. The system **SHALL** provide the ability to interface with systems of blood banks or other sources to manage orders for blood products or other biologics.	218
					2. The system **SHALL** provide the ability to capture use of such products in the provision of care.	219
					3. The system **SHOULD** conform to function S.1.1 (Registry Notification).	220
DC.1.7.2.4	**F**	Manage Referrals	**Statement**: Enable the origination, documentation and tracking of referrals between care providers or healthcare organizations, including clinical and administrative details of the referral, and consents and authorizations for disclosures as required. **Description**: Documentation and tracking of a referral from one care provider to another is supported, whether the referred to or referring providers are internal or external to the healthcare organization. Guidelines for whether a particular referral for a particular patient is appropriate in a clinical context and with regard to administrative factors such as insurance may be provided to the care provider at the time the referral is created.	DC.1.9.3 DC.2.4.4.1 DC.2.4.4.2 S.1.3.1a S.1.3.5 S.3.3.2 S.3.3.3 IN.1.6 IN.1.7 IN.2.5.1 IN.2.5.2	1. The system **SHALL** provide the ability to capture and communicate referral(s) to other care provider (s), whether internal or external to the organization.	221
					2. The system **SHALL** provide the ability to capture clinical details as necessary for the referral.	222
					3. The system **SHALL** provide the ability to capture administrative details (such as insurance information, consents and authorizations for disclosure) as necessary for the referral.	223
					4. The system **SHALL** present captured referral information.	224
					5. The system **SHOULD** provide the ability to capture completion of a referral appointment.	225
					6. The system **SHOULD** provide diagnosis based clinical guidelines for making a referral.	226
					7. The system **MAY** provide order sets for referral preparation.	227
					8. The system **SHALL** provide the ability to document transfer of care according to organizational policy, scope of practice, and jurisdictional law.	228
DC.1.7.3	**F**	Manage Order Sets	**Statement**: Provide order sets based on provider input or system prompt. **Description**: Order sets, which may include medication and non-medication orders, allow a care provider to choose common orders for a particular circumstance or	DC.2.4.1 IN.2.5.1 IN.2.5.2 IN.6	1. The system **SHALL** provide the ability to present order set(s).	229
					2. The system **SHALL** provide the ability to order at the patient level from presented order sets.	230
					3. The system **SHALL** provide the ability to record each component of an order set that is ordered.	231

ID#	Type	Name	Statement/Description	See Also	Conformance Criteria	Row #
			disease state according to standards or other criteria. Recommended order sets may be presented based on patient data or other contexts.		4. The system **SHALL** conform to function DC.2.4.1 (Support for Order Sets).	232
					5. The system **MAY** provide the ability for a provider to choose from among the order sets pertinent to a certain disease or other criteria.	233
DC.1.8	**H**	Documentation of Care, Measurements and Results			1. The system **SHALL** conform to function IN.2.2 (Auditable Records)	234
DC.1.8.1	**F**	Manage Medication Administration	**Statement**: Present providers with the list of medications that are to be administered to a patient, necessary administration information, and capture administration details. **Description**: In a setting in which medication orders are to be administered by a provider rather than the patient, the necessary information is presented including: the list of medication orders that are to be administered; administration instructions, times or other conditions of administration; dose and route, etc. The system shall securely relate medications to be administered to the unique identity of the patient (see DC.1.1.1). Additionally, the provider can record what actually was or was not administered, whether or not these facts conform to the order. Appropriate time stamps for all medication related activity are generated. For some settings that administer complete sets of medications from a variety of providers' orders, it may be useful to provide an additional check for possible drug-drug or other interactions.	DC.1.1.1 DC.2.3.1.1 DC.2.3.1.2 DC.2.3.2 S.2.2.1 S.2.2.3 IN.1.1 IN.1.2 IN.1.3 IN.1.7 IN.1.9 IN.2.4 IN.2.5.1 IN.2.5.2 IN.6	1. The system **SHALL** present the list of medications to be administered.	235
					2. The system **SHALL** display the timing, route of administration, and dose of all medications on the list.	236
					3. The system **SHOULD** display instructions for administration of all medications on the list.	237
					4. The system **MAY** notify the clinician when specific doses are due.	238
					5. The system **MAY** conform to function DC.2.3.1.1 (Support for Drug Interaction Checking) and check and report allergies, drug-drug interactions, and other potential adverse reactions, when new medications are about to be given.	239
					6. The system **MAY** conform to function DC.2.3.1.2 (Support for Patient Specific Dosing and Warnings) and check and report other potential adverse reactions, when new medications are about to be given.	240
					7. The system **SHALL** provide the ability to capture medication administration details – including timestamps, observations, complications, and reason if medication was not given – in accordance with organizational policy, scope of practice, and jurisdictional law.	241
					8. The system **SHALL** securely relate interventions to be administered to the unique identity of the patient.	242

ID#	Type	Name	Statement/Description	See Also	Conformance Criteria	Row #
DC.1.8.2	**F**	Manage Immunization Administration	**Statement**: Capture and maintain discrete data concerning immunizations given to a patient including date administered, type, manufacturer, lot number, and any allergic or adverse reactions. Facilitate the interaction with an immunization registry to allow maintenance of a patient's immunization history. **Description**: During an encounter, recommendations based on accepted immunization schedules are presented to the provider. Allergen and adverse reaction histories are checked prior to giving the immunization. If an immunization is administered, discrete data elements associated with the immunization including date, type, manufacturer and lot number are recorded. Any new adverse or allergic reactions are noted. If required, a report is made to the public health immunization registry.	DC.1.3.2 S.1.1 S.2.2.2 S.3.7.1 IN.1.6 IN.1.7 IN.2.4 IN.2.5.1 IN.2.5.2 IN.3.1 IN.3.2 IN.4.1 IN.4.2 IN.4.3 IN.5.1 IN.5.2 IN.6	1. The system **SHALL** provide the ability to recommend required immunizations, and when they are due, during an encounter based on widely accepted immunization schedules.	243
					2. The system **SHOULD** provide the ability to recommend required immunizations based on patient risk factors.	244
					3. The system **SHALL** perform checking for potential adverse or allergic reactions for all immunizations when they are about to be given.	245
					4. The system **SHALL** provide the ability to capture immunization administration details, including date, type, lot number and manufacturer.	246
					5. The system **SHOULD** provide the ability to capture other clinical data pertinent to the immunization administration (e.g. vital signs).	247
					6. The system **SHALL** record as discrete data elements data associated with any immunization.	248
					7. The system **SHOULD** provide the ability to associate standard codes with discrete data elements associated with an immunization.	249
					8. The system **SHALL** provide the ability to update the immunization schedule.	250
					9. The system **SHOULD** provide the ability to prepare a report of a patient's immunization history upon request for appropriate authorities such as schools or day-care centers.	251
					10. The system **SHALL** conform to function DC.1.4.1 (Manage Allergy, Intolerance and Adverse Reaction Lists).	252
					11. The system **SHOULD** transmit required immunization information to a public health immunization registry.	253
					12. The system **SHOULD** receive immunization histories from a public health immunization registry.	254
DC.1.8.3	**F**	Manage Results	**Statement**: Present, annotate, and route current and historical test results to appropriate providers or patients for review. Provide the ability to filter and compare results.	DC.2.4.3 S.2.2.1 S.3.7.1	1. The system **SHALL** provide the ability to present numerical and non-numerical current and historical test results to the appropriate provider.	255
					2. The system **SHALL** provide the ability to filter results for a unique patient.	256

ID#	Type	Name	Statement/Description	See Also	Conformance Criteria	Row #
			Description: Results of tests are presented in an easily accessible manner to the appropriate providers. Flow sheets, graphs, or other tools allow care providers to view or uncover trends in test data over time. In addition to making results viewable, it is often necessary to send results to appropriate providers using electronic messaging systems, pagers, or other mechanisms. Documentation of notification is accommodated. Results may also be routed to patients electronically or by letter.	IN.1.6 IN.1.7 IN.2.4 IN.2.5.1 IN.2.5.2 IN.6	3. The system **SHALL** provide the ability to filter results by factors that supports results management, such as type of test and date range.	257
					4. The system **SHOULD** indicate normal and abnormal results depending on the data source.	258
					5. The system **SHOULD** provide the ability to filter lab results by range, e.g. critical, abnormal or normal.	259
					6. The system **SHOULD** display numerical results in flow sheets, graphical form, and allow comparison of results.	260
					7. The system **SHALL** provide the ability to group tests done on the same day.	261
					8. The system **SHOULD** notify relevant providers (ordering, copy to) that new results have been received.	262
					9. The system **SHOULD** provide the ability for the user, to whom a result is presented, to acknowledge the result.	263
					10. The system **SHOULD** provide the ability to route results to other appropriate care providers, such as nursing home, consulting physicians, etc.	264
					11. The system **MAY** route results to patients by methods such as phone, fax, electronically or letter.	265
					12. The system **SHOULD** provide the ability for providers to pass on the responsibility to perform follow up actions to other providers.	266
					13. The system **MAY** provide the ability for an authorized user to group results into clinically logical sections.	267
					14. The system **SHOULD** trigger decision support algorithms from the results.	268
					15. IF the system contains the electronic order, THEN the results **SHALL** be linked to a specific order.	269
					16. The system **MAY** provide the ability for providers to annotate a result.	270
					17. The system **MAY** display a link to an image associated with results.	271
DC.1.8.4	**F**	Manage Patient Clinical Measurements	**Statement**: Capture and manage patient clinical measures, such as vital signs, as discrete patient data. **Description**: Patient measures such as vital signs are	IN.2.5.1 IN.2.5.2	1. The system **SHALL** capture blood pressure, temperature, heart rate, respiratory rate, and severity of pain as discrete elements of structured or unstructured data.	272

ID#	Type	Name	Statement/Description	See Also	Conformance Criteria	Row #
			captured and managed as discrete data to facilitate reporting and provision of care. Other clinical measures (such as expiratory flow rate, size of lesion, etc.) are captured and managed, and may be discrete data.		2. IF required by the scope of practice, THEN the system **SHALL** capture psychiatric symptoms and daily functioning as structured or unstructured data.	273
					3. The system **SHOULD** capture other clinical measures such as peak expiratory flow rate, size of lesions, oxygen saturation, height, weight, and body mass index , visual acuity, corneal thickness, intraocular pressure, target intraocular pressure as discrete elements of structured or unstructured data.	274
					4. The system **SHOULD** compute and display percentile values when data with normative distributions are entered.	275
					5. The system **SHOULD** provide normal ranges for based on age and other parameters such as height, weight, ethnic background, gestational age.	276
					~~6.~~The system **SHALL** display graphs of intraocular pressure over time.	
					~~7.~~6.	
					7. The system MAY provide the ability to display graphs of other parameters, provided, for example visual acuity, lesion size etc.	
					~~7.~~8. The system **SHALL** provide the ability to make drawings to explain eye findings	
					~~8.~~9. The system **SHALL** allow the use of templates so that the user only has to fill in the findings and not have to draw the eye each time	
					10. The system MAY provide the use of transparencies in drawings to document the colocalization of abnormalities	
DC.1.8.5	**F**	Manage Clinical Documents and Notes	**Statement**: Create, addend, correct, authenticate and close, as needed, transcribed or directly-entered clinical documentation and notes. **Description**: Clinical documents and notes may be unstructured and created in a narrative form, which may be based on a template, graphical, audio, etc.. The documents may also be structured documents that result in the capture of coded data. Each of these forms of clinical documentation is important and appropriate for different users and situations.	IN.2.2 IN.2.5.1 IN.2.5.2	1. The system **SHALL** provide the ability to capture clinical documentation (henceforth "documentation") including original, update by amendment in order to correct, and addenda.	277
					2. The system **SHALL** provide the ability to capture free text documentation.	278
					3. The system **MAY** present documentation templates (structured or free text) to facilitate creating documentation.	279
					4. The system **SHALL** provide the ability to view other documentation within the patient's logical record while creating documentation.	280

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					5. The system **SHOULD** provide the ability to associate documentation for a specific patient with a given event, such as an office visit, phone communication, e-mail consult, lab result, etc.	281
					6. The system **SHOULD** provide the ability to associate documentation with problems and/or diagnoses.	282
					7. The system **SHALL** provide the ability to update documentation prior to finalizing it.	283
					8. The system **SHALL** provide the ability to finalize a document or note.	284
					9. The system **SHALL** provide the ability to attribute record and display the identity of all users contributing to or finalizing a document or note, including the date and time of entry (see appropriate criteria in IN.2.2 (Auditable Records)).	285
					10. The system **SHALL** present captured documentation.	286
					11. The system **MAY** provide the ability to filter, search or sort notes.	287
					12. The system **SHOULD** provide documentation templates for data exchange.	288
DC.1.8.6	**F**	Manage Documentation of Clinician Response to Decision Support Prompts	**Statement**: Capture the decision support prompts and manage decisions to accept or override decision support prompts. **Description**: Clinician actions in response to decision support prompts are captured and can be managed at the patient level or aggregated for organizational trending.	S.3.7.1 IN.2.5.1 IN.2.5.2 IN.6	1. The system **SHALL** provide the ability to capture clinical decision support prompts and user decisions to accept or override those prompts.	289
					2. The system **SHALL** provide the ability to record the reason for variation from the decision support prompt.	290
					3. The system **SHOULD** provide the ability to display recorded variances upon request by authorized users of the EHR.	291
DC.1.9	**F**	Generate and Record Patient-Specific Instructions	**Statement**: Generate and record patient-specific instructions related to pre- and post-procedural and post- discharge requirements. **Description**: When a patient is scheduled for a test, procedure, or discharge, specific instructions about diet, clothing, transportation assistance, convalescence, follow-up with physician, etc., may be generated and recorded, including the timing relative to the scheduled event.	DC.2.2.4 DC.2.7.2 DC.3.2.3 DC.3.2.4 S.3.7.2 S.3.7.3 IN.1.8	1. The system **SHALL** provide the ability to generate instructions pertinent to the patient for standardized procedures.	292
					2. The system **SHALL** provide the ability to generate instructions pertinent to the patient based on clinical judgment.	293
					3. The system **SHALL** provide the ability to include details on further care such as follow up, return visits and appropriate timing of further care.	294
					4. The system **SHALL** provide the ability to record that instructions were given to the patient.	295

ID#	Type	Name	Statement/Description	See Also	Conformance Criteria	Row #
				IN.2.2 IN.6	5. The system **SHALL** provide the ability to record the actual instructions given to the patient or reference the document(s) containing those instructions.	296
					6. The system **SHALL** conform to function IN.2.2 (Auditable Records).	297
DC.2	**H**	**Clinical Decision Support**			1. The system **SHALL** conform to function IN.1.1 (Entity Authentication).	298
					2. The system **SHALL** conform to function IN.1.2 (Entity Authorization).	299
					3. The system **SHALL** conform to function IN.1.3 (Entity Access Control).	300
					4. IF the system is used to enter, modify or exchange data, THEN the system **SHALL** conform to function IN.1.5 (Non-Repudiation), to guarantee that the sources and receivers of data cannot deny that they entered/sent/received the data.	301
					5. IF the system exchanges data outside of a secure network, THEN the system **SHALL** conform to function IN.1.6 (Secure Data Exchange), to ensure that the data are protected.	302
					6. IF the system exchanges outside of a secure network, THEN the system **SHALL** conform to function IN.1.7 (Secure Data Routing), to ensure that the exchange occurs only among authorized senders and receivers.	303
					7. IF the system is used to enter or modify data in the health record, THEN the system **SHALL** conform to function IN.1.8 (Information Attestation), to show authorship and responsibility for the data.	304
					8. The system **SHALL** conform to function IN.2.1 (Data Retention, Availability and Destruction).	305
					9. The system **SHOULD** conform to function IN.2.3 (Synchronization).	306
					10. IF the system is used to extract data for analysis and reporting, THEN the system **SHALL** conform to function IN.2.4 (Extraction of Health Record Information), to support data extraction across the complete health record of an individual.	307

ID#	Type	Name	Statement/Description	See Also	Conformance Criteria	Row #
					11. IF the system stores unstructured data, THEN the system **SHALL** conform to function IN.2.5.1 (Manage Unstructured Health Record Information), to ensure data integrity through all changes.	308
					12. IF the system stores structured data, THEN the system **SHALL** conform to function IN.2.5.2 (Manage Structured Health Record Information), to ensure data integrity through all changes.	309
					13. IF the system processes data for which generally accepted standard terminologies have been established, THEN the system **SHALL** conform to function IN.4.1 (Standard Terminologies and Terminology Models), to support semantic interoperability.	310
					14. IF the system processes data for which generally accepted standard terminologies have been established, THEN the system **SHALL** conform to function IN.4.2 (Maintenance and Versioning of Standard Terminologies), to preserve the semantics of coded data over time.	311
					15. The system **SHOULD** conform to function IN.4.3 (Terminology Mapping).	312
					16. IF the system exchanges data for which generally accepted interchange standards have been established, THEN the system **SHALL** conform to function IN.5.1 (Interchange Standards), to support interoperability.	313
					17. IF the system exchanges data for which generally accepted interchange standards have been established, THEN the system **SHALL** conform to function IN.5.2 (Interchange Standards Versioning and Maintenance), to accommodate the inevitable evolution of interchange standards.	314
					18. The system **SHOULD** conform to function IN.5.3 (Standards-based Application Integration).	315
					19. IF the system exchanges data with other systems outside itself, THEN the system **SHALL** conform to function IN.5.4 (Interchange Agreements), to define how the sender and receiver will exchange data.	316
					20. The system **SHOULD** conform to function IN.6 (Business Rules Management).	317

ID#	Type	Name	Statement/Description	See Also	Conformance Criteria	Row #
					21. The system **SHOULD** conform to function IN.7 (Workflow Management).	318
DC.2.1	**H**	Manage Health Information to Provide Decision Support			1. The system **SHOULD** conform to function IN.1.4 (Patient Access Management).	319
					2. The system **SHALL** conform to function IN.1.9 (Patient Privacy and Confidentiality).	320
					3. The system **SHALL** conform to function IN.2.2 (Auditable Records).	321
					4. The system **SHOULD** conform to function IN.3 (Registry and Directory Services).	322
DC.2.1.1	**F**	Support for Standard Assessments	**Statement**: Offer prompts to support the adherence to care plans, guidelines, and protocols at the point of information capture. **Description**: When a clinician fills out an assessment, data entered triggers the system to prompt the assessor to consider issues that would help assure a complete/accurate assessment. A simple demographic value or presenting problem (or combination) could provide a template for data gathering that represents best practice in this situation, e.g. Type II diabetic review, fall and 70+, rectal bleeding, etc.	DC.1.4 DC.1.5 S.3.7.1 IN.2.3 IN.2.4 IN.6	1. The system **SHALL** provide the ability to access the standard assessment in the patient record.	323
					2. The system **SHALL** provide the ability to access to health standards and practices appropriate to the EHR user's scope of practice.	324
					3. The system **SHOULD** provide the ability to compare elements of assessments captured by the clinician and those available as best practices and/or evidence based resources.	325
					4. The system **MAY** provide the ability to derive supplemental assessment data from evidence based standard assessments, practice standards, or other generally accepted, verifiable, and regularly updated standard clinical sources.	326
					5. The system **SHOULD** provide prompts based on practice standards to recommend additional assessment functions.	327
					6. The system **SHOULD** conform to function DC.1.4.3 (Manage Problem List) and provide the ability to update the problem list by activating new problems and de-activating old problems as identified by conduct of standard assessments.	328
					7. The system **SHOULD** provide the ability to create standard assessments that correspond to the problem list.	329
					8. The system **SHOULD** conform to function DC 2.1.2 (Support for Patient Context-driven Assessments).	330
DC.2.1.2	**F**	Support for Patient Context- Driven Assessments	**Statement**: Offer prompts based on patient-specific data at the point of information capture for assessment purposes. **Description**: When a clinician fills out an assessment, data entered is matched against data already in the	DC.1.4 DC.1.5 S.3.7.1 IN.2.3	1. The system **SHALL** provide the ability to access health assessment data in the patient record	331
					2. The system **SHOULD** provide the ability to compare assessment data entered during the encounter and the accessed health evidence based standards and best practices	332

ID#	Type	Name	Statement/Description	See Also	Conformance Criteria	Row #
			system to identify potential linkages. For example, the system could scan the medication list and the knowledge base to see if any of the symptoms are side effects of medication already prescribed. Important diagnoses could be brought to the doctor's attention, for instance ectopic pregnancy in a woman of child bearing age who has abdominal pain.	IN.2.4 IN.6	3. The system **SHOULD** provide the ability to compare health data and patient context-driven assessments to practice standards in order to prompt additional testing, possible diagnoses, or adjunctive treatment	333
					4. The system **SHOULD** provide the ability to correlate assessment data and the data in the patient specific problem list	334
					5. The system **SHALL** conform to function DC 2.1.1 (Support for Standard Assessments)	335
					6. The system **SHALL** conform to function DC.1.5 (Manage Assessments)	336
					7. The system **SHOULD** conform to function DC.1.4.3 (Manage Problem List)	337
DC.2.1.3	**F**	Support for Identification of Potential Problems and Trends	**Statement**: Identify trends that may lead to significant problems, and provide prompts for consideration. **Description**: When personal health information is collected directly during a patient visit, input by the patient, or acquired from an external source (lab results), it is important to be able to identify potential problems and trends that may be patient-specific, given the individual's personal health profile, or changes warranting further assessment. For example: significant trends (lab results, weight); a decrease in creatinine clearance for a patient on metformin, an abnormal increase in INR for a patient on warfarin, an increase in suicidal ideation; presence of methamphetamines; or absence of therapeutic levels of antidepressants.	DC.1.4 DC.1.5 S.3.7.1 S.3.7.2 S.3.7.4 IN.6	1. The system **SHALL** conform to function DC.1.5 (Manage Assessments) and provide the ability to access standard assessment data in the patient record.	338
					2. The system **SHOULD** provide the ability to access health standards and practices appropriate to the EHR user's scope of practice at the time of the encounter.	339
					3. The system **SHOULD** provide the ability to compare patient context-driven assessments and additional health information to best practices in order to identify patient specific growth or development patterns, health trends and potential health problems.	340
					4. The system **SHOULD** provide the ability to configure rules defining abnormal trends.	341
					5. The system **SHOULD** prompt the provider with abnormal trends.	342
					6. The system **SHOULD** prompt the provider for additional assessments, testing or adjunctive treatment.	343
					7. The system **SHOULD** conform to function DC.1.8.6 (Manage Documentation of Clinician Response to Decision Support Prompts).	344
					8. The system **MAY** provide the ability to integrate health information contained in the record with appropriate teaching materials.	345
					9. The system **SHOULD** conform to function DC 2.2.1.2 (Support for Context-sensitive Care Plans, Guidelines, Protocols).	346

ID#	Type	Name	Statement/Description	See Also	Conformance Criteria	Row #
DC.2.1.4	**F**	Support for Patient and Family Preferences	**Statement**: Support the integration of patient and family preferences into clinical decision support. **Description**: Decision support functions should permit consideration of patient/family preferences and concerns, such as with language, religion, culture, medication choice, invasive testing, and advance directives. Such preferences should be captured in a manner that allows for their integration with the health record and easy retrieval from the health record. Preferences may be specified across all treatment plans or specifically to a treatment plan.	DC.1.1.4 DC.1.6.1 DC.1.6.2 DC.1.6.3 DC.1.11.1 DC.1.11.2 DC.2.2.1.1 DC.2.2.1.2 DC.2.2.2 S.3.7.1 S.3.7.2 S.3.7.4 IN.6	1. The system **SHALL** conform to DC.1.3.1 (Manage Patient and Family Preferences).	347
					2. The system **SHALL** provide for the ability to capture and manage patient and family preferences as they pertain to current treatment plans.	348
					3. The system **SHALL** provide the ability to update care guidelines and options relating to documented patient and family preferences, including standards of practice e.g. treatment options for individuals who refuse blood transfusions.	349
					4. The system **SHOULD** provide the ability to compare care guidelines and options relating to documented patient and family preferences, including standards of practice.	350
					5. The system **SHOULD** prompt the provider for testing and treatment options based on patient and family preferences and provide the ability to compare to standard practice.	351
					6. The system **MAY** provide the ability to integrate preferences with appropriate teaching materials.	352
					7. The system **SHOULD** provide the ability to integrate necessary documentation of preferences, such as living wills, specific consents or releases.	353
					8. The system **SHALL** conform to function DC.1.3.2 (Manage Patient Advance Directives).	354
DC.2.2	**H**	Care and Treatment Plans, Guidelines and Protocols		DC.1.2	1. The system **SHALL** conform to function IN.1.9 (Patient Privacy and Confidentiality).	355
					2. The system **SHALL** conform to function IN.2.2 (Auditable Records).	356
DC.2.2.1	**H**	Support for Condition Based Care and Treatment Plans, Guidelines, Protocols			1. The system **SHOULD** conform to function IN.1.4 (Patient Access Management).	357
					2. The system **SHOULD** conform to function IN.3 (Registry and Directory Services).	358
DC.2.2.1.1	**F**	Support for Standard Care Plans, Guidelines, Protocols	**Statement**: Support the use of appropriate standard care plans, guidelines and/or protocols for the management of specific conditions. **Description**: Before they can be accessed upon request (e.g., in DC 1.6.1), standard care plans,	DC 1.6.1	1. The system **SHALL** conform to function DC.1.6.1 (Present Guidelines and Protocols for Planning Care) and provide the ability to access standard care plans, protocols and guidelines when requested within the context of a clinical encounter.	359

ID#	Type	Name	Statement/Description	See Also	Conformance Criteria	Row #
			protocols, and guidelines must be created. These documents may reside within the system or be provided through links to external sources, and can be modified and used on a site specific basis. To facilitate retrospective decision support, variances from standard care plans, guidelines, and protocols can be identified and reported.		2. The system **MAY** provide the ability to create and use site-specific care plans, protocols, and guidelines.	360
					3. The system **MAY** provide the ability to make site-specific modifications to standard care plans, protocols, and guidelines obtained from outside sources.	361
					4. The system **SHOULD** identify, track and provide alerts, notifications and reports about variances from standard care plans, guidelines and protocols.	362
					5. The system **SHALL** conform to DC.2.2.1.2 (Support for Context-Sensitive Care Plans, Guidelines, Protocols).	363
					6. The system **SHALL** conform to DC.2.1.1 (Support for Standard Assessments).	364
DC.2.2.1.2	**F**	Support for Context-Sensitive Care Plans, Guidelines, Protocols	**Statement**: Identify and present the appropriate care plans, guidelines and/or protocols for the management of patient specific conditions that are identified in a patient clinical encounter. **Description**: At the time of the clinical encounter (problem identification), recommendations for tests, treatments, medications, immunizations, referrals and evaluations are presented based on evaluation of patient specific data such as age, gender, developmental stage, their health profile, and any site-specific considerations. These may be modified on the basis of new clinical data at subsequent encounters.	DC 1.3.1 DC 1.4 DC 1.5 DC 1.6 DC.1.6.1 DC.1.6.3 S.2.2.1 IN.2.4 IN.6	1. The system **SHALL** provide the ability to access care and treatment plans that are sensitive to the context of patient data and assessments.	365
					2. The system **MAY** provide the ability to capture care processes across the continuum of care.	366
					3. The system **MAY** present care processes from across the continuum of care.	367
					4. The system **MAY** provide the ability to document the choice of action in response to care plan suggestions.	368
					5. The system **SHOULD** identify, track and provide alerts, notifications and reports about variances from standard care plans, guidelines and protocols.	369
					6. The system **SHALL** conform to function DC.2.2.1.1 (Support for Standard Care Plans, Guidelines, Protocols).	370
					7. The system **SHALL** conform to function DC.2.1.1 (Support for Standard Assessments).	371
					8. The system **SHALL** conform to function DC.2.1.2 (Support for Patient Context-Driven Assessments).	372
DC.2.2.2	**F**	Support Consistent Healthcare Management of Patient Groups or Populations	**Statement**: Provide the ability to identify and consistently manage healthcare, over time and across populations or groups of patients, that share diagnoses, problems, functional limitations, treatment, medications, and demographic characteristics that may impact care,	DC.2.2.1.2 S.2.2.2 IN.2.2	1. The system **SHALL** conform to DC.2.2.1.2 (Support for Context-Sensitive Care Plans, Guidelines, Protocols).	373

ID#	Type	Name	Statement/Description	See Also	Conformance Criteria	Row #
			e.g. population management, disease management, wellness management or care management. **Description**: Populations or groups of patients that share diagnoses (such as diabetes or hypertension), problems, functional limitations, treatment, medication, and demographic characteristics such as race, ethnicity, religion, socio-economic status that may impact care are identified for the clinician. The clinician is advised and assisted with management of these patients to optimize the clinician's ability to provide appropriate care. For example, a clinician is alerted to racial, cultural, religious, socio-economic, living situation and functional accommodations of the patient that are required to provide appropriate care. A further example-- the clinician may be notified of eligibility for a particular test, therapy, or follow-up; availability of supportive resources in the community; or results from audits of compliance of these populations with disease management protocols.	IN.6	2. The system **SHALL** provide the ability to identify patients eligible for healthcare management protocols based on criteria identified within the protocol.	374
					3. The system **SHOULD** provide the ability to include or exclude a patient from an existing healthcare management protocol group.	375
					4. The system **SHOULD** provide the ability to audit compliance of selected populations and groups that are the subjects of healthcare management protocols.	376
					5. The system **SHALL** conform to function S.2.2.2 (Standard Report Generation).	377
					6. The system **SHOULD** conform to function IN.3 (Registry and Directory Services).	378
DC.2.2.3	**F**	Support for Research Protocols Relative to Individual Patient Care	**Statement**: Provide support for the management of patients enrolled in research protocols. **Description**: The clinician is presented with appropriate protocols for patients participating in research studies, and is supported in the management and tracking of study participants.	S.1.1 S.1.5 S.2.2.2 S.3.3.1 IN.1.1 IN.1.2 IN.1.3 IN.1.9 IN.2.2 IN.2.4 IN.4.1	1. The system **SHALL** provide the ability to present protocols for patients enrolled in research studies.	379
					2. The system **SHALL** provide the ability to maintain research study protocols.	380
					3. The system **SHOULD** conform to function S.3.3.1 (Enrollment of Patients), to enable participation in research studies.	381
					4. The system **SHOULD** provide the ability to identify and track patients participating in research studies.	382
					5. The system **MAY** provide the ability to capture appropriate details of patient condition and response to treatment as required for patients enrolled in research studies.	383

ID#	Type	Name	Statement/Description	See Also	Conformance Criteria	Row #
				IN.4.2 IN.4.3 IN.5.1 IN.5.2 IN.5.4 IN.6 IN.7	6. The system **SHALL** conform to function S.2.2.2 (Standard Report Generation).	384
					7. The system **SHOULD** conform to function IN.1.4 (Patient Access Management).	385
					8. IF research protocols require standardized transmission of data to/from a registry or directory, THEN the system **SHALL** conform to function IN.3 (Registry and Directory Services).	386
DC.2.2.4	**F**	Support Self-Care	**Statement**: Provide the patient with decision support for self-management of a condition between patient-provider encounters. **Description**: Patients with specific conditions need to follow self-management plans that may include schedules for home monitoring, lab tests, and clinical check ups; recommendations about nutrition, physical activity, tobacco use, etcetera; and guidance or reminders about medications. Information to support self-care may be appropriately provided to: 1. the patient 2. a surrogate (parent, spouse, guardian), or 3. others involved directly in the patients self care	DC.1.1.4 DC.1.11.1 S.3.7.1 S.3.7.2 S.3.7.3 IN.1.4 IN.1.9 IN.6	1. The system **SHALL** provide the ability to present patient guidance and reminders appropriate for self-management of clinical conditions.	387
					2. The system **SHALL** provide the ability to manage and/or develop patient guidance and reminders related to specific clinical conditions.	388
					3. The system **SHOULD** conform to function DC.1.1.3.2 (Capture of Patient Originated Data).	389
					4. The system **SHOULD** conform to function DC.1.3.1 (Manage Patient and Family Preferences).	390
					5. The system **SHOULD** conform to function IN.1.4 (Patient Access Management).	391
					6. The system **SHOULD** conform to function IN.3 (Registry and Directory Services).	392
DC.2.3	**H**	Medication and Immunization Management			1. The system **SHALL** conform to function IN.1.9 (Patient Privacy and Confidentiality).	393
					2. The system **SHALL** conform to function IN.2.2 (Auditable Records).	394
					3. The system **SHOULD** conform to function IN.3 (Registry and Directory Services).	395
DC.2.3.1	**H**	Support for Medication and Immunization Ordering				396
DC.2.3.1.1	**F**	Support for Drug Interaction Checking	**Statement**: Identify drug interaction warnings time of medication ordering. **Description**: The clinician is alerted to drug-drug, drug-allergy, and drug-food interactions at levels appropriate to the health care setting and with respect to the patient	S.3 IN.2.4 IN.6	1. The system **SHALL** check for and alert providers to interactions between prescribed drugs and medications on the current medication list.	397
					2. The system **SHALL** relate medication allergies to medications to facilitate allergy checking decision support for medication orders.	398

ID#	Type	Name	Statement/Description	See Also	Conformance Criteria	Row #
			condition. These alerts may be customized to suit the user or group. If the patient's condition is one where, in order to view the necessary components of the health record, patient authorization or consent is required, then the system should show the medication but mask the condition for which the medication is prescribed until the required consent or authorization is available. In an emergent situation, where all health information is required to provide the most effective treatment, and it is not possible to obtain an authorization or consent, the system should provide an override function to allow access to the diagnosis or problem for which a medication was ordered. This may vary based on jurisdictional law.		3. The system **SHOULD** provide the ability to document that a provider was presented with and acknowledged a drug interaction warning.	399
					4. The system **SHALL** provide the ability to prescribe a medication despite alerts for interactions and/or allergies being present.	400
					5. The system **MAY** provide the ability to set the severity level at which warnings should be displayed.	401
					6. The system **SHOULD** provide the ability to check for duplicate therapies.	402
					7. The system **SHOULD** conform to DC.1.8.6 (Manage Documentation of Clinician Response to Decision Support Prompts) and provide the ability to document why a drug interaction warning was overridden.	403
					8. The system **MAY** check for interactions between prescribed drugs and food detailing changes in a drug's effects potentially caused by food (including beverages) consumed during the same time period.	404
					9. The system **SHOULD** check for drug-lab interactions, to indicate to the prescriber that certain lab test results may be impacted by a patient's drugs.	405
					10. The system **SHOULD** provide the ability to check medications against a list of drugs noted to be ineffective for the patient in the past.	406
					11. The system **SHOULD** identify contraindications between a drug and patient conditions at the time of medication ordering.	407
DC.2.3.1.2	**F**	Support for Patient Specific Dosing and Warnings	**Statement**: Identify and present appropriate dose recommendations based on known patient- conditions and characteristics at the time of medication ordering. **Description**: The clinician is alerted to drug-condition interactions and patient specific contraindications and warnings e.g. pregnancy, breast-feeding or occupational risks, hepatic or renal insufficiency. The preferences of the patient may also be presented e.g. reluctance to use an antibiotic. Additional patient parameters, such as age, gestation, Ht, Wt, BSA, shall also be incorporated.	DC.2.3.1.1 IN.6	1. The system **SHALL** provide the ability to identify an appropriate drug dosage range, specific for each known patient condition and parameter at the time of medication ordering.	408
					2. The system **SHALL** provide the ability to automatically alert the provider if contraindications to the ordered dosage range are identified.	409
					3. The system **SHALL** provide the ability for the provider to override a drug dosage warning.	410
					4. The system **SHOULD** provide the ability to document reasons for overriding a drug alert or warning at the time of ordering.	411

ID#	Type	Name	Statement/Description	See Also	Conformance Criteria	Row #
					5. The system **SHOULD** transmit documented reasons for overriding a drug alert to the pharmacy to enable communication between the clinician and the pharmacist.	412
					6. The system **SHOULD** conform to function IN.1.4 (Patient Access Management).	413
					7. IF the maximum daily doses are known, THEN the system **SHALL** apply the maximum dose per day in dosing decision support.	414
					8. The system **SHOULD** compute drug doses, based on appropriate dosage ranges, using the patient's body weight.	415
					9. The system **SHOULD** provide the ability to specify an alternative "dosing weight" for the purposes of dose calculation.	416
					10. The system **SHOULD** perform drug dosage functions using any component of a combination drug (e.g., acetaminophen-hydrocodone).	417
					11. The system **SHOULD** provide the ability to record the factors used to calculate the future dose for a given prescription.	418
DC.2.3.1.3	**F**	Support for Medication Recommendations	**Statement**: The system should provide recommendations and options in medication and monitoring on the basis of patient diagnosis, cost, local formularies or therapeutic guidelines and protocols. **Description**: Offer alternative medications on the basis of practice standards (e.g. cost or adherence to guidelines), a generic brand, a different dosage, a different drug, or no drug (watchful waiting). Suggest lab order monitoring as indicated by the medication or the medical condition to be affected by the medication. Support expedited entry of series of medications that are part of a treatment regimen, i.e. renal dialysis, Oncology, transplant medications, etc.	DC 2.3.1.2 S.3.3.2 IN.6	1. The system **SHOULD** conform to function DC 2.3.1.2 (Support for Patient-Specific Dosing and Warnings).	419
					2. The system **SHOULD** present recommendations for medication regimens based on findings related to the patient diagnosis.	420
					3. The system **SHALL** present alternative treatments in medications on the basis of practice standards, cost, formularies, or protocols.	421
					4. The system **SHOULD** present suggested lab monitoring as appropriate to a particular medication.	422
					5. The system **SHOULD** conform to function IN.1.4 (Patient Access Management).	423
DC.2.3.2	**F**	Support for Medication and Immunization Administration	**Statement**: Alert providers to potential administration errors (such as wrong patient, wrong drug, wrong dose, wrong route and wrong time) in support of safe and accurate medication administration and support medication administration workflow.	DC.1.3.3 DC.1.7.2 DC.1.10.1	1. The system **SHALL** present information necessary to correctly identify the patient and accurately administer medications and immunizations such as patient name, medication name, strength, dose, route and frequency.	424

ID#	Type	Name	Statement/Description	See Also	Conformance Criteria	Row #
			Description: To reduce medication errors at the time of administration of a medication, the patient is positively identified; checks on the drug, the dose, the route and the time are facilitated. Documentation is a by-product of this checking; administration details and additional patient information, such as injection site, vital signs, and pain assessments, are captured. Access to drug monograph information may be provided to allow providers to check details about a drug and enhance patient education. Workflow for medication administration is supported through prompts and reminders regarding the "window" for timely administration of medications.	DC.2.7.1 S.1.4.1 S.2.2.2 S.3.7.1 IN.2.3 IN.2.4 IN.6	2. The system **SHALL** alert providers to potential administration errors such as wrong patient, wrong drug, wrong dose, wrong route and wrong time as it relates to medication and immunizations administration.	425
					3. The system **SHOULD** alert providers to potential medication administration errors at the point of medication administration.	426
					4. The system **SHALL** provide the ability to capture all pertinent details of the medication administration including medication name, strength, dose, route, time of administration, exceptions to administration, and administrator of the medication.	427
					5. IF required by the EHR user's scope of practice, THEN the system **SHALL** capture the administrator of the immunization and the immunization information identified in DC.1.8.2 (Manage Immunization Administration), Conformance Criteria #4 (The system **SHALL** provide the ability to capture immunization administration details, including date, type, lot number and manufacturer).	428
					6. The system **MAY** generate documentation of medication or immunization administration as a by-product of verification of patient, medication, dose, route and time.	429
					7. The system **SHOULD** prompt or remind providers regarding the date/time range for timely administration of medications.	430
					8. The system **MAY** suggest alternative administration techniques based on age, developmental stage, weight, physiological status, mental status, educational level, and past physical history of the patient.	431
					9. The system **MAY** conform to function DC.2.7.1 (Access Healthcare Guidance) and provide to the ability for a provider to access drug monograph information.	432
DC.2.4	**H**	Orders, Referrals, Results and Care Management			1. The system **SHALL** conform to function IN.1.9 (Patient Privacy and Confidentiality).	433
					2. The system **SHALL** conform to function IN.2.2 (Auditable Records).	434
					3. The system **SHOULD** conform to function IN.3 (Registry and Directory Services).	435

ID#	Type	Name	Statement/Description	See Also	Conformance Criteria	Row #
DC.2.4.1	**F**	Create Order Set Templates	**Statement**: Create, capture, maintain and display order set templates based on patient data or preferred standards or other criteria. **Description**: Order set templates, which may include medication orders, allow a care provider to choose common orders for a particular circumstance or disease state according to standards or other criteria. Recommended order sets may be presented based on patient data or other contexts.	DC.1.9.3 S.2.2.2 S.3.7.1 IN.1.1 IN.1.2 IN.1.3 IN.6	1. The system **SHALL** provide the ability to create order set templates.	436
					2. The system **SHALL** provide the ability to maintain order set templates, including version control.	437
					3. The system **MAY** provide the ability to create order set templates from provider input.	438
					4. The system **MAY** capture order sets based on patient data that may be provided by the provider or that may be in accordance with preferred standards.	439
					5. The system **MAY** provide the ability to create order set templates for known conditions for a particular disease.	440
					6. The system **SHALL** present the order set templates to the provider.	441
					7. The system **MAY** record the basis of the practice standards or criteria for the creation of the order set templates.	442
					8. The system **MAY** provide the ability to relate order set templates to aid decision support for certain diseases.	443
					9. The system **SHALL** conform to DC.1.7.3 (Manage Order Sets).	444
DC.2.4.2	**F**	Support for Non-Medication Ordering	**Statement**: Display and request provider validation of information necessary for non-medication orders that make the order pertinent, relevant and resource-conservative at the time of provider order entry. **Description**: Possible order entry support includes, but is not limited to: notification of missing results required for the order, suggested corollary orders, notification of duplicate orders, institution-specific order guidelines, guideline-based orders/order sets, order sets, order reference text, patient diagnosis specific recommendations pertaining to the order. Also, warnings for orders that may be inappropriate or contraindicated for specific patients (e.g. X-rays for pregnant women) are presented. Non-medication orders include orders such as:	S.3.3.3 IN.6	1. The system **SHALL** identify required order entry components for non-medication orders.	445
					2. The system **SHALL** present an alert at the time of order entry, if a non-medication order is missing required information.	446

ID#	Type	Name	Statement/Description	See Also	Conformance Criteria	Row #
			• supplies such as 4x4's and ACE bandages • non-medical devices such as TTY phones for the hearing impaired • groups of supplies or kits common to an organization • simple durable medical equipment (DME) such as crutches or walkers • complex DME such as wheelchairs and hospital beds • therapies and other services that may require a referral and/or an authorization for insurance coverage		3. The system **SHOULD** present an alert via warnings of orders that may be inappropriate or contraindicated for specific patients at the time of provider order entry.	447
					4. The system **SHOULD** conform to function S.3.3.3. (Service Authorizations).	448
DC.2.4.3	**F**	Support for Result Interpretation	**Statement**: Evaluate results and notify provider of results within the context of the patient's healthcare data. **Description**: Possible result interpretations include, but are not limited to: abnormal result evaluation/notification, trending of results (such as discrete lab values), evaluation of pertinent results at the time of provider order entry (such as evaluation of lab results at the time of ordering a radiology exam), evaluation of incoming results against active medication orders.	S.2.2.2 S.3.7.1 IN.2.4 IN.6	1. The system **SHALL** present alerts for a result that is outside of a normal value range.	449
					2. The system **SHOULD** provide the ability to trend results.	450
					3. The system **MAY** provide the ability to evaluate pertinent results at the time of provider order entry (such as evaluation of lab results at the time of ordering a radiology exam).	451
DC.2.4.4	**H**	Support for Referrals				452
DC.2.4.4.1	**F**	Support for Referral Process	**Statement**: Evaluate referrals within the context of a patient's healthcare data. **Description**: When a healthcare referral is made, health information, including pertinent clinical and behavioral health results, demographic and insurance data elements (or lack thereof) are presented to the provider. Standardized or evidence based protocols for appropriate workup prior to referral may be presented.	S.1.3.1a S.1.3.5 S.2.2.2 S.3.3.2 IN.2.4 IN.6	1. The system **SHALL** provide the ability to include clinical and administrative data (e.g. insurance information) as part of the referral process.	453
					2. The system **SHALL** provide the ability to include test and procedure results with a referral.	454
					3. The system **MAY** provide the ability to include standardized or evidence based protocols with the referral.	455
					4. The system **SHOULD** allow clinical, administrative data, and test and procedure results to be transmitted to the referral clinician.	456
					5. The system **SHALL** conform to function S.2.2.1 (Health Record Output).	457
DC.2.4.4.2	**F**	Support for Referral Recommendations	**Statement**: Evaluate patient data and recommend that a patient be referred based on the specific patient's healthcare data.	S.3.7.1 IN.6	1. The system **SHALL** present recommendations for potential referrals based on diagnosis(es).	458

ID#	Type	Name	Statement/Description	See Also	Conformance Criteria	Row #
			Description: Entry of specific patient conditions may lead to recommendations for referral e.g. for smoking cessation counseling if the patient is prescribed a medication to support cessation screening or assessment for behavioral health conditions.		2. The system **SHALL** present recommendations for potential referrals based on patient condition (e.g. for smoking cessation counseling if the patient is prescribed a medication to support cessation).	459
					3. The system **SHOULD** conform to IN.1.4 (Patient Access Management).	460
DC.2.4.5	**H**	Support for Care Delivery				461
DC.2.4.5.1	**F**	Support for Safe Blood Administration	**Statement**: Provide checking in real-time for potential blood administration errors. **Description**: To reduce errors at the time of blood product administration, the patient is positively identified. Additionally, checks on blood product identification, amount to be delivered, route and time of administration are captured, and alerts are provided as appropriate.	DC.1.10.2 S.1.2 S.2.2.1 IN.6	1. The system **SHALL** present information necessary to correctly identify the patient and accurately administer blood products including patient name, blood product number, amount, route, product expiration date and time of administration.	462
					2. The system **SHALL** capture validation of the correct matching of the patient to the blood product.	463
					3. The system **SHALL** capture the blood product number, amount, route and time of administration.	464
					4. The system **SHALL** conform to function DC.1.8.4 (Manage Patient Clinical Measurements) and capture the blood pressure, temperature, pulse, respirations of the patient receiving the product.	465
					5. The system **SHALL** conform to function S.2.2.1 (Health Record Output).	466
DC.2.4.5.2	**F**	Support for Accurate Specimen Collection	**Statement**: Provide checking to ensure accurate specimen collection is supported **Description**: To ensure the accuracy of specimen collection, the patient and specimen are positively identified. The provider is notified in real-time of potential collection errors such as wrong patient, wrong specimen type, wrong means of collection, wrong site, and wrong date and time.	S.1.4.1 S.2.2.1 IN.1.6 IN.1.7 IN.1.9 IN.2.3 IN.2.4 IN.6	1. The system **SHALL** provide the ability to present information necessary to correctly identify the patient and accurately identify the specimen to be collected including, but not limited to, patient name, specimen type, specimen source, means of collection, date and time.	467
					2. The system **SHALL** report variation between the type of specimen order placed and actual specimen received.	468
					3. The system **SHALL** capture the details of specimen collection.	469
					4. The system **SHALL** conform to function S.2.2.1 (Health Record Output).	470

ID#	Type	Name	Statement/Description	See Also	Conformance Criteria	Row #
					5. The system **SHOULD** notify the provider in real-time of a variation between the type of specimen order placed and the actual specimen received.	471
DC.2.5	**H**	Support for Health Maintenance: Preventive Care and Wellness			1. The system **SHOULD** conform to function IN.1.4 (Patient Access Management).	472
					2. The system **SHALL** conform to function IN.1.9 (Patient Privacy and Confidentiality).	473
					3. The system **SHALL** conform to function IN.2.2 (Auditable Records).	474
					4. The system **SHOULD** conform to function IN.3 (Registry and Directory Services).	475
DC.2.5.1	**F**	Present Alerts for Preventive Services and Wellness	**Statement**: At the point of clinical decision making, identify patient specific suggestions/reminders, screening tests/exams, and other preventive services in support of routine preventive and wellness patient care standards. **Description**: At the time of an encounter, the provider or patient is presented with due or overdue activities based on protocols for preventive care and wellness. Examples include but are not limited to, routine immunizations, adult and well child care, age and gender appropriate screening exams, such as PAP smears. The provider may wish to provide reminders to the patient based on the alert.	DC.2.5.1 DC.2.5.2 DC.2.6.2 IN.6	1. The system **SHALL** provide the ability to establish criteria for the identification of preventive care and wellness services based on patient demographics (e.g. age, gender).	476
					2. The system **SHOULD** provide the ability to modify the established criteria that trigger the alerts.	477
					3. The system **SHOULD** present recommended preventative or wellness services needed based upon clinical test results.	478
					4. The system **SHALL** present alerts to the provider of all patient specific preventive services that are due.	479
					5. The system **MAY** provide the ability to produce a list of all alerts along with the scheduled date and time for the preventive service.	480
					6. The system **MAY** provide the ability to produce a history of all alerts that were generated for the patient in the record.	481
DC.2.5.2	**F**	Notifications and Reminders for Preventive Services and Wellness	**Statement**: Between healthcare encounters, notify the patient and/or appropriate provider of those preventive services, tests, or behavioral actions that are due or overdue. **Description**: The provider can generate notifications to patients regarding activities that are due or overdue and these communications can be captured. Examples include but are not limited to time sensitive patient and provider notification of: follow-up appointments, laboratory tests, immunizations or examinations. The notifications can be customized in terms of timing, repetitions and administration reports. E.g. a PAP test	S.3.7.2 S.3.7.4 IN.6	1. The system **SHOULD** generate timely notifications to patients including services, tests or actions that are due or overdue (e.g. diabetic eye exams, visual field testing, etc.)	482
					2. The system **SHOULD** capture a history of notifications.	483
					3. The system **SHOULD** provide the ability to track overdue preventive services.	484
					4. The system **SHOULD** provide notification of overdue preventative services in the patient record.	485

ID#	Type	Name	Statement/Description	See Also	Conformance Criteria	Row #
			reminder might be sent to the patient two months prior to the test being due, repeated at three month intervals, and then reported to the administrator or clinician when nine months overdue.		5. The system **MAY** provide the ability to configure patient notifications (such as repetitions or timing of the activity).	486
					6. The system **SHOULD** provide the ability to update content of notifications, guidelines, reminders and associated reference materials.	487
					7. The system **MAY** provide the ability to manage the lifecycle of the states of the notifications and reminders.	488
DC.2.6	**H**	Support for Population Health			1. The system **SHALL** conform to function IN.1.9 (Patient Privacy and Confidentiality).	489
					2. The system **SHALL** conform to function IN.2.2 (Auditable Records).	490
DC.2.6.1	**F**	Support for Epidemiological Investigations of Clinical Health Within a Population.	**Statement**: Support internal and external epidemiological investigations of clinical health of aggregate patient data for use in identifying health risks from the environment and/or population in accordance with jurisdictional law. **Description**: Standardized surveillance performance measures that are based on known patterns of disease presentation can be identified by aggregating data from multiple input mechanisms. For example, elements include, but are not limited to patient demographics, resource utilization, presenting symptoms, acute treatment regimens, laboratory and imaging study orders and results and genomic and proteomic data elements. Identification of known patterns of existing diseases involves aggregation and analysis of these data elements by existing relationships. However, the identification of new patterns of disease requires more sophisticated pattern recognition analysis. Early recognition of new patterns requires data points available early in the disease presentation. Demographics, ordering patterns and resource use (e.g., ventilator or intensive care utilization pattern changes) are often available earlier in the presentation of non-predictable diseases. Consumer-generated information is also valuable with respect to surveillance efforts.	S.1.5 S.2.1.1 S.2.1.2 S.2.2.2 S.2.2.3 IN.1.6 IN.1.9 IN.2.2 IN.2.3 IN.2.4	1. The system **SHALL** provide the ability to aggregate patient information based on user-identified criteria.	491
					2. The system **SHALL** apply local privacy and confidentially rules when assembling aggregate data to prevent identification of individuals by unauthorized parties.	492
					3. The system **SHOULD** provide the ability to use any demographic or clinical information as criteria for aggregation.	493
					4. The system **SHOULD** present aggregate data in the form of reports for external use.	494
					5. The system **SHOULD** provide the ability to save report definitions for later use.	495
					6. The system **MAY** present aggregate data in an electronic format for use by other analytical programs.	496
					7. The system **MAY** provide the ability to derive statistical information from aggregate data.	497

ID#	Type	Name	Statement/Description	See Also	Conformance Criteria	Row #
					8. IF biosurveillance or other epidemiological investigations require standardized transmission of data to/from a registry or directory, THEN the system **SHALL** conform to function IN.3 (Registry and Directory Services).	498
DC.2.6.2	**F**	Support for Notification and Response	**Statement**: Upon notification by an external, authoritative source of a health risk within the cared for population, alert relevant providers regarding specific potentially at-risk patients with the appropriate level of notification. **Description**: After receiving a notice of a health risk within a cared-for population from public health authorities or other external authoritative sources: 1. Identify and notify individual care providers or care managers that a risk has been identified and requires attention; and 2. Provide suggestions on the appropriate course of action. A care provider now has the ability to decide how patients are notified, if necessary. For example, this function may be used after detection of a local outbreak of hepatitis A, advising providers of the at-risk population and potential prophylactic treatment. A second example might be the dissemination of new care guidelines for elderly patients with a specific chronic disease. Notifications to clinicians or patients may occur by telephone, email, FAX or other methods.	S.1.3.6 S.2.2.2 S.3.7.1 S.3.7.4 IN.1.6 IN.1.7 IN.2.4 IN.3.1 IN.3.2 IN.4.1 IN.4.2 IN.4.3 IN.5.1 IN.5.2 IN.5.4	1. The system **SHALL** provide the ability to identify individual care providers or care managers within a cared for population.	499
					2. The system **SHALL** provide the ability to prepare a response notification to the care providers or care managers.	500
					3. The system **SHALL** provide the ability to capture notification of a health risk within a cared-for population from public health authorities or other external authoritative sources as either free-text or a structured message.	501
					4. The system **SHOULD** provide the ability to coordinate with local and national programs to disseminate notifications of health risk to individual care providers or care-managers.	502
					5. The system **MAY** provide the ability to notify patients, directly or indirectly, who are described by the health risk alert.	503
					6. The system **SHOULD** present suggestions to the care provider indicating an appropriate course of action.	504
					7. The system **SHALL** provide the ability to notify public health authorities or other external authoritative sources of a health risk within a cared for population in accordance with scope of practice, organizational policy and jurisdictional law.	505
					8. The system **SHOULD** conform to function IN.3 (Registry and Directory Services).	506
DC.2.6.3	**F**	Support for Monitoring Response Notifications Regarding a Specific Patient's Health	**Statement**: In the event of a health risk alert and subsequent notification related to a specific patient, monitor if expected actions have been taken, and execute follow-up notification if they have not. **Description**: Identifies that expected follow-up for a	DC.1.6.1 DC.1.6.2 S.1.3.6 S.1.4.1	1. The system **SHALL** present specific actions to be taken at the patient level for a health risk alert.	507
					2. The system **SHALL** notify appropriate care providers of specific patient actions required by a health risk alert.	508

ID#	Type	Name	Statement/Description	See Also	Conformance Criteria	Row #
			specific patient event (e.g., follow up to error alerts or absence of an expected lab result) has not occurred and communicate the omission to appropriate care providers in the chain of authority. The notification process requires a security infrastructure that provides the ability to match a care provider's clinical privileges with the clinical requirements of the notification.	S.2.2.2 S.2.2.3 S.3.7.4 IN.2.4 IN.6	3. The system **SHALL** provide the ability to identify those patients who have not received appropriate action in response to a health risk alert.	509
					4. The system **SHOULD** provide the ability to report on the omission of an appropriate response to the health risk alert in specific patients.	510
					5. The system **SHOULD** conform to function IN.1.4 (Patient Access Management).	511
					6. The system **SHOULD** conform to function IN.3 (Registry and Directory Services).	512
DC.2.7	**H**	Support for Knowledge Access			1. The system **SHOULD** conform to function IN.3 (Registry and Directory Services)	513
DC.2.7.1	**F**	Access Healthcare Guidance	**Statement**: Provide pertinent information from available evidence-based knowledge, at the point of care, for use in healthcare decisions and care planning. **Description**: The information available regarding disease, disease processes, diagnostic testing, pharmaceuticals, treatment patterns and all aspects of healthcare is constantly changing. The practitioner should be able to access a wide variety of sources that provide relevant, accurate information about any given subject. Examples of resources include, but are not limited to: evidence on treatment of specific medical conditions, maintenance of wellness, drug or device trials, context-specific information available through online journals, printed resources such as books and specialty organizations resources. For example, when a condition is diagnosed the provider might be directed to relevant resources that give updated clinical research, useful pharmaceutical combinations, surgical techniques, products or other information useful in the management of the specific condition under consideration.	S.3.7.1 S.3.7.4 IN.5.1 IN.5.2 IN.5.3 IN.5.4 IN.6	1. The system **SHALL** provide the ability to access evidence-based healthcare recommendations, with documentation of sources	514
					2. The system **SHOULD** provide the ability to access evidenced-based documentation appropriate for the care provider to render a timely judgment.	515
					3. The system **MAY** provide the ability to access external evidence-based documentation.	516
					4. The system **SHALL** conform to function DC.2.2.1.1 (Support for Standard Care Plans, Guidelines, Protocols).	517
					5. The system **SHOULD** conform to function IN.1.4 (Patient Access Management).	518

ID#	Type	Name	Statement/Description	See Also	Conformance Criteria	Row #
DC.2.7.2	**F**	Patient Knowledge Access	**Statement**: Provide the ability to access reliable information about wellness, disease management, treatments, peer support groups and related information that is relevant for a specific patient. **Description**: An individual will be able to find reliable information to research a health question, follow up from a clinical visit, identify treatment options, or other health information needs. The information may be linked directly from entries in the health record, or may be accessed through other means such as key word search. The information may be provided as part of the EHR system but may also include patient information from external databases or specific websites.	DC.3.2.4 DC.3.4.9 S.3.7.1 S.3.7.2 S.3.7.4 IN.1.4 IN.5.1 IN.5.3 IN.5.4 IN.6	1. The system **SHALL** provide the ability to access information about wellness, disease management, treatments, and related information that is relevant for a specific patient.	519
					2. The system **MAY** provide the ability to access information related to a health question directly from data in the health record or other means such as key word search.	520
					3. The system **MAY** provide the ability to access patient educational information from external sources.	521
					4. IF the information is external-based, THEN the system **MAY** provide the ability to identify links specific to the information.	522
					5. The system **SHALL** conform to function IN.1.4 (Patient Access Management).	523
					6. The system **SHALL** conform to function IN.1.9 (Patient Privacy and Confidentiality).	524
					7. The system **SHALL** conform to function IN.2.2 (Auditable Records).	525
DC.3	**H**	**Operations Management and Communication**			1. The system **SHALL** conform to function IN.1.1 (Entity Authentication).	526
					2. The system **SHALL** conform to function IN.1.2 (Entity Authorization).	527
					3. The system **SHALL** conform to function IN.1.3 (Entity Access Control).	528
					4. IF the system exchanges data across entity boundaries within an EHR-S or external to an EHR-S, THEN the system **SHALL** conform to function IN.1.6 (Secure Data Exchange) to ensure that the data are protected.	529
					5. IF the system exchanges data with other sources or destinations of data, THEN the system **SHALL** conform to function IN.1.7 (Secure Data Routing) to ensure that the exchange occurs only among authorized senders and ""receivers".	530
					6. IF the system is used to enter or modify data in the health record, THEN the system **SHALL** conform to function IN.1.8 (Information Attestation) to show authorship and responsibility for the data.	531
					7. The system **SHALL** conform to function IN.1.9 (Patient Privacy and Confidentiality).	532

ID#	Type	Name	Statement/Description	See Also	Conformance Criteria	Row #
					8. The system **SHALL** conform to function IN.2.1 (Data Retention, Availability and Destruction).	533
					9. The system **SHALL** conform to function IN.2.2 (Auditable Records).	534
					10. The system **SHOULD** conform to function IN.2.3 (Synchronization).	535
					11. IF the system is used to extract data for analysis and reporting, THEN the system **SHALL** conform to function IN.2.4 (Extraction of Health Record Information) to support data extraction across the complete health record of an individual.	536
					12. IF the system stores unstructured data, THEN the system **SHALL** conform to function IN.2.5.1, (Manage Unstructured Health Record Information), to ensure data integrity through all changes.	537
					13. IF the system stores structured data, THEN the system **SHALL** conform to function IN.2.5.2 (Manage Structured Health Record Information) to ensure data integrity through all changes.	538
					14. IF the system processes data for which generally accepted standard terminologies have been established, THEN the system **SHALL** conform to function IN.4.1 (Standard Terminologies and Terminology Models) to support semantic interoperability.	539
					15. IF the system processes data for which generally accepted standard terminologies have been established, THEN the system **SHALL** conform to function IN.4.2 (Maintenance and Versioning of Standard Terminologies) to preserve the semantics of coded data over time.	540
					16. The system **SHOULD** conform to function IN.4.3 (Terminology Mapping).	541
					17. IF the system exchanges data for which generally accepted interchange standards have been established, THEN the system **SHALL** conform to function IN.5.1 (Interchange Standards) to support interoperability.	542

ID#	Type	Name	Statement/Description	See Also	Conformance Criteria	Row #
					18. IF the system exchanges data for which generally accepted interchange standards have been established, THEN the system **SHALL** conform to function IN.5.2 (Interchange Standards Versioning and Maintenance) to accommodate the inevitable evolution of interchange standards.	543
					19. The system **SHOULD** conform to function IN.5.3 (Standards-based Application Integration).	544
					20. IF the system exchanges data with other systems outside itself, THEN the system **SHALL** conform to function IN.5.4 (Interchange Agreements) to define how the sender and receiver will exchange data.	545
					21. The system **SHOULD** conform to function IN.6 (Business Rules Management).	546
					22. The system **SHOULD** conform to function IN.7 (Workflow Management).	547
DC.3.1	**H**	Clinical Workflow Tasking	**Statement**: Schedule and manage tasks with appropriate timeliness. **Description**: Since the electronic health record will replace the paper chart, tasks that were based on the paper artifact must be effectively managed in the electronic environment. Functions must exist in the EHR-S that support electronically any workflow that previously depended on the existence of a physical artifact (such as the paper chart, a phone message slip) in a paper based system. Tasks differ from other more generic communication among participants in the care process because they are a call to action and target completion of a specific workflow in the context of a patient's health record (including a specific component of the record). Tasks also require disposition (final resolution). The initiator may optionally require a response. For example, in a paper based system, physically placing charts in piles for review creates a physical queue of tasks related to those charts. This queue of tasks (for example, a set of patient phone calls to be returned) must be supported electronically so that the list (of patients to be called) is visible to the appropriate user or role for disposition. Tasks are time-limited (or finite). The state transition (e.g. created, performed and resolved) may be managed by the user explicitly or automatically based on rules. For example, if a user has a task to signoff on a test result, that task			548

ID#	Type	Name	Statement/Description	See Also	Conformance Criteria	Row #
			should automatically be marked complete by the EHR when the test result linked to the task is signed in the system. Patients will become more involved in the care process by receiving tasks related to their care. Examples of patient related tasks include acknowledgement of receipt of a test result forwarded from the provider, or a request to schedule an appointment for a pap smear (based on age and frequency criteria) generated automatically by the EHR-S on behalf of the provider.			
DC.3.1.1	**F**	Clinical Task Assignment and Routing	**Statement**: Assignment, delegation and/or transmission of tasks to the appropriate parties. **Description**: Tasks are at all times assigned to at least one user or role for disposition. Whether the task is assignable and to whom the task can be assigned will be determined by the specific needs of practitioners in a care setting. Task-assignment lists help users prioritize and complete assigned tasks. For example, after receiving communication (e.g. a phone call or e-mail) from a patient, the triage nurse routes or assigns a task to return the patient's call to the physician who is on call. Task creation and assignment may be automated, where appropriate. An example of a system-triggered task is when lab results are received electronically; a task to review the result is automatically generated and assigned to a clinician. Task assignment ensures that all tasks are disposed of by the appropriate person or role and allows efficient interaction of entities in the care process.	S.1.3.1a S.1.3.5 IN.6	1. The system **SHALL** provide the ability for users to create manual clinical tasks.	549
					2. The system **SHALL** provide the ability to automate clinical task creation.	550
					3. The system **SHALL** provide the ability to manually modify and update task status (e.g. created, performed, held, canceled, pended, denied, and resolved).	551
					4. The system **MAY** provide the ability to automatically modify or update the status of tasks based on workflow rules.	552
					5. The system **SHOULD** provide the ability to assign, and change the assignment of, tasks to individuals or to clinical roles.	553
					6. The system **MAY** provide the ability to manage workflow task routing to multiple individuals or roles in succession and/or in parallel.	554
					7. The system **MAY** provide the ability to prioritize tasks based on urgency assigned to the task.	555
					8. The system **MAY** provide the ability to restrict task assignment based on appropriate role as defined by the entity.	556
					9. The system **MAY** provide the ability to escalate clinical tasks as appropriate to ensure timely completion.	557
					10. IF the system is used to enter, modify, or exchange data, THEN the system **SHALL** conform to IN.1.5 (Non-Repudiation) to guarantee that the sources and receivers of data cannot deny that they entered/sent/received the data.	558
					11. The system **SHOULD** conform to function IN.3 (Registry and Directory Services).	559

ID#	Type	Name	Statement/Description	See Also	Conformance Criteria	Row #
DC.3.1.2	**F**	Clinical Task Linking	**Statement**: Linkage of tasks to patients and/or a relevant part of the electronic health record. **Description**: Clinical tasks must include information or provide an electronic link to information that is required to complete the task. For example, this may include a patient location in a facility, a patient's contact information, or a link to new lab results in the patient's EHR. An example of a well defined task is "Dr. Jones must review Mr. Smith's blood work results." Efficient workflow is facilitated by navigating to the appropriate area of the record to ensure that the appropriate test result for the correct patient is reviewed. Other examples of tasks might involve fulfillment of orders or responding to patient phone calls.	S.1.3.1 S.1.4.1 S.1.4.2 S.1.4.4 S.1.6 S.1.7 IN.2.3 IN.7	1. The system **SHALL** provide the ability to link a clinical task to the component of the EHR required to complete the task.	560
					2. The system **SHALL** conform to function IN.1.5 (Non-Repudiation).	561
DC.3.1.3	**F**	Clinical Task Tracking	**Statement**: Track tasks to facilitate monitoring for timely and appropriate completion of each task. **Description**: In order to reduce the risk of errors during the care process due to missed tasks, the provider is able to view and track un-disposed tasks, current work lists, the status of each task, unassigned tasks or other tasks where a risk of omission exists. The timeliness of certain tasks can be tracked, or reports generated, in accordance with relevant law and accreditation standards. For example, a provider is able to create a report to show test results that have not been reviewed by the ordering provider based on an interval appropriate to the care setting.	S.2.2.2 S.2.2.3 IN.2.4 IN.7	1. The system **SHALL** provide the ability to track the status of tasks.	562
					2. The system **SHALL** provide the ability to notify providers of the status of tasks.	563
					3. The system **SHOULD** provide the ability to sort clinical tasks by status.	564
					4. The system **MAY** provide the ability to present current clinical tasks as work lists.	565
					5. The system **SHOULD** provide the ability to define the presentation of clinical task lists.	566
					6. IF the system is used to enter, modify, or exchange data, THEN the system **SHALL** conform to IN.1.5 (Non-Repudiation) to guarantee that the sources and receivers of data cannot deny that they entered/sent/received the data.	567
					7. The system **SHOULD** conform to function IN.3 (Registry and Directory Services).	568
DC.3.2	**H**	Support Clinical Communication	**Description**: Healthcare requires secure communications among various participants: patients, doctors, nurses, chronic disease care managers, pharmacies, laboratories, payers, consultants, and etcetera. An effective EHRS supports communication		1. The system **SHOULD** conform to function IN.3 (Registry and Directory Services).	569

ID#	Type	Name	Statement/Description	See Also	Conformance Criteria	Row #
			across all relevant participants, reduces the overhead and costs of healthcare-related communications, and provides automatic tracking and reporting. The list of communication participants is determined by the care setting and may change over time. Because of concerns about scalability of the specification over time, communication participants for all care settings or across care settings are not enumerated here because it would limit the possibilities available to each care setting and implementation. However, communication between providers and between patients and providers will be supported in all appropriate care settings and across care settings. Implementation of the EHRS enables new and more effective channels of communication, significantly improving efficiency and patient care. The communication functions of the EHRS will eventually change the way participants collaborate and distribute the work of patient care.			
DC.3.2.1	**F**	Support for Inter-Provider Communication	**Statement**: Support exchange of information between providers as part of the patient care process, and the appropriate documentation of such exchanges. Support secure communication to protect the privacy of information as required by federal or jurisdictional law. **Description**: Communication 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-S must be able to produce appropriate documents. The system should provide for both verbal and written communication. These exchanges would include but not limited to consults, and referrals as well as possible exchanges within the office as part of the provision and administration of patient care (for example, the communication of new information obtained within the office environment during the process of administration of a tetanus shot while the patient is in the exam room).	DC.1.1.3 DC.1.9.5 S.1.3.1a S.1.3.2 S.1.3.3 S.1.3.4 S.2.2.2 IN.1.5 IN.1.6 IN.1.7 IN.1.9 IN.2.2. IN.3.1 IN.5.1 IN.5.2	1. The system **SHALL** provide the ability to document in the patient record verbal/telephone communication between providers.	570
					2. The system **SHALL** provide the ability to incorporate scanned documents from external providers into the patient record.	571
					3. The system **MAY** provide the ability to communicate using real-time messaging.	572
					4. The system **SHOULD** provide the ability to communicate clinical information (e.g. referrals) via email or other electronic means.	573

ID#	Type	Name	Statement/Description	See Also	Conformance Criteria	Row #
			The system should support the creation and acceptance of paper artifacts where appropriate.		5. The system **MAY** provide the ability to transmit electronic multi-media data types representing pictures, sound clips, or video as part of the patient record.	574
					6. The system **SHALL** conform to function IN.1.5 (Non-Repudiation).	575
DC.3.2.2	**F**	Support for Provider - Pharmacy Communication	**Statement**: Provide features to enable secure bi-directional communication of information electronically between practitioners and pharmacies or between practitioner and intended recipient of pharmacy orders. **Description**: When a medication is prescribed, the order is routed to the pharmacy or other intended recipient of pharmacy orders. This information is used to avoid transcription errors and facilitate detection of potential adverse reactions. If there is a question from the pharmacy, that communication can be presented to the provider with their other tasks. The transmission of prescription data between systems should conform to realm acceptable messaging standards. As an example, specific standards in the United States include the most recent versions of criteria from Health Level 7 (HL7), X12N, and/or the National Council for Prescription Drug Programs (NCPDP); and those of the National Electronic Claims Standard (NeCST) in Canada. It is anticipated that other realms may list other acceptable messaging standards.	S.3.7.1 IN.1.5 IN.1.6 IN.1.7 IN.1.9 IN.2.2 IN.3.1 IN.4.1 IN.4.2 IN.4.3 IN.5.1 IN.5.2 IN.5.3 IN.5.4 IN.6 IN.7	1. The system **SHALL** conform to function DC.1.7.1 (Manage Medication Orders) and provide the ability to order medications.	576
					2. The system **SHALL** electronically communicate orders between the prescriber, provider and pharmacy, as necessary, to initiate, change, or renew a medication order.	577
					3. The system **SHALL** receive any acknowledgements, prior authorizations, renewals, inquiries and fill notifications provided by the pharmacy or other participants in the electronic prescription and make it available for entry in the patient record.	578
					4. The system **SHOULD** provide the ability to electronically communicate current realm-specific standards to pharmacies.	579
					5. The system **MAY** provide the ability for providers and pharmacies to communicate clinical information via e-mail or other electronic means, on both general and specific orders.	580
					6. The system **MAY** provide the ability to use secure real-time messaging.	581
					7. The system **MAY** provide the ability to include workflow tasks as part of communication to the provider.	582
					8. IF the system is used to enter, modify, or exchange data, THEN the system **SHALL** conform to IN.1.5 (Non-Repudiation) to guarantee that the sources and receivers of data cannot deny that they entered/sent/received the data.	583

ID#	Type	Name	Statement/Description	See Also	Conformance Criteria	Row #
DC.3.2.3	**F**	Support for Communications Between Provider and Patient and/or the Patient Representative	**Statement**: Facilitate communications between providers and patients and/or the patient representatives. **Description**: Providers are able to communicate with patients and others, capturing the nature and content of electronic communication, or the time and details of other communication. Examples: • When test results arrive, the clinician may wish to email the patient that test result was normal (details of this communication are captured). • A patient may wish to request a refill of medication by emailing the physician. • Patients with asthma may wish to communicate their peak flow logs/diaries to their provider. • Hospital may wish to communicate with selected patients about a new smoking cessation program.	DC.1.1.3 DC.1.11.3 S.1.3.6 S.1.4.1 S.3.5.1 S.3.5.3 S.3.5.4 S.3.7.1 S.3.7.2 S.3.7.3 S.3.7.4 IN.1.5 IN.1.6 IN.1.7 IN.1.9 IN.2.2 IN.6	1. The system **SHALL** provide the ability to capture documentation of communications between providers and patients and/ or the patient representatives.	584
					2. The system **SHALL** provide the ability to incorporate scanned documents.	585
					3. The system **SHALL** provide the ability to document communication originating with the patient or patient representative (e.g. date, entity, details of communication).	586
					4. The system **SHOULD** provide the ability to communicate between providers and patients or their representative using a secure internet connection.	587
					5. The system **SHALL** provide the ability to manage documentation regarding family member or patient representative authorizations to receive patient related health information.	588
					6. The system **SHOULD** alert providers to the presence of patient or patient representative originated communications.	589
					7. The system **SHOULD** provide the ability to alert patients or patient representative to provider absences (e.g. vacations) and recommend rerouting of the information or request.	590
					8. The system **MAY** provide the ability to notify providers of events and new treatment options.	591
					9. The system **MAY** provide the ability to remind the patient or patient representative of events related to their care (e.g. upcoming appointments) as agreed upon by the patient and/or the patient representative.	592
					10. The system **SHALL** conform to function IN.1.4 (Patient Access Management).	593
					11. IF the system is used to enter, modify, or exchange data, THEN the system **SHALL** conform to IN.1.5 (Non-Repudiation) to guarantee that the sources and receivers of data cannot deny that they entered/sent/received the data.	594
DC.3.2.4	**F**	Patient, Family and Care Giver Education	**Statement**: Facilitate access to educational or support resources pertinent to, and usable by, the patient or patient representative.	DC.2.1.4 DC 3.2.3	1. The system **SHALL** provide the ability to access to a library of educational material for health concerns, conditions, and/or diagnosis.	595

ID#	Type	Name	Statement/Description	See Also	Conformance Criteria	Row #
			Description: The provider or patient is presented with a library of educational materials. Material may be made available in the language or dialect understood by the patient or representative. Material should be at the level of the patient or representative's level of understanding and sensory capability. Special needs are documented. Material may be disseminated via a mode available to and acceptable by the patient e.g., printed, electronically or otherwise. The review of material between the clinician and the patient, and the patient's understanding of the review, is documented when desired by the clinician. The patient or patient's representatives are able to obtain educational information independently without formal review with the clinician if desired.	S.3.5.1 S.3.5.3 S.3.5.4 S.3.7.1 S.3.7.2 S.3.7.4 IN.1.4 IN.1.6 IN.1.7 IN.1.9 IN.2.2	2. The system **SHALL** provide the ability to communicate applicable educational materials to the patient and/or patient representative.	596
					3. The system **MAY** provide the ability to deliver multilingual educational material.	597
					4. The systems **MAY** provide the ability to deliver patient educational materials using alternative modes to accommodate patient sensory capabilities.	598
					5. The system **MAY** provide the ability to access to external educational materials.	599
					6. The system **MAY** provide the ability to use rules-based support to identify the most pertinent educational material, based on the patient health status, condition and/or diagnosis.	600
					7. The system **MAY** provide the ability to document who received the educational material provided, the patient, or the patient representative.	601
					8. The system **MAY** provide the ability to document that the educational material was reviewed with the patient and/or patient representative and their comprehension of the material.	602
					9. The system **MAY**provide the ability to identify age-appropriate and/or reading-ability appropriate educational materials for the patient and/or patient representative.	603
					10. The system **MAY** provide the ability for direct access to the educational material available, by patients and/or patient representatives.	604
					11. The system **SHALL** conform to function IN.1.4 (Patient Access Management).	605
					12. IF the system is used to enter, modify, or exchange data, THEN the system **SHALL** conform to IN.1.5 (Non-Repudiation) to guarantee that the sources and receivers of data cannot deny that they entered/sent/received the data.	606
DC.3.2.5	**F**	Communication with Medical Devices	**Statement**: Support communication and presentation of data captured from medical devices. **Description**: Communication with medical devices is supported as appropriate to the care setting such as an office or a patient's home. Examples include: vital	IN.1.1 IN.1.2 IN.1.3 IN.1.6	1. The system **SHALL** provide the ability to collect accurate electronic data from medical devices according to realm-specific applicable regulations and/or requirements.	607

ID#	Type	Name	Statement/Description	See Also	Conformance Criteria	Row #
			signs/pulse-oximeter, anesthesia machines, home diagnostic devices for chronic disease management, laboratory machines, bar coded artifacts (medicine, immunizations, demographics, history, and identification), etc.	IN.1.7 IN.1.9 IN.4.1 IN.4.2 IN.4.3 IN.5.1 IN.5.2 IN.5.3 IN.7	2. The system **SHOULD** provide the ability to present information collected from medical devices as part of the medical record as appropriate.	608
					3. The system **SHOULD** conform to function IN.1.4 (Patient Access Management).	609
					4. The system **SHALL** support communication and presentation of data captured from medical devices through standards-based activities such as DICOM and HL7 as specified in IHE Eye Care. (Communication with medical devices is supported as appropriate to the care setting. Examples include: fundus photography devices, optical coherence tomography, lensometer, visual field analyzer, etc.)	
					5. The system MAY support such communication in raw data format, i.e. not in aggregate or as viewable reports, but in such a format that quantitative comparisons of data from different visits can be made	

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Eye Care Functional Profile: Information Infrastructure Functions

ID#	Type	Name	Statement/Description	See Also	Conformance Criteria	Row #
IN.1	**H**	Security	**Statement:** Secure the access to an EHR-S and EHR information. Manage the sets of access control permissions granted within an EHR-S. Prevent unauthorized use of data, data loss, tampering and destruction. **Description:** To enforce security, all EHR-S applications must adhere to the rules established to control access and protect the privacy of EHR information. Security measures assist in preventing unauthorized use of data and protect against loss, tampering and destruction. An EHR-S must be capable of including or interfacing with standards-conformant security services to ensure that any Principal (user, organization, device, application, component, or object) accessing the system or its data is appropriately authenticated, authorized and audited in conformance with local and/or jurisdictional policies. An EHR-S should support Chains of Trust in respect of authentication, authorization, and privilege management, either intrinsically or by interfacing with relevant external services.			1
IN.1.1	**F**	Entity Authentication	**Statement:** Authenticate EHR-S users and/or entities before allowing access to an EHR-S. **Description:** Both users and applications are subject to authentication. The EHR-S must provide mechanisms for users and applications to be authenticated. Users will have to be authenticated when they attempt to use the application, the applications must authenticate themselves before accessing EHR information managed by other applications or remote EHR-S'. In order for authentication to be established a Chain of Trust agreement is assumed to be in place. Examples of entity authentication include: - username/ password		1. The system **SHALL** authenticate principals prior to accessing an EHR-S application or EHR-S data.	2
					2. The system **SHALL** prevent access to EHR-S applications or EHR-S data to all non-authenticated principals.	3
					3. The system **SHOULD** provide the ability to implement a Chain of Trust agreement.	4

ID#	Type	Name	Statement/Description	See Also	Conformance Criteria	Row #
			- digital certificate - secure token - biometrics		4. IF other appropriate authentication mechanisms are absent, THEN the system SHALL authenticate principals using at least one of the following authentication mechanisms: username/password, digital certificate, secure token or biometrics.	5
IN.1.2	**F**	Entity Authorization.	**Statement:** Manage the sets of access-control permissions granted to entities that use an EHR-S (EHR-S Users). Enable EHR-S security administrators to grant authorizations to users, for roles, and within contexts. A combination of these authorization categories may be applied to control access to EHR-S functions or data within an EHR-S, including at the application or the operating system level. **Description:** EHR-S Users are authorized to use the components of an EHR-S according to their identity, role, work-assignment, location and/or the patient's present condition and the EHR-S User's scope of practice within a legal jurisdiction. - User based authorization refers to the permissions granted or denied based on the identity of an individual. An example of User based authorization is a patient defined denial of access to all or part of a record to a particular party for privacy related reasons. Another user based authorization is for a tele-monitor device or robotic access to an EHR-S for prescribed directions and other input. - Role based authorization refers to the responsibility or function performed in a particular operation or process. Example roles include: an application or device (tele-monitor or robotic); or a nurse, dietician, administrator, legal guardian, and auditor. - Context-based Authorization is defined by ISO 10181-3 Technical Framework for Access Control Standard as security-relevant properties of the context in which an access request occurs, explicitly time, location, route of access, and quality of authentication. For example, an	IN.1.3 S.1.3.1	1. The system **SHALL** provide the ability to create and update sets of access-control permissions granted to principals.	6
					2. The system **SHALL** conform to function IN.2.2 (Auditable Records) for the purpose of recording all authorization actions.	7
					3. The system **SHALL** provide EHR-S security administrators with the ability to grant authorizations to principals according to scope of practice, organizational policy, or jurisdictional law.	8
					4. The system **SHALL** provide EHR-S security administrators with the ability to grant authorizations for roles according to scope of practice, organizational policy, or jurisdictional law.	9

ID#	Type	Name	Statement/Description	See Also	Conformance Criteria	Row #
			EHR-S might only allow supervising providers' context authorization to attest to entries proposed by residents under their supervision. In addition to the ISO standard, context authorization for an EHR-S is extended to satisfy special circumstances such as, work assignment, patient consents and authorizations, or other healthcare-related factors. A context-based example is a patient-granted authorization to a specific third party for a limited period to view specific EHR records. Another example is a right granted for a limited period to view those, and only those, EHR records connected to a specific topic of investigation.		5. The system **SHALL** provide EHR-S security administrators with the ability to grant authorizations within contexts according to scope of practice, organizational policy, or jurisdictional law.	10
					6. The system **MAY** provide the ability to define context for the purpose of principal authorization based on identity, role, work assignment, present condition, location, patient consent, or patient's present condition.	11
					7. The system **MAY** provide the ability to define context based on legal requirements or disaster conditions.	12
IN.1.3	**F**	Entity Access Control	**Statement:** Verify and enforce access control to all EHR-S components, EHR information and functions for end-users, applications, sites, etc., to prevent unauthorized use of a resource. **Description:** Entity Access Control is a fundamental function of an EHR-S. To ensure that access is controlled, an EHR-S must perform authentication and authorization of users or applications for any operation that requires it and enforce the system and information access rules that have been defined.		1. The system **SHALL** conform to function IN.1.1 (Entity Authentication).	13
					2. The system **SHALL** conform to function IN.1.2 (Entity Authorization).	14
					3. The system **SHALL** provide the ability to define system and data access rules.	15
					4. The system **SHALL** enforce system and data access rules for all EHR-S resources (at component, application, or user level, either local or remote).	16
IN.1.4	**F**	Patient Access Management	**Statement:** Enable a healthcare delivery organization another allowed organization of the patient to allow and manage a patient's access to the patient's personal health information.		1. The system **SHALL** conform to function IN.1.3 (Entity Access Control) in order for a healthcare delivery organization to manage a patient's access to his or her healthcare	17

ID#	Type	Name	Statement/Description	See Also	Conformance Criteria	Row #
			Description: A healthcare delivery organization will be able to manage a patient's ability to view his or her EHR based on scope of practice, organization policy or jurisdictional law. Typically, a patient has the right to view his or her EHR and the right to place restrictions on who can view parts or the whole of that EHR. For example, in some jurisdictions, minors have the right to restrict access to their data by parents/guardians. One example of managing a patient's access to his or her data is by extending user access controls to patients.		information.	
					2. The system MAY provide the EHR-S access t a patient's personalized health record (PHR)	
IN.1.5	**F**	Non-Repudiation	**Statement:** Limit an EHR-S user's ability to deny (repudiate) the origination, receipt, or authorization of a data exchange by that user. **Description:** An EHR-S allows data entry and data access to a patient's electronic health record and it can be a sender or receiver of healthcare information. Non repudiation guarantees that the source of the data record can not later deny that it is the source; that the sender or receiver of a message cannot later deny having sent or received the message. For example, non-repudiation may be achieved through the use of a: - Digital signature, which serves as a unique identifier for an individual (much like a written signature on a paper document). - Confirmation service, which utilizes a message transfer agent to create a digital receipt (providing confirmation that a message was sent and/or received) and - Timestamp, which proves that a document existed at a certain date and time. Date and Time stamping implies the ability to indicate the time zone where it was recorded (time zones are described in ISO 8601 Standard Time Reference).		1. The system **SHALL** time stamp initial entry, modification, or exchange of data, and identify the actor/principal taking the action as required by users' scope of practice, organizational policy, or jurisdictional law.	18
					2. The system **SHALL** provide additional non-repudiation functionality where required by users' scope of practice, organizational policy, or jurisdictional law.	19
					3. The system **MAY** conform to function IN.2.2 (Auditable Records) to prevent repudiation of data origination, receipt, or access.	20
					4. The system **MAY** conform to function IN.1.8 (Information Attestation) to ensure the integrity of data exchange and thus prevent repudiation of data origination or receipt.	21

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ID#	Type	Name	Statement/Description	See Also	Conformance Criteria	Row #
IN.1.6	**F**	Secure Data Exchange	**Statement:** Secure all modes of EHR data exchange. **Description:** Whenever an exchange of EHR information occurs, it requires appropriate security and privacy considerations, including data obfuscation as well as both destination and source authentication when necessary. For example, it may be necessary to encrypt data sent to remote or external destinations. A secure data exchange requires that there is an overall coordination regarding the information that is exchanged between EHR-S entities and how that exchange is expected to occur. The policies applied at different locations must be consistent or compatible with each other in order to ensure that the information is protected when it crosses entity boundaries within an EHR-S or external to an EHR-S.	IN.1.1 IN.2.2	1. The system **SHALL** secure all modes of EHR data exchange.	22
					2. The system **SHOULD** conform to function IN.1.7 (Secure Data Routing).	23
					3. The system **MAY** provide the ability to obfuscate data.	24
					4. The system **SHALL** encrypt and decrypt EHR data that is exchanged over a non-secure link.	25
					5. The system **SHALL** support standards-based encryption mechanisms when encryption is used for secure data exchange.	26
IN.1.7	**F**	Secure Data Routing	**Statement:** Route electronically exchanged EHR data only to/from known, registered, and authenticated destinations/sources (according to applicable healthcare-specific rules and relevant standards). **Description:** An EHR-S needs to ensure that it is exchanging EHR information with the entities (applications, institutions, directories) it expects. This function depends on entity authorization and authentication to be available in the system. For example, a physician practice management application in an EHR-S might send claim attachment information to an external entity. To accomplish this, the application	IN.1.1 IN.1.2	1. The system **SHALL** automatically route electronically exchanged EHR data only from and to known sources and destinations and only over secure networks.	27

ID#	Type	Name	Statement/Description	See Also	Conformance Criteria	Row #
			must use a secure routing method, which ensures that both the sender and receiving sides are authorized to engage in the information exchange. Known sources and destinations can be established in a static setup or they can be dynamically determined. Examples of a static setup are recordings of IP addresses or recordings of DNS names. For dynamic determination of known sources and destinations systems can use authentication mechanisms as described in IN.1.1. For example, the sending of a lab order from the EHRS to a lab system within the same organization usually uses a simple static setup for routing. In contrast sending a lab order to a reference lab outside of the organization will involve some kind of authentication process. In general, when the underlying network infrastructure is secure (e.g. secure LAN or VPN) the simple static setup is used.		2. The system **SHOULD** route electronically exchanged EHR data only to and from authenticated sources and destinations (conform to function IN.1.1 (Entity Authentication)).	28
					3. The system **SHOULD** conform to function IN.2.2 (Auditable Records) to provide audit information about additions and changes to the status of destinations and sources.	29
IN.1.8	**F**	Information Attestation	**Statement:** Manage electronic attestation of information including the retention of the signature of attestation (or certificate of authenticity) associated with incoming or outgoing information. **Description:** The purpose of attestation is to show authorship and assign responsibility for an act, event, condition, opinion, or diagnosis. Every entry in the health record must be identified with the author and should not be made or signed by someone other than the author. (Note: A transcriptionist may transcribe an author's notes and a senior clinician may attest to the accuracy of another's statement of events.) Attestation is required for (paper or electronic) entries such as narrative or progress notes, assessments, flow sheets, and orders. Digital signatures may be used to implement document attestation. For an incoming document, the record of attestation is retained if included. Attestation functionality must meet applicable legal, regulatory and other applicable standards or		1. The system **SHALL** conform to function IN.1.1 (Entity Authentication).	30
					2. The system **SHALL** conform to function IN.1.2 (Entity Authorization).	31
					3. The system **SHALL** provide the ability to associate any attestable content added or changed to an EHR with the content's author (for example by conforming to function IN.2.2 (Auditable Records).	32
					4. The system **SHALL** provide the ability for attestation of attestable EHR content by the content's author.	33
					5. The system **SHALL** indicate the status of attestable data which has not been attested.	34

ID#	Type	Name	Statement/Description	See Also	Conformance Criteria	Row #
			requirements.		6. The system **MAY** provide the ability for attestation of EHR content by properly authenticated and authorized users different from the author as required by users' scope of practice, organizational policy, or jurisdictional law.	35
					7. The system **MAY** provide the ability to use digital signatures as the means for attestation.	36
IN.1.9	**F**	Patient Privacy and Confidentiality	**Statement:** Enable the enforcement of the applicable jurisdictional and organizational patient privacy rules as they apply to various parts of an EHR-S through the implementation of security mechanisms. **Description:** Patients' privacy and the confidentiality of EHRs are violated if access to EHRs occurs without authorization. Violations or potential violations can impose tangible economic or social losses on affected patients, as well as less tangible feelings of vulnerability and pain. Fear of potential violations discourages patients from revealing sensitive personal information that may be relevant to diagnostic and treatment services. Rules for the protection of privacy and confidentiality may vary depending upon the vulnerability of patients and the sensitivity of records. Strongest protections should apply to the records of minors and the records of patients with stigmatized conditions. Authorization to access the most sensitive parts of an EHR is most definitive if made by the explicit and specific consent of the patient. Please see the definition of masking in the glossary.	IN.6	1. The system **SHALL** provide the ability to fully comply with the requirements for patient privacy and confidentiality in accordance with a user's scope of practice, organizational policy, or jurisdictional law.	37
					2. The system **SHALL** conform to function IN.1.1 (Entity Authentication).	38
					3. The system **SHALL** conform to function IN.1.2 (Entity Authorization).	39
					4. The system **SHALL** conform to function IN.1.3 (Entity Access Control).	40
					5. The system **SHOULD** conform to function IN.1.5 (Non-Repudiation).	41
					6. The system **SHOULD** conform to function IN.1.6 (Secure Data Exchange).	42
					7. The system **SHOULD** conform to function IN.2.2 (Auditable Records).	43
					8. The system **SHALL** provide the ability to maintain varying levels of confidentiality in accordance with users' scope of practice, organizational policy, or jurisdictional law.	44
					9. The system **SHALL** provide the ability to mask parts of the electronic health record (e.g. medications, conditions, sensitive documents) from disclosure according to scope of practice, organizational policy or jurisdictional law	45
					10. The system **SHALL** provide the ability to override a mask in emergency or other specific situations according to scope of practice, organizational policy or jurisdictional	46

ID#	Type	Name	Statement/Description	See Also	Conformance Criteria	Row #
					law.	
IN.2	**H**	Health Record Information and Management	**Statement:** Manage EHR information across EHR-S applications by ensuring that clinical information entered by providers is a valid representation of clinical notes; and is accurate and complete according to clinical rules and tracking amendments to clinical documents. Ensure that information entered by or on behalf of the patient is accurately represented. **Description:** Since EHR information will typically be available on a variety of EHR-S applications, an EHR-S must provide the ability to access, manage and verify accuracy and completeness of EHR information, maintain the integrity and reliability of the data, and provide the ability to audit the use of and access to EHR information.			47
IN.2.1	**F**	Data Retention, Availability and Destruction	**Statement:** Retain, ensure availability, and destroy health record information according to scope of practice, organizational policy, or jurisdictional law. This includes: -Retaining all EHR-S data and clinical documents for the time period designated by policy or legal requirement; -Retaining inbound documents as originally received (unaltered); -Ensuring availability of information for the legally prescribed period of time to users and patients; and -Providing the ability to destroy EHR data/records in a systematic way according to policy and after the legally prescribed retention period. **Description:** Discrete and structured EHR-S data, records and reports must be: -Made available to users in a timely fashion; -Stored and retrieved in a semantically intelligent and useful manner (for example, chronologically, retrospectively per a given disease or event, or in accordance with business requirements, local policies, or legal requirements); -Retained for a legally prescribed period of time; and -Destroyed in a systematic manner in relation to the applicable retention period. An EHR-S must also allow an organization to identify	IN.1.7	1. The system **SHALL** provide the ability to store and retrieve health record data and clinical documents for the legally prescribed time.	48
					2. The system **SHALL** provide the ability to retain inbound data or documents (related to health records) as originally received (unaltered, inclusive of the method in which they were received) for the legally organizationally prescribed time in accordance with users' scope of practice, organizational policy, or jurisdictional law.	49
					3. The system **SHALL** retain the content of inbound data (related to health records) as originally received for the legally prescribed time.	50
					4. The system **SHOULD** provide the ability to retrieve both the information and business context data within which that information was obtained.	51
					5. The system **SHOULD** provide the ability to retrieve all the elements included in the definition of a legal medical record.	52

ID#	Type	Name	Statement/Description	See Also	Conformance Criteria	Row #
			data/records to be destroyed, and to review and approve destruction before it occurs. In such a case it should pass along record destruction date information along with existing data when providing records to another entity.		6. The system **MAY** provide the ability to identify specific EHR data/records for destruction, review and confirm destruction before it occurs and implement function IN.2.2 (Auditable Records).	53
					7. The system **MAY** provide the ability to destroy EHR data/records so that all traces are irrecoverably removed according to policy and legal retentions periods.	54
					8. The system **SHOULD** pass along record destruction date information (if any) along with existing data when providing records to another entity.	55
IN.2.2	**F**	Auditable Records	**Statement:** Provide audit capabilities for system access and usage indicating the author, the modification (where pertinent), and the date and time at which a record was created, modified, viewed, extracted, or deleted. Date and Time stamping implies the ability to indicate the time zone where it was recorded (time zones are described in ISO 8601 Standard Time Reference). Auditable records extend to information exchange, to audit of consent status management (to support DC.1.3.3) and to entity authentication attempts. Audit functionality includes the ability to generate audit reports and to interactively view change history for individual health records or for an EHR-S. **Description:** Audit functionality extends to security audits, data audits, audits of data exchange, and the ability to generate audit reports. Audit capability settings should be configurable to meet the needs of local policies. Examples of audited areas include: - Security audit, which logs access attempts and resource usage including user login, file access, other various activities, and whether any actual or attempted security violations occurred - Data audit, which records who, when, and by which system an EHR record was created, updated, translated, viewed, extracted, or (if local policy permits) deleted. Audit-data may refer to system setup data or to		1. The system **SHALL** provide audit capabilities for recording access and usage of systems, data, and organizational resources.	56
					2. The system **SHALL** conform to function IN.1.1 (Entity Authentication).	57
					3. The system **SHALL** provide audit capabilities indicating the time stamp for an object or data creation.	58
					4. The system **SHALL** provide audit capabilities indicating the time stamp for an object or data modification in accordance with users' scope of practice, organizational policy, or jurisdictional law.	59
					5. The system **SHALL** provide audit capabilities indicating the time stamp for an object or data extraction in accordance with users' scope of practice, organizational policy, or jurisdictional law.	60
					6. The system **SHALL** provide audit capabilities indicating the time stamp for an object or data exchange.	61
					7. The system **SHOULD** provide audit capabilities indicating the time stamp for an object or data view.	62
					8. The system **SHALL** provide audit capabilities indicating the time stamp for an object or data deletion in accordance with users' scope of practice, organizational policy, or jurisdictional	63

ID#	Type	Name	Statement/Description	See Also	Conformance Criteria	Row #
			clinical and patient management data - Information exchange audit, which records data exchanges between EHR-S applications (for example, sending application; the nature, history, and content of the information exchanged); and information about data transformations (for example, vocabulary translations, reception event details, etc.) - Audit reports should be flexible and address various users' needs. For example, a legal authority may want to know how many patients a given healthcare provider treated while the provider's license was suspended. Similarly, in some cases a report detailing all those who modified or viewed a certain patient record - Security audit trails and data audit trails are used to verify enforcement of business, data integrity, security, and access-control rules -There is a requirement for system audit trails for the following events: >Loading new versions of, or changes to, the clinical system; >Loading new versions of codes and knowledge bases; >Taking and restoring of backup; >Changing the date and time where the clinical system allows this to be done; >Archiving any data; >Re-activating of an archived patient record; >Entry to and exiting from the clinical system; >Remote access connections including those for system support and maintenance activities		law.	
					9. The system **SHALL** provide audit capabilities indicating the author of a change in accordance with users' scope of practice, organizational policy, or jurisdictional law.	64
					10. The system **SHOULD** provide audit capabilities indicating the viewer of a data set.	65
					11. The system **MAY** provide audit capabilities indicating the data value before a change.	66
					12. The system **MAY** provide audit capabilities to capture system events at the hardware and software architecture level.	67
					13. The system **SHALL** conform to function IN.1.3 (Entity Access Control) to limit access to audit record information to appropriate entities in accordance with users' scope of practice, organizational policy, or jurisdictional law.	68
					14. The system **SHALL** provide the ability to generate an audit report.	69
					15. The system **SHALL** provide the ability to view change history for a particular record or data set in accordance with users' scope of practice, organizational policy, or jurisdictional law.	70
					16. The system **SHOULD** provide the ability to record system maintenance events for loading new versions of, or changes to, the clinical system.	71
					17. The system **SHOULD** provide the ability to record system maintenance events for loading new versions of codes and knowledge bases.	72
					18. The system **SHOULD** provide the ability to record changing the date and time where the clinical system allows this to be done.	73
					19. The system **SHOULD** provide the ability to record system maintenance events for creating and restoring of backup.	74

ID#	Type	Name	Statement/Description	See Also	Conformance Criteria	Row #
					20. The system **SHOULD** provide the ability to record system maintenance events for archiving any data.	75
					21. The system **SHOULD** provide the ability to record system maintenance events for re-activating of an archived patient record.	76
					22. The system **SHOULD** provide the ability to record system maintenance events for entry to and exit from the EHR system.	77
					23. The system **SHOULD** provide the ability to record system maintenance events for remote access connections including those for system support and maintenance activities**.**	78
					24. The system **SHOULD** utilize standardized time keeping (for example using the IHE consistent time profile).	79
					25. The system **SHOULD** provide the ability to record and report upon audit information using a standards-based audit record format (for example RFC 3881).	80
IN.2.3	**F**	Synchronization	**Statement:** Maintain synchronization involving: -Interaction with entity directories; -Linkage of received data with existing entity records; -Location of each health record component; and -Communication of changes between key systems. **Description:** An EHR-S may consist of a set of components or applications; each application manages a subset of the health information. Therefore it is important that, through various interoperability mechanisms, an EHR-S maintains all the relevant information regarding the health record in synchrony. For example, if a physician orders an MRI, a set of diagnostic images and a radiology report will be created. The patient demographics, the order for MRI, the diagnostic images associated with the order, and the report associated with the study must all be synchronized in order for the clinicians to view the complete record.		1. The system **SHALL** conform to function IN.5.1 (Interchange Standards).	81
					2. The system **SHOULD** conform to function IN.3 (Registry and Directory Services) to enable the use of registries and directories.	82
					3. The system **SHOULD** provide the ability to link entities to external information.	83

ID#	Type	Name	Statement/Description	See Also	Conformance Criteria	Row #
					4. The system **SHOULD** store the location of each known health record component in order to enable authorized access to a complete logical health record if the EHR is distributed among several applications within the EHR-S.	84
IN.2.4	**F**	Extraction of Health Record Information	**Statement:** Manage data extraction in accordance with analysis and reporting requirements. The extracted data may require use of more than one application and it may be pre-processed (for example, by being de-identified) before transmission. Data extractions may be used to exchange data and provide reports for primary and ancillary purposes. **Description:** An EHR-S enables an authorized user, such as a clinician, to access and aggregate the distributed information, which corresponds to the health record or records that are needed for viewing, reporting, disclosure, etc. An EHR-S must support data extraction operations across the complete data set that constitutes the health record of an individual and provide an output that fully chronicles the healthcare process. Data extractions are used as input to patient care coordination between facilities, organizations and settings. In addition, data extractions can be used for administrative, financial, research, quality analysis, and public health purposes.	S.2.2	1. The system **SHALL** provide the ability to extract health record information.	85
					2. The system **SHOULD** conform to function IN.1.6 (Secure Data Exchange) to provide secure data exchange capabilities.	86
					3. The system **SHOULD** provide the ability to de-identify extracted information.	87
					4. The system **SHOULD** conform to function IN.5.1 (Interchange Standards) to enable data extraction in standard-based formats.	88
					5. The system **SHOULD** provide the ability to perform extraction operations across the complete data set that constitutes the health record of an individual within the system.	89
					6. The system **MAY** provide the ability to perform extraction operations whose output fully chronicles the healthcare process.	90
					7. The system **SHOULD** provide the ability to extract data for administrative purposes.	91
					8. The system **SHOULD** provide the ability to extract data for financial purposes.	92
					9. The system **SHOULD** provide the ability to extract data for research purposes.	93
					10. The system **SHOULD** provide the ability to extract data for quality analysis purposes.	94
					11. The systems **SHOULD** support the capture and reporting of quality, performance and accountability measures to which providers/facilities/delivery systems/communities are held accountable including measures related to process, outcomes, and/or costs of care, may be used in pay for performance monitoring and adherence to best practice guidelines 12.	

ID#	Type	Name	Statement/Description	See Also	Conformance Criteria	Row #
					13. The system **SHOULD** provide the ability to extract data for public health purposes.	95
IN.2.5	**H**	Store and Manage Health Record Information	**Statement:** Store and manage health record information as structured and unstructured data. **Description:** Unstructured health record information is information that is not divided into discrete fields AND not represented as numeric, enumerated or codified data. General examples of unstructured health record information include: - text - word processing document - image - multimedia Specific examples include: - text message to physician - patient photo - letter from family - scanned image of insurance card - dictated report (voice recording) Structured health record information is divided into discrete fields, and may be enumerated, numeric or codified. Examples of structured health information include: - patient address (non-codified, but discrete field) - diastolic blood pressure (numeric) - coded result observation - coded diagnosis - patient risk assessment questionnaire with multiple-choice answers Context may determine whether or not data are unstructured, e.g., a progress note might be standardized and structured in some EHR-S (e.g., Subjective/Objective/Assessment/Plan) but unstructured in others. Managing healthcare data includes capture, retrieval, deletion, correction, amendment, and augmentation. Augmentation refers to providing additional information			96

ID#	Type	Name	Statement/Description	See Also	Conformance Criteria	Row #
			regarding the healthcare data, which is not part of the data itself, e.g. linking patient consents or authorizations to the healthcare data of the patient.			
IN.2.5.1	**F**	Manage Unstructured Health Record Information	**Statement:** Create, capture, and maintain unstructured health record information.		1. The system **SHALL** capture unstructured health record information as part of the patient EHR.	97
					2. The system **SHALL** retrieve unstructured health record information as part of the patient EHR.	98
					3. The system **SHALL** provide the ability to update unstructured health record information.	99
					4. The system **SHALL** conform to function IN.2.1 (Data Retention, Availability and Destruction) to provide the ability to inactivate, obsolete, or destroy unstructured health record information.	100
					5. The system **SHOULD** provide the ability to report unstructured health record information.	101
					6. The system **MAY** track unstructured health record information over time.	102
					7. The system **SHALL** provide the ability to append corrected unstructured health record information to the original unstructured health record information. A specific type of implementation is not implied.	103
					8. The system **SHALL** provide the ability to append unstructured health record information to the original unstructured health record information. A specific type of implementation is not implied.	104
					9. The system **SHALL** provide the ability to append augmented unstructured health record information to the original unstructured health record information. A specific type of implementation is not implied.	105
IN.2.5.2	**F**	Manage Structured Health Record Information	**Statement:** Create, capture, and maintain structured health record information. **Description:** Structured health record information is divided into discrete fields, and may be enumerated, numeric or codified. Examples of structured health information include: - patient address (non-codified, but discrete field) - diastolic blood pressure (numeric)		1. The system **SHALL** capture structured health record information as part of the patient EHR.	106
					2. The system **SHALL** retrieve structured health record information as part of the patient EHR.	107
					3. The system **SHALL** provide the ability to update structured health record information.	108
					4. The system **SHALL** conform to function IN.2.1 (Data Retention, Availability and Destruction) to provide the ability to inactivate, obsolete, or	109

ID#	Type	Name	Statement/Description	See Also	Conformance Criteria	Row #
			- coded result observation - coded diagnosis - patient risk assessment questionnaire with multiple-choice answers Context may determine whether or not Context may determine whether or not data are unstructured, e.g., a progress note might be standardized and structured in some EHRS (e.g., Subjective/Objective/Assessment/Plan) but unstructured in others.		destroy structured health record information.	
					5. The system **SHOULD** provide the ability to report structured health record information.	110
					6. The system **MAY** track structured health record information over time.	111
					7. The system **SHOULD** provide the ability to retrieve each item of structured health record information discretely within patient context.	112
					8. The system **SHALL** provide the ability to append corrected structured health record information to the original structured health record information. A specific type of implementation is not implied.	113
					9. The system **SHALL** provide the ability to append structured health record information to the original structured health record information. A specific type of implementation is not implied.	114
					10. The system **SHALL** provide the ability to append augmented structured health record information to the original structured health record information. A specific type of implementation is not implied.	115
IN.3	**F**	Registry and Directory Services	**Statement:** Enable the use of registry services and directories to uniquely identify, locate and supply links for retrieval of information related to: - patients and providers for healthcare purposes; - payers, health plans, sponsors, and employers for administrative and financial purposes; - public health agencies for healthcare purposes, and - healthcare resources and devices for resource management purposes. **Description:** Registry and directory service functions are critical to successfully managing the security, interoperability, and the consistency of the health record data across an EHR-S. These services enable the linking of relevant information across multiple information sources within, or external to, an EHR-S for use within an application.		1. The system **SHALL** provide the ability to use registry services and directories.	116
					2. The system **SHOULD** provide the ability to securely use registry services and directories.	117
					3. The system **SHALL** conform to function IN.5.1 (Interchange Standards) to provide standard data interchange capabilities for using registry services and directories.	118
					4. The system **SHOULD** communicate with local registry services through standardized interfaces.	119
					5. The system **SHOULD** communicate with non-local registry services (that is, to registry services that are external to an EHR-S) through standardized interfaces.	120

ID#	Type	Name	Statement/Description	See Also	Conformance Criteria	Row #
			Directories and registries support communication between EHR Systems and may be organized hierarchically or in a federated fashion. For example, a patient being treated by a primary care physician for a chronic condition may become ill while out of town. The new provider's EHR-S interrogates a local, regional, or national registry to find the patient's previous records. From the primary care record, a remote EHR-S retrieves relevant information in conformance with applicable patient privacy and confidentiality rules. An example of local registry usage is an EHR-S application sending a query message to the Hospital Information System to retrieve a patient's demographic data.		6. The system **SHOULD** provide the ability to use registries or directories to uniquely identify patients for the provision of care.	121
					7. The system **SHOULD** provide the ability to use registries or directories to uniquely identify providers for the provision of care.	122
					8. The system **MAY** provide the ability to use registries or directories to retrieve links to relevant healthcare information regarding a patient.	123
					9. The system **MAY** provide the ability to use registries to supply links to relevant healthcare information regarding a patient.	124
					10. The system **MAY** provide the ability to use registries or directories to identify payers, health plans, and sponsors for administrative and financial purposes.	125
					11. The system **MAY** provide the ability to use registries or directories to identify employers for administrative and financial purposes.	126
					12. The system **MAY** provide the ability to use registries or directories to identify public health agencies for healthcare purposes.	127
					13. The system **MAY** provide the ability to use registries or directories to identify healthcare resources and devices for resource management purposes.	128
IN.4	**H**	Standard Terminologies and Terminology Services	**Statement:** Support semantic interoperability through the use of standard terminologies, standard terminology models and standard terminology services. **Description:** The purpose of supporting terminology standards and services is to enable semantic interoperability. Interoperability is demonstrated by the consistency of human and machine interpretation of shared data and reports. It includes the capture and support of consistent data for templates and decision support logic. Terminology standards pertain to concepts, representations, synonyms, relationships and computable (machine-readable) definitions. Terminology services provide a common way for managing and retrieving these items.			129

ID#	Type	Name	Statement/Description	See Also	Conformance Criteria	Row #
IN.4.1	**F**	Standard Terminologies and Terminology Models	**Statement:** Employ standard terminologies to ensure data correctness and to enable semantic interoperability (both within an enterprise and externally). Support a formal standard terminology model. **Description:** Semantic interoperability requires standard terminologies combined with a formal standard information model. An example of an information model is the HL7 Reference Information model. Examples of terminologies that an EHR-S may support include: LOINC, SNOMED, ICD-9, ICD-10, and CPT-4. A terminology provides semantic and computable identity to its concepts. Terminologies are use-case dependent and may or may not be realm dependent. For example, terminologies for public health interoperability may differ from those for healthcare quality, administrative reporting, research, etc. Formal standard terminology models enable common semantic representations by describing relationships that exist between concepts within a terminology or in different terminologies, such as exemplified in the model descriptions contained in the HL7 Common Terminology Services specification. The clinical use of standard terminologies is greatly enhanced with the ability to perform hierarchical inference searches across coded concepts. Hierarchical Inference enables searches to be conducted across sets of coded concepts stored in an EHR-S. Relationships between concepts in the terminology are used in the search to recognize child concepts of a common parent. For example, there may be a parent concept, "penicillin containing preparations" which has numerous child concepts, each of which represents a preparation containing a specific form of penicillin (Penicillin V, Penicillin G, etc). Therefore, a search may be conducted to find all patients taking any form of		1. The system **SHALL** provide the ability to use standard terminologies to communicate with other systems(internal or external to the EHR-S). (e.g., SNOMED terminology)	130
					2. The system **SHALL** provide the ability to validate that clinical terms and coded clinical data exists in a current standard terminology. (e.g., SNOMED terminology)	131
					3. The system **SHOULD** provide the ability to exchange healthcare data using formal standard information models and standard terminologies. (e.g., SNOMED terminology)	132
					4. The system **SHOULD** provide the ability to use a formal standard terminology model. (e.g., SNOMED terminology)	133
					5. The system **SHOULD** provide the ability to use hierarchical inference searches e.g., subsumption across coded terminology concepts that were expressed using standard terminology models. (e.g., SNOMED terminology)	134

ID#	Type	Name	Statement/Description	See Also	Conformance Criteria	Row #
			penicillin preparation. Clinical and other terminologies may be provided through a terminology service internal or external to an EHR-S. An example of a terminology service is described in the HL7 Common Terminology Services specification.		6. The system **SHOULD** provide the ability to use a terminology service (internal or external to the EHR-S). (e.g., SNOMED terminology)	135
					7. IF there is no standard terminology model available, THEN the system **MAY** provide a formal explicit terminology model.	136
IN.4.2	**F**	Maintenance and Versioning of Standard Terminologies	**Statement:** Enable version control according to customized policies to ensure maintenance of utilized standards. This includes the ability to accommodate changes to terminology sets as the source terminology undergoes its natural update process (new codes, retired codes, redirected codes). Such changes need to be cascaded to clinical content embedded in templates, custom formularies, etc., as determined by local policy. **Description:** Version control allows for multiple sets or versions of the same terminology to exist and be distinctly recognized over time. Terminology standards are usually periodically updated, and concurrent use of different versions may be required. Since the meaning of a concept can change over time, it is important that retrospective analysis and research maintains the ability to relate changing conceptual meanings. If the terminology encoding for a concept changes over time, it is also important that retrospective analysis and research can correlate the different encodings to ensure the permanence of the concept. This does not necessarily imply that complete older versions of the terminology be kept in the EHR-S, only access to the changes needs to be maintained.		1. The system **SHALL** provide the ability to use different versions of terminology standards.	137
					2. The system **SHALL** provide the ability to update terminology standards.	138
					3. The system **MAY** relate modified concepts in the different versions of a terminology standard to allow preservation of interpretations over time.	139
					4. The system **SHOULD** provide the ability to interoperate with systems that use known different versions of a terminology standard.	140
					5. The system **SHOULD** provide the ability to deprecate terminologies.	141

ID#	Type	Name	Statement/Description	See Also	Conformance Criteria	Row #
			It should be possible to retire deprecated versions when applicable business cycles are completed while maintaining obsolescent code sets. An example use of this is for possible claims adjustment throughout the claim's lifecycle.		6. The system **MAY** provide the ability to deprecate individual codes within a terminology.	142
					7. The system **SHALL** provide the ability to cascade terminology changes where coded terminology content is embedded in clinical models (for example, templates and custom formularies) when the cascaded terminology changes can be accomplished unambiguously.	143
					8. Changes in terminology **SHALL** be applied to all new clinical content (via templates, custom formularies, etc.).	144
IN.4.3	**F**	Terminology Mapping	**Statement:** Map or translate one terminology to another as needed by local, regional, national, or international interoperability requirements **Description:** The ability to map or translate one terminology to another is fundamental to an organization in an environment where several terminologies are in play with overlapping concepts. It is a common occurrence that data is captured using one terminology, but is shared using another terminology. For example, within a healthcare organization there may be a need to map overlapping terminology concepts (e.g. between an EHRS and an external laboratory system, ore between an EHRS and a billing system). Realm specific (including local, regional, national or international) interoperability requirements can also determine the need for terminology mapping, and in many cases terminology mapping services can be used to satisfy these requirements.		1. The system **SHALL** provide the ability to use a terminology map.	145
					2. The system **SHOULD** provide the ability to use standard terminology services for the purposes of mapping terminologies.	146
					3. The system **MAY** provide the ability for a user to validate a mapping.	147
					4. The system **MAY** provide the ability to create a terminology map.	148
IN.5	**H**	Standards-based Interoperability	**Statement:** Provide automated health care delivery processes and seamless exchange of clinical, administrative, and financial information through			149

ID#	Type	Name	Statement/Description	See Also	Conformance Criteria	Row #
			standards-based solutions. **Description:** Interoperability standards enable an EHR-S to operate as a set of applications. This results in a unified view of the system where the reality is that several disparate systems may be coming together. Interoperability standards also enable the sharing of information between EHR systems, including the participation in regional, national, or international information exchanges. Timely and efficient access to information and capture of information is promoted with minimal impact to the user.			
IN.5.1	**F**	Interchange Standards	**Statement:** Support the ability to operate seamlessly with other systems, either internal or external, that adhere to recognized interchange standards. "Other systems" include other EHR Systems, applications within an EHR-S, or other authorized entities that interact with an EHR-S. **Description:** An organization typically uses a number of interchange standards to meet its external and internal interoperability requirements. It is fundamental that there be a common understanding of rules regarding connectivity, information structures, formats and semantics. These are known as "interoperability or interchange standards". Data exchange which may be between internal systems or modules, or external to the organization, is to occur in a manner which is seamless to the user. For example, if data interchange involves double entry, or manual cut-and-paste steps by the user, it is not considered seamless.		1. The system **SHALL** provide the ability to use interchange standards as required by realm specific and/or local profiles. (e.g., DICOM, HL7, IHE Eye Care)	150
					2. The system **SHALL** provide the ability to seamlessly perform interchange operations with other systems that adhere to recognized interchange standards. (e.g., DICOM, HL7, IHE Eye Care)	151

ID#	Type	Name	Statement/Description	See Also	Conformance Criteria	Row #
			Representation of EHR content is transmitted in a variety of interchange formats such as: HL7 Messages, Clinical Document Architecture (CDA) and other HL7 Structured Documents, X12N healthcare transactions, and Digital Imaging and Communication in Medicine (DICOM) format. Support for multiple interaction modes is needed to respond to differing levels of immediacy and types of exchange. For example, messaging is effective for many near-real time, asynchronous data exchange scenarios but may not be appropriate if the end-user is requesting an immediate response from a remote application. A variety of interaction modes are typically supported such as: -Unsolicited Notifications, e.g. a patient has arrived for a clinic appointment -Query/Response e.g., Is Adam Everyman known to the system? Yes, MRN is 12345678. -Service Request and Response, e.g., Laboratory Order for “Fasting Blood Sugar” and a response containing the results of the test. -Information Interchange between organizations (e.g. in a RHIO, or in a National Health System) -Structured/discrete clinical documents, e.g., Clinical Note -Unstructured clinical document, e.g., dictated surgical note Standard terminology is a fundamental part of interoperability and is described in section IN.4. Using a formal explicit information model further optimizes interoperability. An example of an information model is the HL7 Reference Information Model (RIM). Organizations typically need to deal with more than one information model and may need to develop a mapping or a meta-model.		3. The system MAY provide the ability to seamnlessly perform inercahnge with persomalized health records (PHR) that adhere to recognized interchange standards	
					~~3.~~4. The system **SHALL** conform to functions under header IN.4 (Standard Terminologies and Terminology Services) to support terminology standards in accordance with a users' scope of practice, organizational policy, or jurisdictional law. (e.g., DICOM, HL7, IHE Eye Care)	152
					~~4.~~5. IF there is no standard information model available, THEN the system **MAY** provide a formal explicit information model in order to support the ability to operate seamlessly with other systems.	153

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ID#	Type	Name	Statement/Description	See Also	Conformance Criteria	Row #
					~~5.~~6. The system **SHOULD** provide the ability to exchange data using an explicit and formal information model and standard, coded terminology.	154
					~~6.~~7.	
IN.5.2	**F**	Interchange Standards Versioning and Maintenance	**Statement:** Enable version control according to local policies to ensure maintenance of utilized interchange standards. Version control of an interchange standard implementation includes the ability to accommodate changes as the source interchange standard undergoes its natural update process. **Description:**		1. The system **SHALL** provide the ability to use different versions of interchange standards.	155
					2. The system **SHALL** provide the ability to change (reconfigure) the way that data is transmitted as an interchange standard evolves over time and in accordance with business needs.	156

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ID#	Type	Name	Statement/Description	See Also	Conformance Criteria	Row #
			The life cycle of any given standard results in changes to its requirements. It is critical that an organization know the version of any given standard it uses and what its requirements and capabilities are. For example, if the organization migrates to an HL7 v2.5 messaging standard, it may choose to take advantage of new capabilities such as specimen or blood bank information. The organization may find that certain fields have been retained for backwards compatibility only or withdrawn altogether. The EHR-S needs to be able to handle all of these possibilities. Standards typically evolve in such a way as to protect backwards compatibility. On the other hand, sometimes there is little, or no, backwards compatibility when an organization may need to replace an entire standard with a new methodology. An example of this is migrating from HL7 v2 to HL7 v3. Interchange standards that are backward compatible support exchange among senders and receivers who are using different versions. Version control ensures that those sending information in a later version of a standard consider the difference in information content that can be interchanged effectively with receivers, who are capable of processing only earlier versions. That is, senders need to be aware of the information that receivers are unable to capture and adjust their business processes accordingly. Version control enables multiple versions of the same interchange standard to exist and be distinctly recognized over time. Since interchange standards are usually periodically updated, concurrent use of different versions may be required. Large (and/or federated) organizations typically need to use different versions of an interchange standard to meet internal organizational interoperability requirements. For example, the enterprise-wide standard might use HL7 v2.5 for Lab messages, but some regions of the enterprise might be at a lower level. It should be possible to retire deprecated interchange standards versions when applicable business cycles are completed while maintaining obsolete versions. An		3. The system **SHOULD** provide the ability to deprecate an interchange standard.	157
					4. The system **SHOULD** provide the ability to interoperate with other systems that use known earlier versions of an interoperability standard.	158

ID#	Type	Name	Statement/Description	See Also	Conformance Criteria	Row #
			example use of this is for possible claims adjustment throughout the claim's life cycle. When interchange standards change over time, it is important that retrospective analysis and research correlate and note gaps between the different versions' information structures to support the permanence of concepts over time. An example use of this is the calculation of outcome or performance measures from persisted data stores where one version of a relevant interchange standard, e.g., CDA Release 1 captures the relevant data, e.g., discharge data, differently than CDA Release 2.			
IN.5.3	**F**	Standards-based Application Integration	**Statement:** Enable standards-based application integration with other systems. **Description:** When an organization wishes to integrate its applications, they must use standardized methods. Standards-based application integration may be achieved in a variety of ways. For example: -desktop visual integration may be achieved via HL7 Clinical Context Object Workgroup (CCOW) standards -workflow functions may be integrated via The Workflow Management Coalition (WfMC) standards -EHRS may be integrated in an Enterprise Information System Architecture via Service Oriented Architecture (SOA) standards It is recognized that these examples are very disparate and used for very different purposes. The method used depends on the organization's approach to application integration. An organization could conceivably use multiple integration approaches.		1. The system **SHALL** provide the ability to support standards-based application integration.	159

ID#	Type	Name	Statement/Description	See Also	Conformance Criteria	Row #
IN.5.4	**F**	Interchange Agreements	**Statement:** Support interactions with entity directories to determine the address, profile and data exchange requirements of known and/or potential partners. Use the rules of interaction specified in the partner's interchange agreement when exchanging information. **Description:** Systems that wish to communicate with each other, must agree on the parameters associated with that information exchange. Interchange Agreements allow an EHR-S to describe those parameters/criteria. An EHR-S can use the entity registries to determine the security, addressing, and reliability requirements between partners. An EHR-S can use this information to define how data will be exchanged between the sender and the receiver. Discovery of interchange services and capabilities can be automatic. For example: - A new application can automatically determine a patient demographics source using ~~a~~ Universal Description and Discovery Integration (UDDI) for source discovery, and retrieve the Web Services Description Language (WSDL) specification for binding details. - Good Health Hospital is a member of AnyCounty LabNet, for sharing laboratory results with other partners. Good Health Hospital periodically queries LabNet's directory (UDDI) to determine if additional information providers have joined LabNet. When new information providers are discovered, the Good Health IT establishes the appropriate service connections based upon the Service Description (WSDL).	IN.3	1. The system **SHALL** use interchange agreement descriptions when exchanging information with partners**.**	160
					2. The system **SHOULD** use interchange agreement description standards (when available).	161
					3. The system **MAY** conform to function IN.3 (Registry and Directory Services) to interact with entity directories to determine the address, profile and data exchange requirements of known and/or potential partners.	162
					4. The system **MAY** provide the ability to automatically discover interchange services and capabilities.	163
IN.6	**F**	Business Rules Management	**Statement:** Manage the ability to create, update, delete, view, and version business rules including institutional preferences. Apply business rules from necessary points within an EHR-S to control system behavior. An EHR-S audits changes made to business rules, as well as compliance to and overrides of applied business rules. **Description:** EHR-S business rule implementation functions include: decision support, diagnostic support,	DC.2.2 S.3.1 S.3.7	1. The system **SHALL** provide the ability to manage business rules.	164
					2. The system **SHOULD** provide the ability to create, import, or access decision support rules to guide system behavior.	165
					3. The system **SHOULD** provide the ability to update decision support rules.	166
					4. The system **SHOULD** provide the ability to customize decision support rules and their components.	167

ID#	Type	Name	Statement/Description	See Also	Conformance Criteria	Row #
			workflow control, and access privileges, as well as system and user defaults and preferences. An EHR-S supports the ability of providers and institutions to customize decision support components such as triggers, rules, or algorithms, as well as the wording of alerts and advice to meet realm specific requirements and preferences. Examples of applied business rules include: - Suggesting diagnosis based on the combination of symptoms (flu-like symptoms combined with widened mediastinum suggesting anthrax); - Classifying a pregnant patient as high risk due to factors such as age, health status, and prior pregnancy outcomes; - Sending an update to an immunization registry when a vaccination is administered; - Limiting access to mental health information to authorized providers; - Establishing system level defaults such as for vocabulary data sets to be implemented.; and - Establishing user level preferences such as allowing the use of health information for research purposes.		5. The system **SHOULD** provide the ability to inactivate, obsolete, or destroy decision support rules.	168
					6. The system **SHOULD** conform to function IN.2.2 (Auditable Records) to audit all changes to decision support rules.	169
					7. The system **SHOULD** provide the ability to create diagnostic support rules to guide system behavior.	170
					8. The system **SHOULD** provide the ability to update diagnostic support rules.	171
					9. The system **MAY** provide the ability to customize diagnostic support rules and their components.	172
					10. The system **SHOULD** provide the ability to inactivate, obsolete, or destroy diagnostic support rules.	173
					11. The system **SHOULD** conform to function IN.2.2 (Auditable Records) to audit all changes to diagnostic support rules.	174
					12. The system **SHOULD** provide the ability to create workflow control rules to guide system behavior.	175
					13. The system **SHOULD** provide the ability to update workflow control rules.	176
					14. The system **MAY** provide the ability to customize workflow control rules and their components.	177
					15. The system **SHOULD** provide the ability to inactivate, obsolete, or destroy workflow control rules.	178
					16. The system **SHOULD** conform to function IN.2.2 (Auditable Records) to audit all changes to workflow control rules.	179
					17. The system **MAY** provide the ability to create access privilege rules to guide system behavior.	180
					18. The system **MAY** provide the ability to update access privilege rules.	181
					19. The system **MAY** provide the ability to customize access privilege rules and their components.	182
					20. The system **MAY** provide the ability to inactivate, obsolete, or destroy access privilege rules.	183

ID#	Type	Name	Statement/Description	See Also	Conformance Criteria	Row #
					21. The system **MAY** conform to function IN.2.2 (Auditable Records) to audit all changes to access privilege rules.	184
					22. The system **SHOULD** conform to function IN.2.2 (Auditable Records) to audit all changes to other business rules.	185
					23. The system **SHOULD** support the ability to selectively export business rules.	186
IN.7	**F**	Workflow Management	**Statement:** Support workflow management functions including both the management and set up of work queues, personnel lists, and system interfaces as well as the implementation functions that use workflow-related business rules to direct the flow of work assignments. **Description:** Workflow management functions that an EHR-S supports include: -Distribution of information to and from internal and external parties; -Support for task-management as well as parallel and serial task distribution; -Support for notification and task routing based on system triggers; and -Support for task assignments, escalations and redirection in accordance with business rules. Workflow definitions and management may be implemented by a designated application or distributed across an EHR-S.		1. The system **SHOULD** use workflow-related business rules to direct the flow of work assignments.	187
					2. The system **SHOULD** provide the ability to create workflow (task list) queues.	188
					3. The system **SHOULD** provide the ability to manage workflow (task list) queues.	189
					4. The system **MAY** provide the ability to manage human resources (i.e., personnel lists) for workflow queues.	190
					5. The system **MAY** use system interfaces that support the management of human resources (i.e., personnel lists).	191
					6. The system **MAY** use system interfaces that support the management of workflow (task lists) queues.	192
					7. The system **MAY** provide the ability to distribute information to and from internal and external parties.	193
					8. The system **MAY** provide the ability to route notifications and tasks based on system triggers.	194
					9. The system **MAY** dynamically escalate workflow according to business rules.	195
					10. The system **MAY** dynamically redirect workflow according to business rules.	196
					11. The system **MAY** dynamically reassign workflow according to business rules.	197

Eye Care Functional Profile: Supportive Functions

ID#	Type	Name	Statement/Description	See Also	Conformance Criteria	Row #
S.1	**H**	**Clinical Support**			1. The system **SHALL** conform to function IN.1.1 (Entity Authentication).	1
					2. The system **SHALL** conform to function IN.1.2 (Entity Authorization).	2
					3. The system **SHALL** conform to function IN.1.3 (Entity Access Control).	3
S.1.1	**F**	Registry Notification	**Statement:** Enable the automated transfer of formatted demographic and clinical information to and from local disease specific registries (and other notifiable registries) for patient monitoring and subsequent epidemiological analysis. **Description:** The user can export personal health information to disease specific registries, other notifiable registries such as immunization registries, through standard data transfer protocols or messages. The user can update and configure communication for new registries.	IN.2.4, IN.4.1, IN.4.2, IN.5.1, IN.5.2, IN.5.4	1. The system **SHOULD** automatically transfer formatted demographic and clinical information to local disease specific registries (and other notifiable registries).	4
					2. The system **MAY** provide the ability to automate the retrieval of formatted demographic and clinical information from local disease specific registries (and other notifiable registries).	5
					3. The system **SHOULD** provide the ability to add, change, or remove access to registries.	6
S.1.2	**F**	Donor Management Support	**Statement:** Provide capability to capture or receive, and share needed information on potential donors and recipients. **Description**: The user is able to capture or receive information on potential donors and recipients (for products such as blood, organs, eggs, sperm, or stem cells). The user can make this information available to internal and external donor matching agencies.	IN.1.7 IN.2.4	1. The system **MAY** provide the ability to document demographic and clinical information needed for the donation.	7
					2. The system **MAY** receive demographic and clinical information about potential donors.	8
					3. The system **MAY** receive demographic and clinical information about the donation.	9
					4. The system **MAY** share documented demographic and clinical information about potential donors with appropriate outside parties.	10
					5. The system **MAY** share documented demographic and clinical information about the donation with appropriate outside parties.	11
S.1.3	**H**	Provider Information	**Statement:** Maintain, or provide access to, current provider information.	IN.1.3 IN.4		12
S.1.3.1	**F**	Provider Access Levels	**Statement**: Provide a current registry or directory of practitioners that contains data needed to determine levels of access required by the system.	IN.2.3	1. The system **SHOULD** provide a registry or directory of all personnel who currently use or access the system.	13

ID#	Type	Name	Statement/Description	See Also	Conformance Criteria	Row #
			Description: Provider information may include any credentials, certifications, or any other information that may be used to verify that a practitioner is permitted to use or access authorized data.	IN.3	2. The system **SHOULD** contain, in the directory, the realm-specific legal identifiers required for care delivery such as the practitioner's license number	14
					3. The system **SHOULD** provide the ability to add, update, and inactivate entries in the directory so that it is current.	15
					4. The system **SHOULD** contain, in the directory, the information necessary to determine levels of access required by the system security functionality.	16
					5. The system **MAY** provide a directory of clinical personnel external to the organization that are not users of the system to facilitate documentation communication and information exchange.	17
S.1.3.2	**F**	Provider's Location Within Facility	**Statement**: Provide provider location or contact information on a facility's premises. **Description**: The identification of provider's location within a facility may facilitate the handling of critical care situations. This may include the location of on site practitioners by name or immediate required specialty. A real-time tracking system may provide automatic update of such information.		1. The system **SHOULD** provide the ability to input or create information on provider location or contact information on a facility's premises.	18
					2. The system **SHOULD** provide the ability to add, update, or inactivate information on provider's location or contact information on a facility's premises, so that it is current.	19
S.1.3.3	**F**	Provider's On Call Location	**Statement**: Provide provider location or contact information when on call. **Description**: The provider immediate contact information. This may include on call practitioners on a facility's premises as well as on call contact information after scheduled working hours.	IN.2.3	1. The system **SHOULD** provide the ability to input or create information on provider location or contact information when on call.	20
					2. The system **SHOULD** provide the ability to add, update, or obsolete information on a provider's on call location or contact information, so that it is current.	21
S.1.3.4	**F**	Provider's Location(s) or Office(s)	**Statement**: Provide locations or contact information for the provider in order to direct patients or queries. **Description**: Providers may have multiple locations or offices where they practice. The system should maintain information on the primary location, any secondary locations, as well as the scheduled hours at each location. Information maintained may include web sites, maps, office locations, etc.	IN.2.3 IN.3	1. The system **SHOULD** contain information necessary to identify primary and secondary practice locations or offices of providers to support communication and access.	22
					2. The system **SHOULD** provide the ability to add, update and obsolete information on the provider's primary and secondary practice locations or offices.	23

ID#	Type	Name	Statement/Description	See Also	Conformance Criteria	Row #
S.1.3.5	**F**	Team/Group of Providers Registry or Directory	**Statement**: Provide access to a current directory, registry or repository of information on Teams or Groups of providers in accordance with relevant laws, regulations, and organization or internal requirements. **Description**: An organization may assign caregivers to teams that need to be registered as such. In another scenario, an organization might contract with a group of providers. The group would be listed by the group name or individually or both. A caregiver might be part of more than 1 team or group. All of these factors need to be supported. Information includes, but is not limited to; full name, address or physical location, and a 24x7 telecommunications address (e.g. phone or pager access number).	IN.2.3	1. The system **SHOULD** provide the ability to access a current directory, registry or repository of Teams or Groups of providers in accordance with relevant laws, regulations, and organization or internal requirements.	24
					2. The system **SHOULD** conform to IN.3 (Registry and Directory Services), Conformance Criteria # 13 (The system MAY provide the ability to use registries or directories to identify healthcare resources and devices for resource management purposes).	25
					3. The system **SHOULD** conform to S.3.4 (Manage Practitioner/Patient Relationships), Conformance Criteria #2 (The system SHALL provide the ability to specify the role of each provider associated with a patient such as encounter provider, primary care provider, attending, resident, or consultant).	26
S.1.3.6	**F**	Provider Caseload/Panel	**Statement**: Provide access to a provider's caseload or panel information. **Description**: An organization might employ the concept of caseload or panel of patients to facilitate continuity of care and distribution of work. A caregiver may have, or be accountable for, zero to multiple defined caseloads or panels of members/patient/clients within the organization. Information about the caseload or panel includes such things as whether or not a new member/patient/client can be added. A member/patient may be provided access to a listing of caregivers with open caseloads or panels to select a provider.	DC.1.7.2.4 DC.3.1.1 DC.3.1.3 IN.2.3 IN.2.4	1. The system **SHALL** provide the ability to access a provider's caseload or panel information.	27
					2. The system **SHALL** provide the ability to add, update, and remove access to panel information such as status.	28
					3. The system **SHOULD** conform to function S.3.4 (Manage Practitioner/Patient Relationships).	29
S.1.3.7	**F**	Provider Registry or Directory	**Statement**: Provide access to a current directory, registry or repository of provider information in accordance with relevant laws, regulations, and organization or internal requirements. **Description**: A system maintains or has access to	IN.1.3 IN.2.1 IN.3	1. The system **SHOULD** conform to IN.3 (Registry and Directory Services), Conformance Criteria #7 (The system SHOULD provide the ability to use registries or directories to uniquely identify providers for the provision of care).	30

ID#	Type	Name	Statement/Description	See Also	Conformance Criteria	Row #
			provider information needed in the provision of care. This is typically a directory, registry or repository. Information includes, but is not limited to; full name, specialty, credentials, address or physical location, and a 24x7 telecommunications address (e.g. phone or pager access number). Views of the information are tailored to the user's security level and access need. For example, a nursing supervisor may need access to a provider's home phone. A member/patient wishing to select a primary care provider has a narrower view that would not include personal access information.		2. The system **SHALL** contain provider information (such as full name, specialty, address and contact information), in accordance with scope of practice, organizational policy and jurisdictional law.	31
					3. The system **SHALL** provide the ability to add, update, and remove access to entries in the registry or directory so that it is current.	32
					4. The system **MAY** provide a directory of clinical personnel external to the organization that are not users of the system to facilitate documentation.	33
					5. The systems **SHOULD** provide the ability to restrict the view of selected elements of the registry or directory information, subject to the user's security level and access needs.	34
S.1.4	**H**	Patient Directory	**Statement**: Provide a current directory of patient information in accordance with relevant privacy and other applicable laws, regulations, and conventions. **Description**: The patient directory may capture information including but not limited to, full name, address or physical location, alternate contact person, primary phone number, and relevant health status information. The view of this information may vary based on purpose. Several specific directory views are described in the following functions.	DC.1.1.1 IN.1.4		35
S.1.4.1	**F**	Patient Demographics	**Statement**: Support interactions with other systems, applications, and modules to enable the maintenance of updated demographic information in accordance with realm-specific recordkeeping requirements. **Description**: The minimum demographic data set must include the data required by realm-specific laws governing health care transactions and reporting. For example, this may include data input of death status information, or may include support to identify multiple names, such as updating from Baby Girl Doe, to neonate's given name.	DC.1.3.3 S.1.4 S.3.7.3 IN.2.3	1. The system **MAY** add and update patient demographic information through interaction with other systems, applications and modules.	36
					2. The system **MAY** accept and retrieve patient demographic information as required by realm specific laws governing health care transactions and reporting.	37

ID#	Type	Name	Statement/Description	See Also	Conformance Criteria	Row #
S.1.4.2	**F**	Patient's Location Within a Facility	**Statement**: Provide the patient's location information within a facility's premises. **Description**: This function is intended to support maintaining and/or providing access to information on the patient's location during an episode of care. This function can be as simple as displaying the assigned bed for a patient (i.e. Adam W2-Reb 214). It can also be a function that supports real-time information on the patient location as they receive ancillary services in other parts of a facility (physical therapy or diagnostic imaging). Note: For standard reports like an ER Log or Census, see the Standard reports S.2.2. The system should support viewing a patient's specific location in terms that may include campus, building, wing, unit, room, bed. The system should support jurisdictional laws related to patient consent on disclosure. The patient location information should also be available when the provider is not in the patient record. As such, the systems may need to provide a query feature on patient location information. The system may support the identification of the patient by alternate identifying names.		1. IF the patient has an assigned location, THEN the system **SHALL** provide the ability to identify and display/view the patient's assigned location.	38
					2. The system **SHOULD** support consents as they apply to the release of patient location information according to scope of practice, organization policy, or jurisdictional laws.	39
					3. The system **MAY** provide the ability to identify the patient's current, real-time location, unambiguously, within a facility.	40
					4. The system **MAY** provide the ability to query patient location information.	41
					5. The system **MAY** provide the ability to query patient location by alternate identifying names.	42
S.1.4.3	**F**	Patient's Residence for the Provision and Administration of Services	**Statement**: Provide the patient's residence information for the provision and administration of services to the patient, patient transport, and as required for public health reporting. **Description**: This function is intended to support the provision of services to patients at their place of residence. Examples include but are not limited to the following: ♦ Visiting nurse may be providing care to a new mother and baby at their place of residence. ♦ A patient with a mobility problem may require transport to and from a clinic appointment.	DC 1.1.2	1. The system **SHOULD** provide the ability to identify the patient's primary residence.	43
					2. The system **MAY** provide the ability to identify the patient's secondary or alternate residence.	44
					3. The system **MAY** provide the ability to enter and update patient information related to the provision of service.	45
					4. The system **SHOULD** provide the ability to enter and update patient information related to transport, such as, mobility status, special needs and facility access (stairs, elevator, wheelchair access).	46

ID#	Type	Name	Statement/Description	See Also	Conformance Criteria	Row #
			Support identification of multiple residences for a patient like a child with multiple guardians (divorced parents with joint custody) or adults with Winter/Summer residences.		5. The system **SHOULD** provide the ability to enter and update patient residence information as necessary for public health reporting.	47
S.1.4.4	**F**	Patient Bed Assignment	**Statement**: Support interactions with other systems, applications, and modules to ensure that the patient's bed assignments within the facility optimize care and minimize risks e.g. of exposure to contagious patients. **Description**: Access to a list of available beds is important to safely manage the care of patients whose bed requirements may change based on change in condition or risk factors. For example, a patient may need a room with special equipment or to be close to the nursing station or to be in a private room.	S.1.7 IN.6	1. The system **SHOULD** support interactions as required to support patient bed assignment internal or external to the system.	48
					2. The system **MAY** provide patient information to an external system to facilitate bed assignment that optimizes care and minimizes risk.	49
S.1.5	**F**	De-Identified Data Request Management	**Statement**: Provide patient data in a manner that meets local requirements for de-identification. **Description**: When an internal or external party requests patient data and that party requests de-identified data (or is not entitled to identified patient information, either by law or custom), the user can export the data in a fashion that meets requirements for de-identification in that locale or realm. An auditable record of these requests and associated exports may be maintained by the system. This record could be implemented in any way that would allow the who, what, why and when of a request and export to be recoverable for review. A random re-identification key may be added to the data, to support re-identification for the purpose of alerting providers of potential patient safety issues. For example, if it is discovered that a patient is a risk for a major cardiac event, the provider could be notified of this risk, allowing the provider to identify the patient from the random key.	IN.1.6 IN.1.7 IN.1.8 IN.2.2 IN.3 IN.4.3 IN.5.1 IN.5.4 IN.6.1	1. The system **SHALL** conform to IN.1.9 (Patient Privacy and Confidentiality) and provide de-identified views of data in accordance with scope of practice, organizational policy and jurisdictional law.	50
					2. The system **SHOULD** conform to IN.2.4 (Extraction of Health Record Information), Conformance Criteria #3 (The system SHOULD provide the ability to de-identify extracted information).	51
S.1.6	**F**	Scheduling	**Statement:** Support interactions with other systems, applications, and modules to provide the necessary data to a scheduling system for optimal efficiency in the scheduling of patient care, for either the patient or a resource/device.	DC.3.1 DC.3.2.1 IN.2.3	1. The system **MAY** provide the ability to access scheduling features, either internal or external to the system, for patient care resources.	52
					2. The system **MAY** provide the ability to access scheduling features, either internal or external to the system, for patient care devices.	53

ID#	Type	Name	Statement/Description	See Also	Conformance Criteria	Row #
			Description: The system may support user access to scheduling systems as required. Relevant clinical or demographic information required in the scheduling process could be linked to the task.	IN.4.1 IN.7	3. The system **MAY** incorporate relevant clinical or demographic information in the scheduling process.	54
					4. The system **MAY** pass relevant clinical or demographic information to support efficient scheduling with other system.	55
S.1.7	**F**	Healthcare Resource Availability	**Statement:** Support the collection and distribution of local healthcare resource information, through interactions with other systems, applications, and modules, to enable planning and response to extraordinary events such as local or national emergencies. **Description:** In times of identified local or national emergencies and upon request from authorized bodies, provide current status of healthcare resources including, but not limited to, available beds, providers, support personnel, ancillary care areas and devices, operating theaters, medical supplies, vaccines, and pharmaceuticals. The intent is to enable the authorized body to distribute or re-distribute either resources or patient load to maximize efficient healthcare delivery. In addition, these functions may also be used for internal assessment and planning purposes by facility administrators.	S.1.4.4 IN.1.6 IN.5.1 IN.5.4	1. The system **MAY** collect information on healthcare resource availability through interactions with other systems, applications, and modules.	56
					2. The system **MAY** provide the ability to access information on healthcare resource availability for internal assessment and planning purposes. Healthcare resources may include, but is not limited to available beds, providers, support personnel, ancillary care areas and devices, operating theaters, medical supplies, vaccines, and pharmaceuticals.	57
					3. The system **MAY** provide the ability to export information on healthcare resource availability to authorized external parties.	58
S.1.8	**F**	Information View	**Statement:** Support user-defined information views. **Description:** Views of the information can be tailored for or by the user (or department or "job classification") for their presentation preferences, within local or facility established rules. For example, a nursing supervisor may elect or prefer to see summary data on all patients as the default view.	IN.2.4 IN.2.5.1 IN.2.5.2	1. The system **MAY** provide authorized administrators the ability to tailor the presentation of information for preferences of the user, department/area or user type.	59
					2. The system **MAY** provide authorized users the ability to tailor their presentation of information for their preferences.	60
S.2	**H**	**Measurement, Analysis, Research and Reports**			1. The system **SHALL** conform to function IN.1.1 (Entity Authentication).	61
					2. The system **SHALL** conform to function IN.1.2 (Entity Authorization).	62
					3. The system **SHALL** conform to function IN.1.3 (Entity Access Control).	63
					4. The system **SHALL** conform to function IN.1.9 (Patient Privacy and Confidentiality).	64
					5. The system **SHALL** conform to function IN.2.4 (Extraction of Health Record Information).	65

ID#	Type	Name	Statement/Description	See Also	Conformance Criteria	Row #
S.2.1	**H**	Measurement, Monitoring, and Analysis	**Statement:** Support measurement and monitoring of care for relevant purposes.	DC.2.6.1		66
S.2.1.1	**F**	Outcome Measures and Analysis	**Statement:** Support the capture and subsequent export or retrieval of data necessary for the reporting on patient outcome of care by population, facility, provider or community. **Description:** Many regions require regular reporting on the healthcare provided to individuals and populations. The system needs to provide the report generating capability to easily create these reports or provide for the export of data to external report generating software. The system may also provide the functionality to prompt for the collection of necessary information at the appropriate time in a patient encounter if such collection need can be properly defined in a supportive workflow. e.g. Requesting specific information for reporting of emergency services such as gun shot, suspected abuse, communicable diseases etc, or for the collection of additional research data for specific a specific diagnosis.	S.3.6.2 IN.4.3 IN.6	1. The system **SHOULD** provide the ability to export or retrieve data required to evaluate patient outcomes.	67
					2. The system **MAY** provide data detailed by physician, facility, facility subsection, community or other selection criteria.	68
					3. The system **SHOULD** provide the ability to define outcome measures for specific patient diagnosis.	69
					4. The system **SHOULD** provide the ability to define outcome measures to meet various regional requirements.	70
					5. The system **SHOULD** provide for the acceptance and retrieval of unique outcome data defined to meet regional requirements.	71
					6. The system **MAY** provide the ability to define report formats for the export of data. This formatted data could be viewed, transmitted electronically or printed.	72
					7. The system **MAY** provide the ability to define prompts in the clinical care setting that would request information needed to comply with regional requirements when specific triggers are met.	73
					8. The system **MAY** export data or provide a limited query access to data through a secure data service.	74
S.2.1.2	**F**	Performance and Accountability Measures	**Statement:** Support the capture and subsequent export or retrieval of data necessary to provide quality, performance, and accountability measurements which providers, facilities, delivery systems, and communities are held accountable. **Description:** Many regions require regular reporting on the healthcare provided to individuals and populations. These reports may include measures related to process, outcomes, costs of care, may be used in 'pay for performance' monitoring and adherence to best practice guidelines. The system	DC.2.6.3 DC.2.6.2 S.3.6 IN.5.4	1. The system **SHOULD** provide the ability to export or retrieve data required to assess health care quality, performance and accountability.	75
					2. The system **SHOULD** provide the ability to define multiple data sets required for performance and accountability measures.	76
					3. The system **MAY** provide the data export in a report format that could be displayed, transmitted electronically or printed.	77

ID#	Type	Name	Statement/Description	See Also	Conformance Criteria	Row #
			needs to provide the report generating capability to easily create these reports or provide for the export of data to external report generating software.		4. The system **MAY** export data or provide a limited query access to data through a secure data service.	78
S.2.2	**H**	Report Generation	**Statement:** Support the export of data or access to data necessary for report generation and ad hoc analysis. **Description:** Providers and administrators need access to data in the EHR-S for the generation of both standard and ad hoc reports. These reports may be needed for clinical, administrative, and financial decision-making, as well as for patient use. Reports may be based on structured data and/or unstructured text from the patient's health record.	DC.2.6.3 S.1.5 S.3.6	1. The system **SHALL** conform to function IN.2.2 (Auditable Records) in accordance with scope of practice, organizational policy and jurisdictional law.	79
					2. The system **SHALL** conform to function IN.2.1 (Data Retention, Availability and Destruction).	80
S.2.2.1	**F**	Health Record Output	**Statement:** Support the definition of the formal health record, a partial record for referral purposes, or sets of records for other necessary disclosure purposes. **Description:** Provide hardcopy and electronic output that fully chronicles the healthcare process, supports selection of specific sections of the health record, and allows healthcare organizations to define the report and/or documents that will comprise the formal health record for disclosure purposes. A mechanism should be provided for both chronological and specified record element output. This may include defined reporting groups (i.e. print sets). For example: Print Set A = Patient Demographics, History & Physical, Consultation Reports, and Discharge Summaries. Print Set B = all information created by one caregiver. Print Set C = all information from a specified encounter. An auditable record of these requests and associated exports may be maintained by the system. This record could be implemented in any way that would allow the who, what, why and when of a request and export to be recoverable for review. The system has the capability of providing a report or accounting of disclosures by patient that meets in accordance with scope of practice, organizational policy and jurisdictional law.	DC.1.1.4 DC.1.4 IN.1.2 IN.2.5.1 IN.2.5.2 IN.4.1 IN.4.3 IN.5.1 IN.5.4 IN.6	1. The system **SHALL** provide the ability to generate reports consisting of all and part of an individual patient's record.	81
					2. The system **SHOULD** provide the ability to define the records or reports that are considered the formal health record for disclosure purposes.	82
					3. The system **SHOULD** provide the ability to generate reports in both chronological and specified record elements order.	83
					4. The system **SHOULD** provide the ability to create hardcopy and electronic report summary information (procedures, medications, labs, immunizations, allergies, vital signs).	84
					5. The system **MAY** provide the ability to specify or define reporting groups (i.e. print sets) for specific types of disclosure or information sharing.	85
					6. The system **SHOULD** provide the ability to include patient identifying information on each page of reports generated.	86
					7. The system **SHOULD** provide the ability to customize reports to match mandated formats.	87
S.2.2.2	**F**	Standard Report Generation	**Statement:** Provide report generation features using tools internal or external to the system, for the generation of standard reports.	IN.1.9 IN.2.5.1	1. The system **SHOULD** provide the ability to generate reports of structured clinical and administrative data using either internal or external reporting tools.	88

ID#	Type	Name	Statement/Description	See Also	Conformance Criteria	Row #
			Description: Providers and administrators need access to data in the EHR-S for clinical, administrative, financial decision-making, audit trail and metadata reporting, as well as to create reports for patients. Many systems may use internal or external reporting tools to accomplish this (such as Crystal Report). Reports may be based on structured data and/or unstructured text from the patient's health record. Users need to be able to sort and/or filter reports. For example, the user may wish to view only the diabetic patients on a report listing patients and diagnoses.	IN.2.5.2 IN.4.1 IN.4.3	2. The system **MAY** provide the ability to include information extracted from unstructured clinical and administrative data in the report generation process, using internal or external tools.	89
					3. The system **SHOULD** provide the ability to export reports generated.	90
					4. The system **SHOULD** provide the ability to specify report parameters, based on patient demographic and/or clinical data, which would allow sorting and/or filtering of the data.	91
					5. The system (or an external application, using data from the system) **MAY** provide the ability to save report parameters for generating subsequent reports.	92
					6. The system (or an external application, using data from the system) **MAY** provide the ability to modify one or more parameters of a saved report specification when generating a report using that specification.	93
S.2.2.3	**F**	Ad Hoc Query and Report Generation	**Statement:** Provide support for ad hoc query and report generation using tools internal or external to the system. **Description:** Providers and administrators need to respond quickly to new requirements for data measurement and analysis. This may be as a result of new regulatory requirements or internal requirements. This requires that users be able to define their own query parameters and retain them. The data may be found in both structured and unstructured data. Providers and administrators also need to query for the absence of specific clinical or administrative data. For example, the Quality Control department may be reviewing whether or not the protocol for management of Diabetes Mellitus is being followed. If the protocol calls for fasting blood sugars every 3 months at minimum, the investigator might need to run an across-patient query locating patients with diabetes who do not show an FBS result within the last 3 months.	IN.2.5.1 IN.2.5.2	1. The system **SHOULD** provide the ability to generate ad hoc query and reports of structured clinical and administrative data through either internal or external reporting tools.	94
					2. The system **MAY** provide the ability to include information extracted from unstructured clinical and administrative data in the report generation process, using internal or external tools.	95
					3. The system **SHOULD** provide the ability to export reports generated.	96
					4. The system **SHOULD** provide the ability to specify report parameters, based on patient demographic and/or clinical data, which would allow sorting and/or filtering of the data.	97
					5. The system **MAY** provide the ability to save report parameters for generating subsequent reports.	98
					6. The system **MAY** provide the ability to modify one or more parameters of a saved report specification when generating a report using	99

ID#	Type	Name	Statement/Description	See Also	Conformance Criteria	Row #
					that specification.	
					7. The system **MAY** provide the ability to produce reports, using internal or external reporting tools, based on the absence of a clinical data element (e.g., a lab test has not been performed in the last year).	100
S.3	**H**	**Administrative and Financial**		IN.1.9, IN.2.4	1. The system **SHALL** conform to function IN.1.1 (Entity Authentication).	101
					2. The system **SHALL** conform to function IN.1.2 (Entity Authorization).	102
					3. The system **SHALL** conform to function IN.1.3 (Entity Access Control).	103
S.3.1	**H**	Encounter/Episode of Care Management	**Statement:** Support the definition of Manage and document the health care needed and delivered during an encounter/episode of care. **Description:** Using data standards and technologies that support interoperability, encounter management promotes patient-centered/oriented care and enables real time, immediate point of service, point of care by facilitating efficient work flow and operations performance to ensure the integrity of: (1) the health record, (2) public health, financial and administrative reporting, and (3) the healthcare delivery process This support is necessary for direct care functionality that relies on providing user interaction and workflows, which are configured according to clinical protocols and business rules based on encounter specific values such as care setting, encounter type (inpatient, outpatient, home health, etc.), provider type, patient's EHR, health status, demographics, and the initial purpose of the encounter.			104
S.3.1.1	**F**	Specialized Views	**Statement:** Present specialized views based on the encounter-specific values, clinical protocols and business rules. **Description:** The system user is presented with a presentation view and system interaction appropriate	DC.2.2.1.2 S.1.3.7	1. The system **SHOULD** provide the ability to define presentation filters that are specific to the types of encounter. These specifics may include care provider specialty, location of encounter, date of encounter, associated diagnosis.	105

ID#	Type	Name	Statement/Description	See Also	Conformance Criteria	Row #
			to the context with capture of encounter-specific values, clinical protocols and business rules. This "user view" may be configurable by the user or system technicians. As an example, a mobile home health care worker using wireless laptop at the patient's home would be presented with a home health care specific workflow synchronized to the current patient's care plan and tailored to support the interventions appropriate for this patient, including chronic disease management protocols.		2. The system **MAY** provide the ability to define presentation filters that are specific to the patent demographics.	106
					3. The system **SHOULD** provide the ability to tailor a "user view".	107
S.3.1.2	**F**	Encounter Specific Functionality	**Statement:** Provide assistance in assembling appropriate data, supporting data collection and processing output from a specific encounter. **Description:** Workflows, based on the encounter management settings, will assist (with triggers alerts and other means) in determining and supporting the appropriate data collection, import, export, extraction, linkages and transformation. As an example, a pediatrician is presented with diagnostic and procedure codes specific to pediatrics. Business rules enable automatic collection of necessary data from the patient's health record and patient registry. As the provider enters data, workflow processes are triggered to populate appropriate transactions and documents. For example, data entry might populate an eligibility verification transaction or query the immunization registry.	DC.3.1.1 IN.4.2 IN.4.3 IN.7	1. The system **SHALL** provide workflow support for data collection appropriate for care setting.	108
					2. The system **SHOULD** provide the ability to create and modify data entry workflows.	109
					3. The system **SHOULD** provide the ability to extract appropriate information from the patient record as necessary to document the patient encounter.	110
					4. The system **SHOULD** provide a reduced set of diagnostic and procedure codes appropriate for the care setting.	111
					5. The system **MAY** initiate secondary reporting workflows as a result of information entered into the encounter.	112
S.3.1.3	**F**	Automatic Generation of Administrative and Financial Data from Clinical Record	**Statement:** Provide patients clinical data to support administrative and financial reporting. **Description:** A user can generate a bill based on health record data. Maximizing the extent to which administrative and financial data can be derived or developed from clinical data will lessen provider	S.3.2.2 IN.4.1 IN.4.2 IN.4.3	1. The system **SHOULD** provide the ability to define the data required for each external administrative and financial system.	113

ID#	Type	Name	Statement/Description	See Also	Conformance Criteria	Row #
			reporting burdens and the time it takes to complete administrative and financial processes such as claim reimbursement. This may be implemented by mapping of clinical terminologies in use to administrative and financial terminologies.		2. The system **SHOULD** export appropriate data to administrative and financial systems.	114
S.3.1.4	**F**	Support Remote Healthcare Services	**Statement:** Support remote health care services such as tele-health and remote device monitoring by integrating records and data collected by these means into the patient's record for care management, billing and public health reporting purposes. **Description:** Enables remote treatment of patients using monitoring devices, and two way communications between provider and patient or provider and provider. Promotes patient empowerment, self-determination and ability to maintain health status in the community. Promotes personal health, wellness and preventive care. For example, a diabetic pregnant Mom can self-monitor her condition from her home and use web TV to report to her provider. The same TV-internet connectivity allows her to get dietary and other health promoting information to assist her with managing her high-risk pregnancy.	DC.1.1 DC.1.3.3 DC.1.7.2.1 DC.1.7.2.2 DC.1.7.3 DC.3.2.1 DC.3.2.3 DC.3.2.5 IN.1.4 IN.1.6 IN.1.7 IN.2.2 IN.2.3 IN.2.5.1 IN.2.5.2	1. The system **SHOULD** provide the ability to capture patient data from remote devices and integrate that data into the patient's record.	115
					2. The system **SHOULD** provide authorized users two-way communication between local practitioner and remote patient, or local practitioner to remote practitioner.	116
S.3.1.5	**F**	Other Encounter and Episode of Care Support	**Statement:** Where not covered above, provide the means to manage and organize the documentation of the health care needed and delivered during an encounter/episode of care. **Description:** Using data standards and technologies that support interoperability, encounter management promotes patient- centered/oriented care and enables real time, immediate point of service, point of care by facilitating efficient work flow and operations performance to ensure the integrity of: (1) the health record, (2) public health, financial and administrative reporting, and (3) the healthcare delivery process.	DC.3.1 DC.3.2 IN.2.3	1. The system **SHALL** provide the ability to organize patient data by encounter.	117
					2. The system **SHOULD** accept and append patient encounter data from external systems, such as diagnostic tests and reports.	118

ID#	Type	Name	Statement/Description	See Also	Conformance Criteria	Row #
			This support is necessary for direct care functionality that relies on providing user interaction and workflows, which are configured according to clinical protocols and business rules based on encounter specific values such as care setting, encounter type (inpatient, outpatient, home health, etc.), provider type, patient's record, health status, demographics, and the initial purpose of the encounter.		3. The system **SHALL** provide the ability to create encounter documentation by one or more of the following means: direct keyboard entry of text; structured data entry utilizing templates, forms, pick lists or macro substitution; dictation with subsequent transcription of voice to text, either manually or via voice recognition system.	119
					4. The system **SHOULD** provide the ability to define presentation filters that are specific to the types of encounter. These specifics may include care provider specialty, location of encounter, date of encounter, associated diagnosis.	120
S.3.2	**H**	Information Access for Supplemental Use	**Statement:** Support extraction, transformation and linkage of information from structured data and unstructured text in the patient's health record for care management, financial, administrative, and public health purposes. **Description:** Using data standards and technologies that support interoperability, information access functionalities serve primary and secondary record use and reporting with continuous record availability and access that ensure the integrity of (1) the health record, (2) public health, financial and administrative reporting, and (3) the healthcare delivery process.			121
S.3.2.1	**F**	Rules-Driven Clinical Coding Assistance	**Statement:** Make available all pertinent patient information needed to support coding of diagnoses, procedures and outcomes. **Description:** The user is assisted in coding information for clinical reporting reasons. For example, a professional coder may have to code the principal diagnosis in the current, applicable ICD as a basis for hospital funding. All diagnoses and procedures during the episode may be presented to the coder, as well as the applicable ICD hierarchy containing these codes.	IN.4.1 IN.4.2 IN.4.3 IN.6 IN.7	1. The system **SHALL** provide the ability to access pertinent patient information needed to support coding of diagnosis, procedures and outcomes.	122
					2. The system **MAY** assist with the coding of diagnoses, procedures and outcomes based on provider specialty, care setting and other information that may be entered into the system during the encounter.	123
S.3.2.2	**F**	Rules-Driven Financial and Administrative	**Statement:** Provide financial and administrative coding assistance based on the structured data and unstructured text available in the encounter	S.3.1.3	1. The system **SHALL** maintain financial and administrative codes.	124

ID#	Type	Name	Statement/Description	See Also	Conformance Criteria	Row #
		Coding Assistance	documentation. **Description:** The user is assisted in coding information for billing or administrative reasons. For example, in the US Domain, the HIPAA 837 Professional claim requires the date of the last menstrual cycle for claims involving pregnancy. To support the generation of this transaction, the provider would need to be prompted to enter this date when the patient is first determined to be pregnant, then making this information available for the billing process.	IN.2.5.1 IN.2.5.2 IN.4.1 IN.4.3 IN.6 IN.7	2. The system **SHOULD** provide the ability to retrieve data from the electronic health record as required to simplify the coding of financial and administrative documentation.	125
					3. The system **MAY** support rules driven prompts to facilitate the collection of data in the clinical workflow that is required for administrative and financial coding.	126
					4. The system **MAY** assist with the coding of required administrative and financial documents based on provider specialty, care setting and other information that may be entered into the system during the encounter.	127
					5. The system **MAY** internally generate administrative and financial coding such as place of service, type of facility, tax rates, etc.	128
S.3.2.3	**F**	Integrate Cost/Financial Information	**Statement:** Support interactions with other systems, applications, and modules to enable the use of cost management information required to guide users and workflows. **Description:** The provider is alerted or presented with the most cost-effective services, referrals, devices and etc., to recommend to the patient. This may be tailored to the patient's health insurance/plan coverage rules. Medications may be presented in order of cost, or the cost of specific interventions may be presented at the time of ordering.	DC.1.7.1 DC.1.7.2.4 IN.4.3 IN.6	1. The system **MAY** provide the ability to retrieve formularies, preferred providers, and other information, from internal or external sources, that are associated with a patient's health care plan and coverage so that the provider can offer cost effective alternatives to patients.	129
					2. The system **MAY** provide the ability to retrieve or request information about exemptions on coverage limitations and guidelines.	130
					3. The system **MAY** provide the ability to retrieve and provide expected patient out-of- pocket cost information for medications, diagnostic testing, and procedures, from internal or external sources, that are associated with a patients health care plan and coverage.	131
					4. The system **MAY** alert the provider of care where formularies, preferred provider and other information indicate the health plan requires an alternative.	132
					5. The system **SHOULD** conform to S.3.3.3 (Service Authorizations) to integrate support of prior authorization processes.	133
S.3.3	**H**	Administrative Transaction Processing	**Statement:** Support the creation (including using external data sources, if necessary), electronic interchange, and processing of transactions listed below that may be necessary for encounter management during an episode of care. **Description:** Support the creation (including using			134

ID#	Type	Name	Statement/Description	See Also	Conformance Criteria	Row #
			external data sources, if necessary), electronic interchange, and processing of transactions listed below that may be necessary for encounter management during an episode of care. • The EHR system shall capture the patient health-related information needed for administrative and financial purposes including reimbursement. • Captures the episode and encounter information to pass to administrative or financial processes (e.g. triggers transmissions of charge transactions as by-product of on-line interaction including order entry, order statusing, result entry, documentation entry, medication administration charting). • Automatically retrieves information needed to verify coverage and medical necessity. • As a byproduct of care delivery and documentation: captures and presents all patient information needed to support coding. Ideally performs coding based on documentation. • Clinically automated revenue cycle - examples of reduced denials and error rates in claims. • Clinical information needed for billing is available on the date of service. • Physician and clinical teams do not perform additional data entry / tasks exclusively to support administrative or financial processes.			
S.3.3.1	**F**	Enrollment of Patients	**Statement:** Support interactions with other systems, applications, and modules to facilitate enrollment of uninsured patients into subsidized and unsubsidized health plans, and enrollment of patients who are eligible on the basis of health and/or financial status in social service and other programs, including clinical trials. **Description:** Expedites determination of health insurance coverage, thereby increasing patient access to care. The provider may be alerted that uninsured patients may be eligible for subsidized health insurance or other health programs because they meet eligibility criteria based on demographics and/or health status. For example: a provider is	DC.2.2.3 IN.1.6 IN.1.7	1. The system **SHOULD** provide the ability to retrieve subsidized and unsubsidized health plan options from internal or external sources to allow for presentation of alternatives for health care coverage to patients.	135

ID#	Type	Name	Statement/Description	See Also	Conformance Criteria	Row #
			notified that the uninsured parents of a child enrolled in S-CHIP may now be eligible for a new subsidized health insurance program; a provider of a pregnant patient who has recently immigrated is presented with information about eligibility for subsidy. Links may be provided to online enrollment forms. When enrollment is determined, the health coverage information needed for processing administrative and financial documentation, reports or transactions is captured.		2. The system **MAY** provide the ability to retrieve health plan enrollment criteria to match patients health and financial status.	136
S.3.3.2	**F**	Eligibility Verification and Determination of Coverage	**Statement:** Support interactions with other systems, applications, and modules to enable eligibility verification for health insurance and special programs, including verification of benefits and pre-determination of coverage. **Description:** Retrieves information needed to support verification of coverage at the appropriate juncture in the encounter workflow. Improves patient access to covered care and reduces claim denials. When eligibility is verified, the system would capture eligibility information needed for processing administrative and financial documentation, reports or transactions - updating or flagging any inconsistent data. In addition to health insurance eligibility, this function would support verification of registration in programs and registries, such as chronic care case management and immunization registries. A system would likely verify health insurance eligibility prior to the encounter, but would verify registration in case management or immunization registries during the encounter.	IN.2.3 IN.5.1 IN.5.3 IN.5.4	1. The system **SHOULD** provide the ability to input patient health plan eligibility information for date(s) of service.	137
					2. The system **MAY** provide authorized users the ability to input patient health plan coverage dates.	138
					3. The system **MAY** provide the ability to input general benefit coverage information for patients.	139
					4. The system **SHOULD** provide for the retention of eligibility date(s) of service, coverage dates, general benefits and other benefit coverage documentation for service rendered.	140
					5. The system **MAY** provide the ability to transfer electronic eligibility information from internal and external systems.	141
					6. The system **MAY** provide the ability to access information received through electronic prescription eligibility checking.	142
					7. The system **MAY** provide authorized users the ability to collect and retain patient registration in special programs such as but not limited to: registries and case management.	143
					8. The system **MAY** provide the ability to check for inconsistencies in the information recorded.	144

ID#	Type	Name	Statement/Description	See Also	Conformance Criteria	Row #
S.3.3.3	**F**	Service Authorizations	**Statement:** Support interactions with other systems, applications, and modules to enable the creation of requests, responses and appeals related to service authorization, including prior authorizations, referrals, and pre-certification. **Description:** Retrieves information needed to support verification of medical necessity and prior authorization of services at the appropriate juncture in the encounter workflow. Improves timeliness of patient care and reduces claim denials.	DC.1.1.3.1 IN.5.4	1. The system **SHOULD** provide the ability to input service authorizations relevant to the service provided including the source, dates, and service(s) authorized.	145
					2. The system **SHOULD** provide the ability to input referrals relevant to the service provided including the source, date and service(s) referred.	146
					3. The system **MAY** provide the ability to transfer and/or collect electronic, computer readable data on service authorization information, including specific data if mandated by local authority.	147
					4. The system **MAY** provide the ability to transfer and/or collect electronic, computer readable data on service referral information, including specific data if mandated by local authority.	148
S.3.3.4	**F**	Support of Service Requests and Claims	**Statement:** Support interactions with other systems, applications, and modules to support the creation of health care attachments for submitting additional clinical information in support of service requests and claims. **Description:** Retrieves structured and unstructured data, including but not limited to lab data, imaging data, device monitoring data, and text based data, based on rules or requests for additional clinical information, in support of service requests or claims, at the appropriate juncture in the encounter workflow.	IN.2.5.1 IN.2.5.2	1. The system **SHALL** provide the ability to view available, applicable clinical information to support service requests.	149
					2. The system **SHALL** provide the ability to view available, applicable clinical information to support claims.	150
					3. The system **MAY** provide available, applicable clinical information to support service requests in computer readable formats.	151
					4. The system **MAY** provide available, applicable clinical information to support claims in computer readable formats.	152
S.3.3.5	**F**	Claims and Encounter Reports for Reimbursement	**Statement:** Support interactions with other systems, applications, and modules to enable the creation of claims and encounter reports for reimbursement. **Description:** Retrieves information needed to support claims and encounter reporting. This reporting occurs at the appropriate juncture in the encounter workflow in a manual or automated fashion. For example this could occur at an initial, interim or final billing. The system may also present the information that is provided for audit and review by local authorities.	IN.2.5.1 IN.2.5.2	1. The system **SHALL** provide the ability to view available, applicable information needed to enable the creation of claims and encounter reports for reimbursement.	153
					2. The system **SHALL** provide the ability to capture and present available, applicable data as required by local authority for audit and review.	154
					3. The system **MAY** provide available, applicable data in a computer readable form when needed to enable the creation of claims and encounter reports for reimbursement.	155

ID#	Type	Name	Statement/Description	See Also	Conformance Criteria	Row #
S.3.3.6	**F**	Health Service Reports at the Conclusion of an Episode of Care.	**Statement:** Support the creation of health service reports at the conclusion of an episode of care. Support the creation of health service reports to authorized health entities, for example public health, such as notifiable condition reports, immunization, cancer registry and discharge data that a provider may be required to generate at the conclusion of an episode of care. **Description:** Effective use of this function means that providers do not perform additional data entry to support health management programs and reporting.	S.2.2 IN.7	1. The system **MAY** prompt providers for data needed for end of care reporting during the continuum of care to reduce the need for end of care data collection.	156
					2. The system **SHOULD** create service reports at the completion of an episode of care such as but not limited to; discharge summaries, public health reports, etc. using data collected during the encounter.	157
S.3.4	**F**	Manage Practitioner/Patient Relationships	**Statement:** Identify relationships among providers treating a single patient, and provide the ability to manage patient lists assigned to a particular provider. **Description:** This function addresses the ability to access and update current information about the relationships between caregivers and the patients. This information should be able to flow seamlessly between the different components of the system, and between the EHR system and other systems. Business rules may be reflected in the presentation of, and the access to this information. The relationship among providers treating a single patient will include any necessary chain of authority/responsibility. Example: In a care setting with multiple providers, where the patient can only see certain kinds of providers (or an individual provider); allow the selection of only the appropriate providers. Example: The user is presented with a list of people assigned to a given practitioner and may alter the assignment as required - to a group, to another individual or by sharing the assignment.	DC.2.6.3 S.1.3.4 S.2.2 IN.2.4	1. The system **SHALL** provide the ability to identify all providers by name associated with a specific patient encounter.	158
					2. The system **SHALL** provide the ability to specify the role of each provider associated with a patient such as encounter provider, primary care provider, attending, resident, or consultant.	159
					3. The system **SHALL** provide the ability to identify all providers who have been associated with any encounter for a specific patient.	160
					4. The system **SHOULD** provide authorized users the ability to add and update information on the relationship of provider to patient.	161
					5. The system **MAY** provide the ability to view patient lists by provider.	162
					6. The system **SHALL** provide the ability to specify primary or principal provider(s) responsible for the care of a patient within a care setting.	163

ID#	Type	Name	Statement/Description	See Also	Conformance Criteria	Row #
S.3.5	**H**	Subject to Subject Relationship	**Statement:** Document relationships between patients and others to facilitate appropriate access to their health record on this basis if appropriate. **Description:** A user may assign the relationships between patients and others to facilitate access to their health record. Some example may include parent, relatives, a legal guardian, health care surrogate or payer.	S.1.4.1 IN.1.3 IN.1.5 IN.2.2		164
S.3.5.1	**F**	Related by Genealogy	**Statement:** Provide information on relationships by genealogy. **Description:** Relationships by genealogy may include genetic mother, next of kin, or family members. Appropriate consents must be acquired prior to the collection of use of this information.	DC.1.1.3.1 DC.1.3.3	1. The system **SHALL** provide the ability to collect and maintain genealogical relationships.	165
					2. The system **SHALL** provide the ability to identify persons related by genealogy.	166
					3. The system **SHOULD** provide the ability to collect and maintain patient consents required to allow patient records to be viewed for the purposes of a genealogical family member's family medical history.	167
S.3.5.2	**F**	Related by Insurance	**Statement:** Support interactions with other systems, applications, and modules to provide information on relationships by insurance (domestic partner, spouse, and guarantor).		1. The system **MAY** provide the ability to identify persons related by insurance plan.	168
S.3.5.3	**F**	Related by Living Situation	**Statement:** Provide information on relationships by living situation (in same household).		1. The system **MAY** provide the ability to identify patients related by living situation.	169
S.3.5.4	**F**	Related by Other Means	**Statement:** Provide information on relationships by other means. **Description:** Other relationships that may need to be recorded would include but not be limited to surrogate mother, guardian, a person authorized to see health records, health care surrogate, and persons who may be related by epidemiologic exposure.		1. The system **MAY** provide the ability to identify patients related by employer and work location for purposes of epidemiological exposure and public health analysis and reporting.	170
					2. The system **SHOULD** provide the ability to identify persons with Power of Attorney for Health Care or other persons with the authority to make medical decisions on behalf of the patient.	171
S.3.6	**F**	Acuity and Severity	**Statement:** Provide the data necessary to support and manage patient acuity/severity for illness/risk-based adjustment of resource.	S.2.1.2	1. The system **SHOULD** provide the ability to collect appropriate existing data to support the patient acuity/severity processes for illness/risk-based adjustment of resources.	172

ID#	Type	Name	Statement/Description	See Also	Conformance Criteria	Row #
			Description: Research has been done on nurse staffing and patient outcomes; the impact of organizational characteristics on nurse staffing patterns, patient outcomes, and costs; and the impact of nurses' experience on patient outcomes. The research indicates that nurse staffing has a definite and measurable impact on patient outcomes, medical errors, length of stay, nurse turnover, and patient mortality. Acuity data helps determine what is, indeed, appropriate staffing – as modified by the nurses' level of experience, the organization's characteristics, and the quality of clinical interaction between and among physicians, nurses, and administrators. Also, acuity and severity data is routinely the evidential basis most frequently cited by staff when recommending clinical staffing changes.		2. The system **MAY** provide the ability to export appropriate data to support the patient acuity/severity processes for illness/risk-based adjustment of resources.	173
					3. The system **MAY** prompt the user to provide key data needed to support acuity/severity processes.	174
S.3.7	**H**	Supportive Function Maintenance	**Statement:** Update EHR supportive content using a manual or automated process.			175
S.3.7.1	**F**	Clinical Decision Support System Guidelines Updates	**Statement:** Facilitate and/or perform updates of clinical decision support system guidelines and associated reference material. **Description:** Clinical decision support rules may be applied to the system using a manual process. As standards are developed to represent these rules, an automated update will be recommended. Any process to update decision support rules should include the verification of the appropriateness of the rules to the system. This may include but not be limited to authenticity of the source, the currency of the version, and any necessary approvals before updates can take place.	DC.2.6.3 DC.2.7.1 IN.2.2 IN.4.1 IN.4.3 IN.5.1 IN.5.3 IN.5.4 IN.6	1. The system **SHALL** provide the ability to update the clinical content or rules utilized to generate clinical decision support reminders and alerts.	176
					2. The system **SHOULD** validate that the most applicable version is utilized for the update, and capture the date of update.	177
					3. The system **MAY** track and retain the version used when guidelines are provided in a patient encounter.	178
S.3.7.2	**F**	Patient Education Material Updates	**Statement:** Receive and validate formatted inbound communications to facilitate and/or perform updating of patient education material. **Description:** Materials may include information about a diagnosis, recommended diets, associated patient health organizations, or web links to similar educational information. These materials may be provided electronically and may require validation	DC.3.2.4	1. The system **MAY** provide the ability to capture and update material that may be printed and provided to the patient at the point of care.	179
					2. The system **MAY** provide the ability to validate the material prior to update.	180

ID#	Type	Name	Statement/Description	See Also	Conformance Criteria	Row #
			prior to inclusion in the system.			
S.3.7.3	**F**	Patient Reminder Information Updates	**Statement:** Receive and validate formatted inbound communications to facilitate updating of patient reminder information from external sources such as Cancer or Immunization Registries. **Description:** Information from outside groups, such as immunization groups, public health organizations, etc. may periodically send updates to patient care providers. The system should be capable of generating patient reminders based on the recommendations of these organizations. Patient reminders could be provided to patients by a number of means including phone calls, or mail. A record of such reminders may become part of a patient's record. Examples of reminders could include a recommended immunization, prophylactic guidelines for MVP, patient self-testing for disease, etc.	DC.2.2.4 DC.2.3.2 DC.2.5.1 DC.2.5.2 DC.3.2.3 S.1.4.1 IN.2.2 IN.5.2 IN.6	1. The system **MAY** provide the ability to add patient reminders for patients based on the recommendations of public health authorities or disease specific associations.	181
					2. The system **MAY** provide the ability to automatically associate patient reminders with patients meeting specific phenotypic criteria such as age, gender, diagnosis, etc.	182
					3. The system **MAY** provide the ability to display patient reminders, manually process, and record associated telephone contacts.	183
					4. The system **MAY** provide the ability to automatically generate patient reminders for mailing to patients.	184
S.3.7.4	**F**	Public Health Related Updates	**Statement:** Receive and validate formatted inbound communications to facilitate updating of public health reporting guidelines. **Description:** Information and reporting requirements from outside groups, such as public health organizations, may be made available to patient care providers. Examples may include requirements to report on new disease types, or changes to reporting guidelines. The information in these public health updates may be applied to the system so that appropriate data can be collected and reported to comply with requirements.	IN.4.3 IN.5.2	1. The system **MAY** provide the ability to capture and update public health reporting guidelines.	185
					2. The system **MAY** provide the ability to validate the material prior to update.	186