

HL7 EHR Work Group & HL7 Personal Health Record Work Group

Payer-Linked Personal Health Record System (PHR-S) Functional Profile: DRAFT

Exhibit to the PHR-S Functional Model DSTU
July 2008

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Preface

i. Notes to Readers

This work-in-process draft of the Payer-linked Functional Profile is based on the HL7 PHR-S Functional Model DSTU. The profile in this release is a profile in progress. The purpose of providing the profile in this stage is to provide the reader with an example of taking a Functional Model and transforming the applicable function and criteria into a model that meets the needs of a specific industry segment. Further work will be done on the model over the course of the next few months as the payer community reviews and provides input into refining and strengthening the model. The model may be balloted at the Informative level in 2009.

ii. Acknowledgements

The HL7 EHR Work Group and the HL7 PHR Payer Profile Workgroup are indebted to the following workgroup facilitators and members for their contributions towards the Payer PHR domain and the materials presented in this profile.

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Payer-linked Profile: Introduction

The Payer-Linked Profile is a new project of the HL7 Electronic Health Records Work Group. It conforms to the HL7 Personal Health Record-Systems Functional Model (PHR-S FM), and it is aimed at developing an HL7 Informational Functional Profile for personal health record (PHR) systems that are used between payers and their members.

This first iteration provides the essential general functions and specific conformance criteria that are important to include in any Payer-Linked system through which a member might access, store and communicate their health care information. This profile is directed at and specific to the United States realm---it is not intended as an international profile as the healthcare delivery systems. The intent is to assist all members in having access to their own health information enabling better personal awareness and management of care. It is also a model for vendors/developers to have guidance to provide a record that supports the safe and effective use of information technology. Specifically, the Payer-Linked Profile describes additional PHR-S functionality that is necessary to allow a payer or insurance provider a model to follow in providing information for their membership. This model is not a ceiling – but a floor or basis on which a payer might develop and deliver information. The model is meant to support all types of health benefits plans including:

- Medical
- Dental
- Vision
- Pharmacy

The Payer-Linked Profile supports healthcare provider selection and management, transparency of provider and facility experience, public health, clinical trials, medications, histories, and all avenues of patient care. It is also a model that supports the addition of information by the member.

The profile is not intended to support a standalone PHR. Rather, this model would be associated with web-based PHR system that is sponsored by the payer on behalf of their members, but not focused on specific payer approach or application software. Other models will be developed that describe Payer linked profiles where the health plan and healthcare provider are part of the same organization.

1 Background (Reference)

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.

PRELIMINARY DRAFT

The HL7 Personal Health Record Work Group was founded in 2006 primarily to inform HL7 and other healthcare standards development organizations of the unique requirements and workflows for personal health records.. Participation was sought from the international community as well as the vendor community through the press, HL7 announcements and personal invitations.

A Payer-Linked FP workgroup convened in March 2008, and currently has payer representation from medical and dental plans, as well as vendors and associations. Everyone's contributions and concerns were addressed, and everyone's input was welcome. Membership in HL7 was not a prerequisite for participation.

2 Methods, Description and Project Plan (Reference)

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 PHR-S FM.^[3]

Organization Phase	<ul style="list-style-type: none"> ▪ Recruit volunteers ▪ Form workgroup ▪ Define project scope ▪ Develop project plan ▪ Educate volunteers on project and assignments 	March-April 2008
Formalization Phase	<ul style="list-style-type: none"> ▪ Refine previously identified child healthcare functions and conformance criteria ▪ Identify new child healthcare functions and conformance criteria 	April 2008
Harmonization Phase	<ul style="list-style-type: none"> ▪ Compare with, incorporate into, and align with the PHR-S FM <ul style="list-style-type: none"> ○ Define functional priorities and timeframes for functions ○ Accept or reject other functions from PHR-S FM ○ Incorporate unique functions through sibling child relationships with PHR-S FM functions ○ Incorporate and modify conformance criteria ▪ Consolidate feedback ▪ Workgroup review and voting 	April-July 2008
Finalization Phase	<ul style="list-style-type: none"> ▪ Edit document (detail, wording, language, and conformance) ▪ Submit to EHR-TC for verification and registration 	June-October 2008
Preparation for Ballot	<ul style="list-style-type: none"> ▪ Consider option to work with EHR-TC to prepare for HL7 ballot 	October 2008-Jan 2009

3 Organization of this Document (Reference)

The profile is divided into three sections: *Direct Care, Information Infrastructure and Supportive Functions*. Each section defines a broad category of functions applicable to a PHR system used by payers. Because of this organization, many traditional concepts and tasks typical of traditional PHR systems can be found interspersed throughout the document, depending upon whether aspects constitute administrative functions, personal health functions such as medication and immunization lists, clinical surveys or health related education. .

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 PHR 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 PHR 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.

4 Functional Priorities (Normative)

For each function, the payer-linked PHR-S profile group assigned a priority rating with consideration of whether the function was essential across most types of personal health records or only a few, and whether the function was feasible to provide now or only after some future condition was met (e.g. time for development, passage of other supporting standards). The group rated the functions according to the four priority categories listed below:

- **Essential Now (EN)** – PHR functions considered relevant and essential for most types of Payer-linked PHR-Ss and feasible to offer now. Functions with this rating must be present in a Payer-Linked PHR-S for it to be considered in conformance with the profile.
- **Essential Future (EF)** – PHR functions considered relevant for most behavioral health settings but not feasible to offer until certain specified conditions are met. Typically, the future conditions are described in units of years from the time this profile is released. In other instances, the future conditions are described in terms of events such as the adoption of an ANSI standard dealing with a specific issue.
- **Essential Future – Standard (EF-S)**—This is a new category developed by the working group.
This function will become effective (Essential Now) 18 months after formal recognition of the applicable standard determined to support the function has been published and available, in one of the following venues:
 - a. HHS recognizes the applicable standard as part of a foundation.
Examples may the adoption of an X12 enveloping standard for the transfer of data. Adoption of a standard in this case would be based on

HITSP adoption rather than adopting any Standards Setting Organization standard.

- b. HL7 publishes a standard that addresses one of the functional areas of the PHR Profile e.g. Advance Directives as a structured Document. These standards may progress in sophistication over time e.g. moving from non-structured to structured data. New phases of adoption would have to be outlined as the standard progresses.

Timing: Once the standard is announced, no matter how mature, the PHR Payer Profile group would review the standard and determine the reality of adoption. For those standards deemed adoptable as written at the time, the function would become Essential Now with an implementation timeframe of 18 months.

If a standard is not deemed adoptable e.g. not mature enough to support the function need, the function will be moved from EF Standard to Essential Future with notation of the standard that would be utilized to support the function and conformance criteria.

- **Optional (O)** – PHR functions considered relevant and possibly essential for some but not most types of Payer-Linked PHR-Ss. Functions with this rating may or may not be present in the Payer-Linked PHR-S but are not essential for the system to be considered as in conformance with the profile.

5 Conformance Clause (Normative)

This profile is based on the HL7 EHR-TC approved standard: Personal 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, a PHR system used to care for children may claim conformance to this profile if it meets all the requirements outlined in the profile.

5.1 Conformance Criteria

Conformance Clause

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 (i.e. “the system SHALL capture, display and report all immunizations associated with a patient”). 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.

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- **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.”

5.2 Conformance of PHR Systems

To claim conformance with the Payer-Linked -FP, a PHR system (or systems) employed for the use by payers for members **SHALL** satisfy the conformance criteria designated as **SHALL**.

5.3 Conformance of Derived Profiles

In order for a derived profile to claim conformance with the Payer-Linked-FP, the profile **SHALL** include all of the Child Health-FP functions. The workgroup solicits feedback regarding functions encountered in the development of a derived profile not encountered in the Child Health-FP.

5.4 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				Render	
Input (External)	Create (Internal)	Store	Update	Restrict Access	Remove Access	Read (Internal)	Output (External)
Receive Accept Download Import	Enter Compute Record	Save Backup Compact Encrypt Archive	Edit Correct Amend Augment Annotate Comment Associate Tag	Hide Mask Filter	Obsolete Inactivate Destroy Nullify Purge	View Report Display Access Present	Send Upload Export Synchronize

NOTE: In the final version (not this draft), the payer additions and edits to the PHR-S FM, DSTU version 1.0 will be indicated in red in the function chapters.

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. 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/>).

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PRELIMINARY DRAFT

Chapter Three: Personal Health Functions

ID#	Type	Name	Statement/Description	PRIORITY	See Also in PHR-S FM	Conformance Criteria	Row #
	H	Personal Health (PH)	<p>Statement: Manage information and functions related to self care and provider based care over time.</p> <p>Description: The personal health record may take many forms including a personally maintained paper record or follow a number of different profiles. The functions that follow are a superset of functionality for electronic profiles with certain functions that SHALL be present in all implementations. The functions provide for both personal observations and health management as well as by the account holder's healthcare providers. The PHR should present a view to the account holder that is tailored to their level of health literacy and language ability. Many realms already support an Account Holder's ability to withhold health information from providers and other persons at the Account Holder's discretion. Personal Health functions accommodate those realms by providing the Account Holder the ability to withhold such information, but with clear indications in the record that some information has been withheld (according to each realm's respective jurisdictional laws, rules, or regulations).</p> <p>Examples: Produce a summary record of care and present ad hoc views of the health record such as the same unambiguous list of medications that is referenced by all providers, pharmacists, and the account holder him/her self.</p>		PH 2.5.10	1. The system SHALL explicitly capture and record the source of all data in the PHR-S.	1
						2. The system SHALL only allow the PHR account holder to directly modify self-reported data	2
						3. The system SHALL provide the ability for the account holder to remove access or restrict access to data.	3
						4. IF the account holder removes access or restricts access to any information in the record that was not self-reported, THEN the system SHOULD have the ability to display one or more flags or other indication(s) that information has been withheld by the account holder, to any stakeholder with whom information is shared.	4

ID#	Type	Name	Statement/Description	PRIORITY	See Also in PHR-S FM	Conformance Criteria	Row #
PH.1	H	Account Holder Profile	<p>Statement: Manage account holder demographics, preferences, advanced directives, consent documents and authorizations.</p> <p>Description: The person that is the subject of the personal health record is referred to as the account holder. The account holder may also be represented by the parent/guardian, or a designated representative (proxy) assigned by the account holder or otherwise authorized entity. The PHR includes relevant demographic information and other administrative statements necessary to provide care such as advanced directives or consents for care.</p> <p>Examples: Display and maintain demographics or preferences such as the account holder's preferred first name or religious preferences.</p>				5
PH.1.1	F	Identify and Maintain a Patient Record	<p>Statement: Unambiguously identify the account holder; correctly link the information with the account holder and vice-versa.</p> <p>Description: The Account Holder must be confident that the system can reliably and uniquely identify them and provide access to their health record. Nothing precludes the Account Holder from having more than one PHR such as a tethered PHR with their primary care provider (PCP) and a separate self maintained PHR. The following functions apply to a single PHR system (PHR-S).</p> <p>Example: "The system SHALL provide the ability to uniquely</p>	(EN)		1. The system MAY provide a user guide to assist the account holder in installing, initializing, registering, or operating their PHR.	6
						2. The system SHALL provide the ability to store more than one unique identifier for each account holder's record.	7
						3. The system SHOULD provide the ability to capture, store and utilize the account holder's unique identifiers from multiple external sources	8

ID#	Type	Name	Statement/Description	PRIORITY	See Also in PHR-S FM	Conformance Criteria	Row #
			identify an Account Holder and tie the record to an Account Holder."			4. The system SHALL associate key identifier information (e.g., medical record number, insurance account number, and voluntary unique identifiers) with each account holder.	9
					IN.3.1	5. The system SHALL provide the ability to uniquely identify an account holder and tie the record to an account holder.	10
						6. The system SHALL provide the ability, through a controlled method, to merge or link dispersed information for an individual account holder upon recognizing the identity of the account holder – as applied to the PHR-S, not external systems.	11
					IN.1.1	7. IF health information has been mistakenly associated with an account holder, THEN the system SHALL provide the ability to annotate the information as erroneous in the record of the account holder in which it was mistakenly associated and represent that information as erroneous.	12

ID#	Type	Name	Statement/Description	PRIORITY	See Also in PHR-S FM	Conformance Criteria	Row #
					IN.3.10 IN.1.12	8. IF health information has been mistakenly associated with an account holder THEN the system SHALL provide the ability to communicate the error to the source, if and where known. 9. IF health information has been mistakenly associated with an account holder THEN the system SHOULD provide the ability to communicate the error to affected parties, if and where known.	13
					See also	10. The system SHALL provide the ability to obsolete, inactivate, nullify, destroy and/or archive an account holder's record in accordance with terms and conditions, organizational policy, or jurisdictional law.	14
PH.1.2	F	Manage Account Holder Demographics	<p>Statement: Enable the PHR account holder to manage information about demographics.</p> <p>Description: The system should maintain the current demographic data set that unambiguously defines who the account holder is including personal attributes, contact information including emergency contact, next-of-kin information and insurance information sufficient to meet the information needs required to provide health care services, and if applicable, facilitate family member re-unification and expedite next-of-kin notification. (Blood verses legal relationship)</p> <p>Examples: Maintain current contact information, emergency contact information/next-of-kin information,</p>	(EN)		1. The system SHALL capture demographic information as part of the account holder's record.	15
					IN 1.6	2. The system SHALL store and retrieve demographic information as discrete data.	16
						3. The system SHALL provide the ability to retrieve or accept demographic data from existing digital sources including a provider's EHR system or a health plan system as part of the account holder's record.	17

ID#	Type	Name	Statement/Description	PRIORITY	See Also in PHR-S FM	Conformance Criteria	Row #
			and registration information including physical addresses, telephone numbers, and email addresses.			4. The system SHOULD provide the ability to enter or update demographic data manually not synchronized with other source systems.	18
						5. The system SHALL provide the ability to report an account holder's demographic data.	19
						6. The system SHOULD store historical values of demographic data over time.	20
						7. The system SHALL display identifying information with any presentation of account holder data unless it is intended to be de-identified.	21
						8. IF related account holders share any identical data, THEN the system SHOULD provide the ability to propagate that data to all their records.	22
						9. The system SHOULD provide the ability for the account holder to annotate demographic data with text comments.	23
						10. The system SHOULD provide the ability for the account holder to restrict access to demographic information.	24

ID#	Type	Name	Statement/Description	PRIORITY	See Also in PHR-S FM	Conformance Criteria	Row #
PH.1.3	F	Manage Account Holder and Family Preferences	<p>Statement: Enable the PHR account holder to add certain preferences that he or she want health care providers to know.</p> <p>Description: The account holder may hold certain religious or philosophical views that impact how they wish to be treated or even how they might respond to treatment choices. These should be captured and prominently displayed and available during the care process.</p> <p>Examples: Jehovah's Witness proscription of blood transfusion is a commonly encountered instance.</p>	(OPT)		1. The system SHALL provide the ability to capture, present, maintain and make available for healthcare decisions patient preferences such as language, religion, spiritual practices or culture.	25
						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.	26
						3. The system SHALL provide the ability to manage account holder and family preferences as they pertain to current treatment plans.	27
					PH 3.2 PH 3.3	4. The system MAY provide the ability to update care guidelines and options based on documented account holder and family preferences, including clinical guidelines and treatment options (e.g. treatment for individuals who refuse blood transfusions.)	28
						5. The system MAY provide the ability to compare care guidelines and options relating to documented account holder and family preferences, including clinical guidelines and treatment options.	29

ID#	Type	Name	Statement/Description	PRIORITY	See Also in PHR-S FM	Conformance Criteria	Row #
						6. The system MAY provide the ability to integrate preferences with appropriate health education materials. (e.g. dietary advice based on dietary preference).	30
						7. The system SHOULD provide the ability to integrate necessary documentation of account holder preferences, such as living wills, specific consents or releases, and other advanced directives.	31
PH.1.4	F	Manage Patient Advance Directives	<p>Statement: Enable the account holder to create or input advance directives for care under various circumstances.</p> <p>Description: The account holder along with their immediate family should periodically assess their health status and formally state in writing how they wish to be cared for in different circumstances. This is particularly useful when the end of life is predictably near to avoid inappropriate or undesired care.</p> <p>Examples: The system SHALL provide the ability to indicate that advance directives exist for the patient.</p>	(OPT)		1. The system SHALL provide the ability to indicate that advance directives or organ donation preferences exist for the patient.	32
						2. The system SHOULD provide the ability to indicate the type of advance directives completed for the account holder such as living will, durable power of attorney, preferred interventions for known conditions, organ donation, or the existence of a "Do Not Resuscitate order" or organ donation preferences in accordance with organizational policy, scope of practice, or jurisdictional law.	33

ID#	Type	Name	Statement/Description	PRIORITY	See Also in PHR-S FM	Conformance Criteria	Row #
						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 or organ donation preferences in accordance with organizational policy, scope of practice, or jurisdictional law.	34
						4. The system SHOULD provide the ability to index (i.e., identify the document type, the time and date document was created, and the document currently in effect) patient advance directives documents and “Do Not Resuscitate” orders or organ donation preferences in accordance with organizational policy, scope of practice, or jurisdictional law.	35
						5. The system SHOULD provide the ability to indicate when advanced directives or organ donation preferences were last reviewed by the account holder or their legal guardian or power of attorney.	36

ID#	Type	Name	Statement/Description	PRIORITY	See Also in PHR-S FM	Conformance Criteria	Row #
						6. The system SHOULD provide the ability to indicate the name and relationship of the party completing the advance directive or organ donation preferences for the patient.	37
						7. The system SHOULD time and date stamp when advance directives or organ donation preferences were stored in the system.	38
						8. The system SHOULD provide the ability to document the location and source of legal documentation regarding advance directives or organ donation preferences.	39
PH.1.5	F	Manage Consents and Authorizations	<p>Statement: Enable the PHR account holder to manage consent documents and authorizations</p> <p>Description: A variety of consent documents and authorizations are needed to provide healthcare services. Each institution such as an emergency room, each provider, or each health care service such as an operative procedure may require its own informed consent be captured, displayed, and verified before care can be provided. The consent documents may be externally sourced with copies made available for the account holder to capture and store. Some consent documents or authorizations may be authored by the account holder granting authorizations such as a parent granting ad hoc authorization for emergency care for a child.</p>	(EN)		1. The system SHALL provide the ability to indicate that a patient has granted, withheld, or withdrawn completed applicable consent documents and authorizations.	40
						2. The system SHALL provide the ability to indicate that a patient has granted, withheld or withdrawn applicable consent documents and authorizations.	41
						3. The system SHOULD provide the ability to view and complete consent and authorization forms on-line.	42

ID#	Type	Name	Statement/Description	PRIORITY	See Also in PHR-S FM	Conformance Criteria	Row #
			Examples: Maintain current authorizations in relation to specific health record functions. The system MAY display the authorizations associated with a specific clinical activity, such as treatment or surgery, along with that event in the account holder's PHR.			4. The system MAY provide the ability to generate printable consent and authorization forms	43
						5. The system MAY display electronic copies of authorization and/or consent documents associated with a specific clinical activity, such as treatment or surgery.	44
						6. The system MAY provide the ability to display electronic copies of authorization and/or consent documents chronologically	45
						7. The system SHOULD provide the ability to capture documentation related to an assent for account holder legally unable or not required to consent, subject to organizational policy and jurisdictional law	46
						8. The system SHOULD provide the ability to capture the source of each consent document, including the account holder, or the account holder's personal representative if the account holder is legally unable or not required to provide it.	47

ID#	Type	Name	Statement/Description	PRIORITY	See Also in PHR-S FM	Conformance Criteria	Row #
						9. The system SHOULD provide the ability to document the account holder's personal representative's authority to make decisions on behalf of the account holder.	48
PH 1.6	F	Manage PHR Account Status	<p>Statement: Enable a PHR Account Holder or sponsor to open or close a PHR Account, or to transfer PHR information from one PHR Account to another PHR Account.</p> <p>Description: A PHR Account Holder may possess one or more PHR accounts over a lifetime, and may have multiple PHR accounts open simultaneously. The PHR system, therefore, needs to provide the ability to open or close a PHR account on a PHR Account Holder's behalf, and to transfer PHR account data to other PHR systems.</p>	(EN)		1. The system SHALL provide the ability for the PHR Account Holder or sponsor to open an account.	49
						2. The system SHALL provide the ability for the PHR Account Holder or sponsor to close an account.	50
						3. The system SHALL transmit confirmation of the PHR Account Holder's account closure to the PHR Account Holder.	51
					IN.2.1	4. The system SHALL provide the ability to export the PHR Account Holder's account information in a standard format that would enable another PHR-S to be able to accept a PHR transfer..	52

ID#	Type	Name	Statement/Description	PRIORITY	See Also in PHR-S FM	Conformance Criteria	Row #
						5. The system SHALL have the capacity to transmit confirmation of the PHR Account Holder's account information export.. 6. The system SHOULD have the capacity to accept and transmit confirmation of the PHR Account Holder's account information transfer from the receiving PHR-S.	53
PH.2	H	Manage Historical Clinical Data and Current State Data	Statement: Historical health information as well as current health status should be captured and maintained in the health record. Description: To obtain historical information to populate the PHR, the account holder may use strategies that include: entering historical information directly or importing at least part of this data from outside electronic data sources. An outside service such as an employer, insurance plan, primary care physician or care delivery organization may sponsor a particular PHR and add data to the record from their data sources. The account holder may use similar strategies to populate their current state information.			1. The system SHALL explicitly label and manage the data in the PHR, including date and source.	54
						2. The system SHOULD provide the ability for the account holder or proxy to annotate any externally sourced data with text comments.	55
PH.2.1	F	Manage Patient Originated Data	Statement: Manage information sourced or input directly by the account holder. Description: PHR data including personal observations	(EN)	IN.1.5 IN.1.6	1. The system SHALL accept both structured and unstructured data as defined in IN 1.5 and IN 1.6	56

ID#	Type	Name	Statement/Description	PRIORITY	See Also in PHR-S FM	Conformance Criteria	Row #
			<p>and most specific data elements such as allergies or problems may be entered directly by the account holder. The source of all data is captured and in this case self entered data should be so labeled. These elements may possess more or less credibility when entered by the account holder. When appropriate, patient entered data should be structured and codified.</p> <p>Examples: When a problem in the problem list is entered by the account holder, it is labeled as such in order to distinguish this problem from others that resulted from a provider's clinical diagnosis.</p> <p>When a problem in the problem list is entered by the account holder, it is labeled as such in order to distinguish this problem from others that resulted from a provider's clinical diagnosis, or a payer's care plan.</p>			2. The system SHALL explicitly label the data as entered by the account holder, proxy, or other authorized user.	57
						3. The system SHOULD present account holder-originated data for use by care providers.	58
						4. The system MAY provide the ability to document that a provider has verified the accuracy of consumer-originated data and has included it as a record in the EHR-S.	59
					IN.1.5	5. The system MAY provide the ability for the account holder or proxy to annotate patient sourced data with text comments.	60
PH.2.2	F	Manage Data from External Administrative Sources	<p>Statement: Manage information from administrative data sources such as insurance plans and pharmacy benefit managers.</p> <p>Description: Each of the account holder's health insurance plans has the ability to extract health-related information or simulate selected clinical information from financial transactions to the extent that health insurance claims include relevant data. Similarly, selected medication records may be available from Pharmacy Benefits Management services.</p> <p>Examples: "The system SHOULD provide the ability to capture data from claims and other administrative data sources."</p>	(EN)		1. The system SHOULD provide the ability to capture data from claims and other administrative data sources.	61
					IN.1.1	2. The system MAY identify and hide duplicate data referencing the same clinical events from different sources.	62

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PH.2.3	F	Manage Data and Documentation from External Clinical Sources	<p>Statement: Enable the PHR account holder to capture and manage historical clinical information.</p> <p>Description: The system shall capture structured and unstructured documents and data from outside clinical sources, index, and store them. They may be indexed by contained structured attributes such as source or date or manually by the account holder or proxy by annotation with a standard or custom indexing tag.</p> <p>Example: Clinical information may include: lab results, radiographic images, EKG, or scanned documents that are captured, annotated and stored, as coded and structured documents or unstructured documents.</p>	(EF-Std)	IN.1.1 IN.1.5 IN.1.6 S.3.6	1. The system SHOULD provide the ability to capture externally sourced clinical documentation as structured content including the original, updates and addenda.	64
					S.3.9	2. IF information is received through any electronic interface or electronically referenced, THEN the system SHOULD provide the ability to display it upon request.	65
					S.3.6	3. The system SHOULD provide the ability to capture provider sourced original electronic documents including original, updates and addenda.	66
						4. The system SHOULD provide the ability to associate documentation and annotations with structured content, such as an office visit, phone communication, e-mail consult, lab result, problem, diagnosis, etc.	67
					S.3.9	5. The system SHALL present captured documentation.	68
						6. The system SHOULD provide the ability to filter, search or sort structured or unstructured documents.	69
						7. The system SHOULD provide documentation templates for data exchange.	70

ID#	Type	Name	Statement/Description	PRIORITY	See Also in PHR-S FM	Conformance Criteria	Row #
						8. The system SHOULD provide the ability for the account holder or proxy to annotate externally-sourced data with free-text comments.	71
					S.3.6	9. The system SHOULD accept both structured and unstructured data as defined in IN 1.5 and IN 1.6.	72
						10. The system SHOULD verify the authenticity of the transmission received from any external source.	73
						11. The system SHOULD acknowledge receipt of clinical data from external sources.	74
PH.2.4	F	Produce and Present Ad Hoc Views of the Personal Health Record	<p>Statement: Provide for standard and customizable views of the Personal Health Record.</p> <p>Description: The PHR system may offer a standard set of views of the account holder's data. One such view may be a summary screen or "dashboard" that allows the account holder to monitor their his or her healthcare progress. The system should also provide the ability for the account holder to assemble custom views to meet their needs such as adding a glucose monitoring module to their dashboard view.</p> <p>Examples: "The system MAY provide the ability to create customized views of summarized information based on sort and filter controls for custom or other parameters."</p>	(OPT)	IN 1.3	1. The system SHALL provide the ability for the source data owner to limit data that is transferred to the PHR according to organizational policy, scope of practice, and jurisdictional law.	75
						1. 1. The system MAY provide the ability to create customized views of information based on sort and filter controls for chronology, reverse chronology, date or date range, condition, provider, and care setting.	76

ID#	Type	Name	Statement/Description	PRIORITY	See Also in PHR-S FM	Conformance Criteria	Row #
			"Display all clinical documents containing the word "thyroid"."			2. 2. The system MAY provide the ability for authorized users to create customized views of summarized information based on sort and filter controls for custom or other parameters.	77
					IN.1.1 IN.1.4 S.2.5 S.3.5	3. 3. The system MAY provide the ability to create reports or views of all data based on searching on standard or custom index tags	78
					IN.1.3	4. 4. The system MAY maintain a word based index of the entire record for searching on any word or phrase in the Personal Health Record	79
					IN.1.3	5. 5. The system MAY provide the ability to save multiple customized views for more rapid display of information by the account holder.	80
					IN.1.3 IN.1.12	6. 6. The system MAY provide the ability for authorized users to maintain individual custom views for their future PHR access.	81
						7. 7. The system MAY present summarized views and reports customized by the account holder.	82
						8. 8. The system SHOULD provide the ability to present reminders and alerts in a view of the PHR account holders' choice.	83

ID#	Type	Name	Statement/Description	PRIORITY	See Also in PHR-S FM	Conformance Criteria	Row #
						9. The system SHOULD provide the ability for authorized users to maintain individual summary views for their future PHR access.	84
PH.2.5	H	Manage Historical and Current State Data	<p>Statement: Capture and maintain the summary lists depicting the account holder's current medical state and history.</p> <p>Description: The current state data set is a data model of the account holder useful to the account holder but particularly useful to any healthcare provider that the account holder might solicit to help them. These data characterize the account holder in current time and is useful in the evaluation of new conditions and predictive of how they might respond to treatments and/or therapies. Maintaining these in the PHR may obviate having to recreate them with every new encounter. For many of these elements, the account holder is the primary authority. These data elements are managed over time, across encounters with providers, and any particular health condition:</p> <ol style="list-style-type: none"> 1. Problems (including Diagnoses) 2. Medications 3. Test Results 4. Allergies 5. Medical history 6. Surgical history 7. Immunizations 8. Family history 9. Genetic information 10. Social history <p>Specific complaints, history of present illness, review of systems, and the physical exam are more episodic and encounter specific.</p>			1. The system SHOULD provide the ability for the account holder and other authorized users to print information about their health conditions	85

ID#	Type	Name	Statement/Description	PRIORITY	See Also in PHR-S FM	Conformance Criteria	Row #
			Example: Current Problems, Medications taken, allergies, immunizations, past medical illnesses, surgeries, family history, and social history including habits along with recent diagnostic studies provide data useful for directing care.				
PH.2.5.1	F	Manage Problem Lists	<p>Statement: Manage the account holder's health problem list and provide the ability to manage the problem list over time in accordance with organizational policy and jurisdictional law.</p> <p>Description: Problems are a core feature of the medical record that provides structure and direct management. Problems may include diagnoses. The account holder, along with his or her medical advisors, may wish to establish their own guidelines regarding who can add or change self-entered problems on the primary list. The account holder may wish to maintain his or her own list of problems authored themselves or from non-traditional providers that have no correlate in allopathic medicine. As in other criteria, all data can have source attribution so as to distinguish patient-entered data from provider-entered data.</p> <p>Example: Problem list items may include: chronic conditions, diagnoses, allergies, or symptoms, both past and present, as well as functional status and all pertinent dates, including date of onset, diagnosis, changes and resolution.</p>	(EN)		1. The system SHALL provide the ability to capture, display and report all problems associated with an account holder.	86
						2. The system SHALL capture, display and report a history of all problems associated with the account holder	87
						3. The system SHALL provide the ability to capture the date the problem was documented.	88
						4. The system SHOULD provide the ability to capture the chronicity (chronic, acute/self-limiting, etc.) of a problem.	89
						5. The system SHALL provide the ability to capture the source, date and time of all updates to the problem list.	90
						6. The system SHOULD provide the ability to deactivate a problem.	91
						7. The system SHOULD provide the ability to re-activate a previously deactivated problem.	92

ID#	Type	Name	Statement/Description	PRIORITY	See Also in PHR-S FM	Conformance Criteria	Row #
						8. The system SHOULD provide the ability to display inactive or resolved problems.	93
						9. The system SHOULD provide the ability to manually order/sort the problem list.	94
						10. The system SHOULD provide the ability to associate encounters, orders, medications, notes with one or more problems.	95
						11. The system MAY provide the ability to consolidate or group multiple problems or related problems under a single problem.	96
						12. IF problems are combined or consolidated, THEN the system SHOULD maintain any associations with encounters, orders, medications, or notes previously set.	97
						13. The system SHOULD provide the ability for the account holder to annotate problems.	98
						14. The system MAY provide the ability to score problems for importance or severity in a classification scheme.	99

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						15. IF the system provides the ability to score problems in a classification scheme, THEN the system SHALL conform to function IN 1.1 to define classification schemes.	100
						16. The system SHOULD provide the ability to order a problem list by importance or severity of the problems.	101
						17. The system SHOULD provide the ability to display a problem list truncated by number of entries.	102
PH.2.5.2	F	Manage Medication List	<p>Statement: Manage the account holder's medication list.</p> <p>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.</p> <p>Example: The PHR maintains a medication list that may be followed by the account holder and referenced by his or her providers and pharmacists. Copies of the PHR medication list may be kept by their providers in their EHRs.</p>	(EN)		1. The system SHALL provide the ability to capture account holder-specific medications data from provider EHR systems, pharmacy benefits management systems or other sources.	103
						2. The system SHALL provide the ability to capture and update a fill status for each prescription.	104
						3. The system SHALL provide the ability to capture dates associated with medications such as start date, fill date, and end date.	105
					IN.1.6	4. The system SHALL provide the ability to capture medications not reported on existing imported medication lists or medication histories.	106

ID#	Type	Name	Statement/Description	PRIORITY	See Also in PHR-S FM	Conformance Criteria	Row #
						5. The system SHOULD provide the account holder with the ability to notify the prescriber or provider that they believe a medication was erroneously captured or duplicated.	107
						6. The system SHOULD provide the ability to capture and update a dispensing status for each medication order.	108
						7. The system SHALL present the list of medications to be self-administered.	110
						8. The system SHOULD display the timing, route of administration, and dose of all medications on the list.	111
						9. The system SHOULD display instructions for administration of all medications on the list.	112
					PH 3.5.4	10. The system SHOULD notify the account holder when specific doses are due subject to the account holder's request.	113
						11. The system SHOULD provide the ability to capture medication self-administration details including timestamps, observations, complications, and reason if medication dose was not taken.	114

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					IN.3.10	12. The system SHOULD provide the ability for the account holder to request a refill from the pharmacy or a renewal prescription from the provider.	115
						13. The system SHALL provide the ability to annotate the medication list with text comments.	116
						14. The system MAY provide the ability to print a medication list containing only medications selected by the account holder.	117
						15. The system SHOULD allow the account holder to identify medications from the list that they are currently taking	118
						16. The system SHOULD allow the account holder to identify medications from the list that they are no longer taking	119
PH.2.5.3	F	Manage Test Results	<p>Statement: Manage results of diagnostic tests including inpatient, ambulatory and home monitoring tests.</p> <p>Description: Recent diagnostic studies further define the account holder's current state. The system should capture, display, and maintain the results of tests and diagnostic studies, as limited by legal requirements or organizational policy. These will include laboratory tests with multiple line items such as test panels. Each line item should be treated as a separate document with</p>	(EF-Std)		1. The system SHALL provide the ability to manage test results in accordance with organizational policy and jurisdictional law.	120
						2. The system SHALL provide the ability to filter results by factors that support results management, such as type of test and date range.	121

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			respect to annotation. Other studies including diagnostic imaging studies should be included. Some tests such as colonoscopy or coronary artery catheterization will be derived from an encounter in PH 1.6 but the test results should be listed here.			3. The system SHOULD display normal and abnormal ranges as reported by the source of the result.	122
			A useful display will show brief test titles with dates and a simple flag to denote an abnormal component of the test. This gives the reviewer a quick understanding on what tests have been done, which tests were abnormal and which tests are out of date and may need to be repeated.			4. The system SHOULD provide the ability to filter results by range where range is applicable, e.g. lab results being critical, abnormal or normal.	123
			Examples: The results reporting list will should display when the most recent EKG was done or the last PSA for prostate cancer screening was done and if one was abnormal.			5. The system SHOULD display numerical results in graphical form and allow comparison of results.	124
						6. The system SHALL SHOULD provide the ability to group tests done on the same day in a logical manner such as over a particular time frame or in relation to a particular problem.	125
						7. The system SHOULD provide the ability to trigger decision support algorithms from results.	126
						8. IF the system contains the electronic order, THEN the results SHOULD be linked to a specific order in accordance with organizational policy and jurisdictional law.	127
						9. The system SHOULD provide the ability for account holders to annotate results.	128

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						10. The system MAY display a link to an image associated with results, e.g. an EKG tracing.	129
PH.2.5.4	F	Manage Allergy, Intolerance and Adverse Reaction List	<p>Statement: Manage the PHR account holder's list of known allergens and adverse reactions with all pertinent information.</p> <p>Description: Drug allergies must be reviewed with every new prescription to avoid an allergic reaction. Environmental and dietary allergens should be listed and maintained here as well.</p> <p>Example: The system SHALL provide the ability to enter, store, update and display information related to allergic and adverse reactions to drug and non-drug allergens or substances.</p>	(EN)		1. The system SHALL provide the ability to capture information related to allergy, intolerance, and adverse reaction to drug, dietary or environmental triggers as unique, discrete entries.	130
						2. The system SHOULD provide the ability to capture the reason for entry of the allergy, intolerance or adverse reaction.	131
						3. The system SHALL provide the ability to manage information related to allergic and adverse reactions to drug and non-drug allergens or substances.	132
						4. The system SHOULD provide the ability to capture the reaction type.	133
						5. The system SHOULD provide the ability to capture the severity of a reaction.	134
						6. The system SHOULD provide the ability to associate allergic reactions to specific treatment or prevention protocols.	135
						7. The system SHALL provide the ability to indicate No Known Allergies (NKA).	136

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						8. The system SHALL provide the ability to indicate No Known Drug Allergies (NKDA).	137
						9. The system SHOULD provide the ability to capture the source of allergy, intolerance, and adverse reaction information.	138
						10. The system SHOULD provide the ability to deactivate an item on the list.	139
						11. The system SHOULD provide the ability to capture the reason for deactivation of an item on the list.	140
						12. The system SHOULD present allergies, intolerances and adverse reactions that have been deactivated.	141
						13. The system MAY provide the ability to display user defined sort order of list.	142
						14. The system SHALL provide the ability to capture and display the date on which allergy information was entered.	143
						15. The system SHOULD provide the ability to capture and display the approximate date of the allergy occurrence.	144

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						16. The system MAY provide the ability to generate and transmit a standard adverse reaction report within a jurisdiction (for example, a standard report regarding an adverse reaction to a vaccine).	145
PH.2.5.5	F	Manage Immunization List	<p>Statement: Manage the account holder's immunization data and associated capabilities including reminders, alerts, compliance, and administration.</p> <p>Description: Immunization records back to childhood vaccinations with booster doses due over the years are difficult to maintain over a lifetime. The PHR is an ideal repository to maintain the definitive list. The list can be associated with the health maintenance care plans in PH 1.3.3 maintaining a prospective immunization schedule for routine recommendations. In addition, vaccinations in preparation for foreign travel and episodic public health outbreaks such as bird flu vaccinations can be maintained here. Also, some jurisdictions accept titers or specific dates of infection as proof of adequate protection.</p> <p>Examples: The system SHOULD provide the ability to associate standard codes with discrete data elements associated with an immunization.</p>	(EN)		1. The system SHALL provide the ability to capture, display and report immunization histories associated with an account holder.	146
						2. The system SHOULD record as discrete data elements data associated with any immunization (may include certification that the immunization was administered), subject to organizational policy and jurisdictional law.	147
						3. The system SHOULD provide the ability to capture standard codes with discrete data elements associated with an immunization.	148
						4. The system SHOULD provide the ability to associate standard codes with discrete data elements associated with an immunization.	149

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						5. The system SHOULD provide the ability to capture immunization administration details, such as date, route of administration, type, lot number, manufacturer, and the identity of the immunization administrator.	150
						6. The system SHALL provide the ability to capture the currently recommended date for a booster dose with each immunization if needed.	151
						7. The system SHOULD provide the ability to report an account holder's immunization history to appropriate authorities such as public health immunization registries, schools or day-care centers in accordance with organizational policy and jurisdictional law.	152

ID#	Type	Name	Statement/Description	PRIORITY	See Also in PHR-S FM	Conformance Criteria	Row #
PH.2.5.6	F	Manage Medical History	<p>Statement: Manage the account holder's medical history.</p> <p>Description: Significant or serious past medical illnesses and hospitalizations can be referenced in this list with a brief description and date.</p> <p>The past history list can also display standard life event reporting such as birth history used in pediatrics:</p> <p>NVD at 36 wks APGAR 7 and 9 (Normal vaginal delivery after 36 weeks gestation with APGAR scores of 7 and 9 at one and three minutes)</p> <p>and reproductive history used primarily by gynecologists:</p> <p>G4,P3,Ab1, postmenopausal (4 pregnancies, 3 live deliveries, 1 lost pregnancy, now postmenopausal)</p> <p>Example: The system SHOULD provide the ability to annotate the medical history.</p>	(EN)		1. The system SHALL provide the ability to capture medical history including positive and negative elements and associated annotations that may exist in the provider(s) EHR or other systems, in accordance with organizational policy and jurisdictional law. My assumption is that this isn't necessarily a requirement to extract medical history from a provider's EHR but to capture such data in whatever way possible.	153
						2. The system SHALL provide the ability to present medical history including positive and negative elements and associated patient annotations that may exist in the provider EHR or other systems.	154
						3. The system SHALL provide the ability to initiate a request to amendment to medical history that was incorrectly captured, or incorrect information identified from the external source – if and as feasible. It is unrealistic to think that requesting a correction in a PHR will change the data in the originating system...no originating system will allow it. This needs to be clarified.	155

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						4. The system SHALL provide the account holder with the ability to annotate the medical history with text comments. I believe this should be a SHALL.	156
						5. The system SHALL provide the ability to enter missing information in or subsequent changes to the medical history. If this were broadened, # 4 above would be unnecessary. – different item and test.	157
PH.2.5.7	F	Manage Surgical History	<p>Statement: Manage the account holder's history of surgical procedures.</p> <p>Description: The list of past procedures is a useful summary of what has been done in the past and anatomic changes have occurred that might influence current assessments and treatments.</p> <p>Example: The system SHALL provide the ability to request a correction to the surgical history that was captured from an external source.</p>	(EF-Std)		1. The system SHALL provide the ability to capture the surgical history including positive and negative elements and associated annotations that may exist in the provider(s) EHR or other systems, in accordance with organizational policy and jurisdictional law. Technically, this whole section is redundant of 2.5.6 in that surgical history is a part of medical history.	158 OK See Comment
						2. The system SHALL provide the ability to present the surgical history including positive and negative elements and associated annotations that may exist in the provider(s) EHR.	159 OK

ID#	Type	Name	Statement/Description	PRIORITY	See Also in PHR-S FM	Conformance Criteria	Row #
						3. The system SHALL provide the ability to request a correction to the surgical history that was captured from an external source. It is unrealistic to think that requesting a correction in a PHR will change the data in the originating system...no originating system will allow it. This needs to be clarified.	160 OK See Comment
						4. The system SHOULD provide the account holder with the ability to annotate the surgical history with free text comments. I believe this should be a SHALL .	161 See Comment
					IN.1.1 IN.1.2 IN.1.6 S.3.6	5. The system SHOULD provide the ability to enter missing information in or subsequent changes to the surgical history list. I believe this should be a SHALL . Also, if it were broadened, # 4 above would be unnecessary.	162 See Comment

ID#	Type	Name	Statement/Description	PRIORITY	See Also in PHR-S FM	Conformance Criteria	Row #
PH.2.5.8	F	Maintain Family History	<p>Statement: Manage the Account Holder's Family Health History.</p> <p>Description: The family history traditionally imparts the account holder with certain risks and probabilities of illnesses that have a familial component. The major illnesses and cause of death of primary family members should be captured and displayed. For some illnesses of the account holder a negative family history is also pertinent such as for cancer.</p> <p>Example: The system SHOULD provide structured data entry templates for the account holder or proxy to record their family relationships and major illnesses or cause of death of their family members.</p>	(EN)	IN.1.1 IN.1.2 IN.1.6 S.3.6	1. The system SHALL provide the ability to capture family history including positive and negative elements and associated annotations that may exist in the provider EHR or other systems, in accordance with organizational policy and jurisdictional law. My assumption is that this isn't necessarily a requirement to extract family history from a provider's EHR but to capture such data in whatever way possible.	163
						2. The system SHALL provide the ability to present family history including positive and negative elements and associated annotations that may exist in the provider EHR Or other systems	164
						3. The system SHALL provide the ability to request a correction to family history that was captured from an external source. See text from 2.5.6 It is unrealistic to think that requesting a correction in a PHR will change the data in the originating system...no originating system will allow it. This needs to be clarified.	165

ID#	Type	Name	Statement/Description	PRIORITY	See Also in PHR-S FM	Conformance Criteria	Row #
						4. The system SHALL provide the account holder with the ability to annotate the family history with text comments.	166
						5. The system SHALL provide the ability to enter missing information in or subsequent changes to the family history. If this were broadened, # 4 above would be unnecessary.	167
						6. The system SHOULD provide the ability to share and propagate family history entries with the PHRs of other family members.	168
PH.2.5.9	F	Manage Personal Genetic Information	<p>Statement: Manage the account holder's genetic information.</p> <p>Description: Limited personal genetic information is becoming available and it is anticipated a much richer actionable data set will derive from current research. This function serves as a placeholder to take advantage of the scientific breakthroughs as they become available.</p> <p>Examples: BRCA (Breast Cancer) I and II genetic markers are positive.</p>	(EF-Std)	PH 1.3 PH 1.5	1. The system MAY capture, maintain, and display results of specific genetic tests, genetic markers, or findings, in accordance with organizational policy and jurisdictional law and subject to account holder preferences and consent.	169
					PH 1.3 PH 1.5	2. The system MAY capture and display known genetically based illnesses, in accordance with organizational policy and jurisdictional law, and subject to account holder preferences and consent.	170

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					PH 1.3 PH 1.5	3. The system MAY capture and display a known single allele carrier status of a recessive genetic trait or diseases, in accordance with organizational policy and jurisdictional law, and subject to account holder preferences and consent.	171
PH.2.5.10	F	Manage Social History	<p>Statement: Manage the account holder's social history including, health related habits and risk factors.</p> <p>Description: The social history provides a profile with a number of characteristics that help define the account holder's background and health risks. This information can be collected in, or related to, a health risk assessment. The account holder is the primary author and authority of these topics commonly included in the social history:</p> <ol style="list-style-type: none"> 1. Education and employment 2. Marital status, care giver resources at home 3. Living arrangement such as private home, adult family home, nursing home, homeless etc. 4. Habits including smoking, alcohol, recreational drugs, use of seatbelts, helmets, hazardous sports, sexual 	(EN)		1. The system SHALL provide the ability to capture the account holder's social history versions including positive and negative elements and associated patient annotations that may exist in the provider(s) EHRs or other systems. My assumption is that this isn't necessarily a requirement to extract social history from a provider's EHR but to capture such data in whatever way possible.	172

ID#	Type	Name	Statement/Description	PRIORITY	See Also in PHR-S FM	Conformance Criteria	Row #
			practices. 5. Travel history 6 Hazardous exposure such as asbestos, radiation exposure, sun exposure Examples: The system SHALL provide the ability to for the account holder to maintain an accurate and current view of his or her health habits and risks.		PH (header) criterion #3	2. IF the system captures the account holder's social history from an external source, THEN the system MAY waive the flags or other indication(s) that information has been withheld by the account holder as documented in PH (header level) criterion #3. IMPROVE, clarify text – authors (impression that account holder has lost control)	173
						3. The system SHALL provide the ability to present the account holder's social history versions including positive and negative elements and associated patient annotations that may exist in the provider(s) EHRs or other systems.	174
						4. The system SHALL provide the ability to request a correction to the account holder's social history that was captured from an external source.	175
						5. The system SHALL provide the ability to annotate the account holder's social history.	176

ID#	Type	Name	Statement/Description	PRIORITY	See Also in PHR-S FM	Conformance Criteria	Row #
						6. The system SHALL provide the ability to enter missing information in or subsequent changes to the account holder's social history. .	177
PH.3	H	Wellness, Preventive Medicine, and Self Care	<p>Statement: Assist the account holder with maintaining his or her wellness and management of their health conditions.</p> <p>Description: A competency of the personal health record is to encourage thoughtful prospective management of our own health maintenance and conditions.</p> <p>Examples: The system should maintain a life long schedule for surveillance evaluations and studies.</p>				178
PH.3.1	H	Manage Personal Clinical Measurements and Observations	<p>Statement: Provide the ability for the PHR Account Holder to enter personally sourced data and to make it available electronically to authorized Health Care Provider(s) or other Authorized Users or applications.</p> <p>Description: The system should provide for a number of methods for the account holder to record his or her own health observations.</p> <p>Examples: The system SHALL capture account holder's self-reported physical symptoms and daily functioning as structured or unstructured data.</p>				179
PH.3.1.1	F	Manage Personal Observations and Care	<p>Statement: Provide the ability for the PHR Account Holder to enter personally sourced data and to make it available electronically to authorized health care provider(s) or other authorized users or applications.</p> <p>Description: This is one of the account holder's functions to use his or her PHR for capturing and maintaining records of their own health observations.</p>	(EN)		1. The system SHALL provide the ability for the account holder to record his or her own health observations (i.e., symptoms, vital signs, physical observations, home laboratory studies such as blood sugars).	180

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			<p>They may wish to use a variety of structured and unstructured formats and several media types. The list would include free or structured text documents, audio files from telephone devices, calendar entries, text messages, scanned or digital images including photographs and personal drawings.</p> <p>Examples: The system SHALL capture account holder's self-reported health observations such as symptoms, vital signs and other physical conditions.</p>			2. The system SHOULD provide the ability to capture account holder's externally sourced vital signs (e.g. blood pressure, temperature, heart rate, respiratory rate, and severity of pain).	181
						3. The system MAY capture other self-reported clinical measures (e.g. peak expiratory flow rate, size of lesions, oxygen saturation) as discrete elements of structured or unstructured data.	182
						4. The system MAY provide the ability to record account holder's self-reported mental health status with appropriate privacy and security protections	183
						5. The system SHOULD provide the ability to enable access to educational information that can be used by the account holder to understand his or her condition(s).	184
						6. The system SHOULD provide the ability to enable access to information that can be used by the account holder to understand various self care options.	185

ID#	Type	Name	Statement/Description	PRIORITY	See Also in PHR-S FM	Conformance Criteria	Row #
PH.3.1.2	F	Communication with Medical Devices	<p>Statement: Provide the ability for the account holder to capture and view monitoring device data and to make it available electronically to authorized health care provider(s) or other authorized users or applications.</p> <p>Description: A variety of commercial devices are being developed to help monitor health conditions and compliance with care plans. Some of these may offer standard electronic interfaces including wireless connectivity that may be captured by the system and integrated into the PHR. Simple examples include a pedometer recording walking activity, a continuous glucose monitor, a sleep apnea monitor and CPAP machine, and a pill dispensing device that prompts and records medication compliance.</p> <p>Examples: The account holder may download Holter monitor data of cardiac rhythm recordings and transmit it to their his or her cardiologist.</p>	(EF-Std)		1. The system MAY provide the ability to collect accurate electronic data from medical devices as appropriate.	186
						2. The system MAY provide the ability to present information collected from medical devices as part of the personal health record as appropriate.	187
PH.3.2	F	Manage Account Holder Implemented Care Plans	<p>Statement: Assist the account holder to develop, manage, and follow his or her own care plans.</p> <p>Description: The Account Holder may develop care plans related to health wellness such as training programs for sports as well as to ameliorate a health condition. Self developed plans can be integrated into a comprehensive wellness plan</p>	(EF)		1. The system SHOULD provide the ability to support implementing care plans by the account holder based on knowledge through an established and trusted relationship gained from the internet, healthcare providers, or other sources.	188

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			Example: Develop and implement an exercise program for optimizing cardiac fitness based on age, gender, and other health risks.			2. The system SHOULD provide the ability to use structured templates for the account holder or their his or her proxy to design specific wellness care plans.	189
						3. The system SHOULD provide the ability to implement self developed care plans with tasks, alerts, reminders, and calendar entries.	190
						4. The system MAY provide the ability to capture compliance with self generated care plans and provide alerts when the account holder is out of compliance.	191
						5. The system SHOULD provide the ability to integrate all care plans into one set of tasks, reminders, and calendar entries.	192
PH.3.3	F	Manage Provider Implemented Care Plans (EF)	Statement: Enable the account holder to capture, record, and display account holder specific care plans received from authorized health care providers. Description: Care plans may encompass a wide variety of styles, goals, and complexity grouped into three categories, health maintenance, health restoration, and	(EF)		1. The system SHOULD provide the ability to capture account holder-specific plans of care and treatment. (e.g. information about orders, therapies, wound care, habit changes, etc.)	193

ID#	Type	Name	Statement/Description	PRIORITY	See Also in PHR-S FM	Conformance Criteria	Row #
			chronic disease management. The base care plan is a life long wellness plan that specifies age and gender specific health surveillance, an immunization schedule, and a diet and exercise program. It can be customized to specific health risks such as hazardous exposures or genomic data. Onto this background will occur periodic acute illnesses or natural conditions such as pregnancy that require specific diagnostic and therapeutic measures to manage. Finally chronic disease care plans, including cancer management, fill out the list and consume the majority of healthcare resources. Examples: Capture and maintain a cancer treatment plan that contains the pertinent staging details and multimodality plans in one place that can better coordinate the care by the cancer care team including the account holder's PCP.			2. The system SHOULD provide the ability to track updates to the account holder's plan of care and treatment including authors, creation date, version history, references and sources as available.	194
						3. The system SHOULD provide the ability to display care and treatment plans captured from providers in their original format.	195
						4. The system SHOULD provide the ability to display a list of care plans and instructions indexed by provider , problem, and date.	196
						5. The system SHOULD provide the ability to implement care and treatment plans captured from provider(s) with tasks, alerts, reminders, and calendar entries.	197
						6. The system MAY capture compliance with provider generated care plans and provide alerts when the account holder is out of compliance.	198
						7. The system MAY send out of compliance alerts to the originating provider.	199

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						8. The system SHOULD provide the ability to access care and treatment plans that are sensitive to the context of account holder data (e.g. peak flow, weight, blood pressure, dietary preferences).	200
						9. The system MAY provide the ability to capture adequate order details for account holder to understand and comply with an order.	201
						10. The system SHOULD provide the ability to capture externally sourced instructions or references to documents containing those instructions.	202
						11. The system SHOULD provide the ability to capture details on further care such as follow up, return visits and appropriate timing of further care.	203
PH.3.3b	F	PH.3.3b Manage Payer-Coordinated Care Plans (OPT)	<p>Statement: Enable the account holder to capture, record, and display account holder specific care plans received from authorized health care payers.</p> <p>Description: Care plans may encompass a wide variety of styles, goals, and complexity grouped into three categories, health maintenance, health restoration, and chronic disease management. The base care plan is a life long wellness plan that specifies age and gender specific health surveillance, an immunization schedule, and a diet and exercise program. It can be customized to specific health risks such as hazardous exposures or genomic data.</p>	(OPT)		1. The system SHOULD provide the ability to capture account holder-specific plans of care and treatment. (e.g. information about orders, therapies, wound care, habit changes, etc.)	193
						2. The system SHOULD provide the ability to track updates to the account holder's plan of care and treatment including authors, creation date, version history, references and sources as available.	194

ID#	Type	Name	Statement/Description	PRIORITY	See Also in PHR-S FM	Conformance Criteria	Row #
			<p>Onto this background will occur periodic acute illnesses or natural conditions such as pregnancy that require specific diagnostic and therapeutic measures to manage. Finally chronic disease care plans, including cancer management, fill out the list and consume the majority of healthcare resources.</p> <p>Examples: Capture and maintain a cancer treatment plan that contains the pertinent staging details and multimodality plans in one place that can better coordinate the care by the cancer care team including the account holder's PCP.</p>		.	3. The system SHOULD provide the ability to display care and treatment plans captured from payers in their original format	195
						4. The system SHOULD provide the ability to display a list of care plans and instructions indexed by the payer, problem, and date.	196
						5. The system SHOULD provide the ability to implement care and treatment plans captured from payer(s) with tasks, alerts, reminders, and calendar entries.	197
						6. The system MAY capture compliance with payers generated care plans and provide alerts when the account holder is out of compliance.	198
						7. The system MAY send out of compliance alerts to the originating payer	199
						8. The system SHOULD provide the ability to access care and treatment plans that are sensitive to the context of account holder data (e.g. peak flow, weight, blood pressure, dietary preferences).	200
PH.3.4	F	Manage Medications Split and create two functions, one EF and one OPT) Tied to split of criteria and virtual	<p>Statement: Assist the account holder to manage their his or her individual medications.</p> <p>Description: Medications are a key modality of care plans. They provide significant benefit but also a risk of harm if not used appropriately. The original selection of medications as well as obtaining refills and renewals take</p>	(EF)	IN.1.3 IN.1.12 IN.1.3 IN.1.12 IN.1.5 IN.1.3	1. The system SHOULD provide the ability to look up a specific prescription medication to determine what level of insurance coverage is offered by the PHR Account Holder's pharmacy benefit.	204

ID#	Type	Name	Statement/Description	PRIORITY	See Also in PHR-S FM	Conformance Criteria	Row #
		management of meds	<p>up much of the account holder's time. They can use their PHR to help manage their medications prescriptions, refills, and renewals.</p> <p>Example: The system SHALL should provide the ability to communicate the refills/renewals requests to the pharmacy and the health care provider(s) or applications in a secure fashion.</p>		IN.1.12 S.4.5 IN.1.12	2. The system SHOULD provide the ability to communicate the refills/renewals requests to the pharmacy and the Health Care Provider(s) or applications in a secure fashion.	205
						3. The system SHOULD provide the ability to communicate the user's medication refill request to the pharmacy or pharmacy benefit manager.	206
						4. The system SHOULD provide the ability to communicate the account holder's request for prescription renewal to the Health Care Provider(s) or applications.	207
						5. The system MAY provide the ability to receive any communication about the request of the prescription refill or renewal from the pharmacy or the Health Care Provider(s) or applications.	208
						6. The system SHOULD provide the ability to support an alert that a medication is due for renewal or refill using information from internal and/or external sources.	209

ID#	Type	Name	Statement/Description	PRIORITY	See Also in PHR-S FM	Conformance Criteria	Row #
						7. The system SHOULD provide the ability to uniquely flag any medication on the medication list due for a refill using information from internal and/or external sources.	210
						8. The system SHOULD uniquely flag any medication on the medication list due for a renewal using information from internal and/or external sources.	211
						9. The system SHOULD provide the ability to communicate the status of the refill or the renewal of the prescription back to the account holder.	212
						10. The system SHALL provide the ability to capture and display patient medication instructions sent by the ordering clinician, pharmacist, or other authorized source.	213
						11. The system SHOULD provide the ability to capture and display weight-specific doses for over the counter and prescribed medications. (e.g. pediatric doses, Aspirin for heart disease prevention).	214

ID#	Type	Name	Statement/Description	PRIORITY	See Also in PHR-S FM	Conformance Criteria	Row #
						12. The system SHALL SHOULD provide the ability to recommend required immunizations and booster doses, including self-administered immunizations and when they are due, based on current immunization guidelines.	215
						13. Moved to 3.4b	216
						14. The system SHALL present the list of medications to be self-administered.	217
						15. Moved to 3.4b	218
						16. The system SHALL provide the ability to recommend required self-administered immunizations, and when they are due, based on authoritative immunization schedules	219
						16. The system SHALL provide the ability to capture, display and report all medications associated with an account holder.	220

ID#	Type	Name	Statement/Description	PRIORITY	See Also in PHR-S FM	Conformance Criteria	Row #
PH3.4b			<p>Statement: Help remind and track the account holders of key immunization records.</p> <p>Description: Immunizations are key in tracking and recording of an individual's care plan. They provide significant benefit but also a risk of harm if not used appropriately. Individuals can use their PHR to help manage their immunizations.</p> <p>Example:</p>	(OPT)		<ol style="list-style-type: none"> - The system SHOULD provide the ability to recommend required immunizations and booster doses based on account holder risk factors. The system SHALL provide the ability to capture immunization self-administration details, including date, type, lot number and manufacturer. 	
PH.3.5	H	Manage Tools and Functions to Assist Self Care	<p>Statement: Provide various functions to allow the account holder to manage their health care events.</p> <p>Description: The healthcare activities required of the account holder may be minimal and manageable. For some they may be complex, confusing, and overwhelming. Keeping track of multiple overlapping problems, providers, and care plans will take organization to manage successfully. Using the commonly understood desktop tools can aid the account holder to breakdown complicated processes into more manageable tasks and organizes them. These tools may include:</p> <ul style="list-style-type: none"> -The health calendar -The task list -The contact list -Reminders -Alerts -Recommendations <p>Example: Implement a complex care plan in the form of tasks, reminders, alerts, and calendar entries.</p>		IN.1.12		221

ID#	Type	Name	Statement/Description	PRIORITY	See Also in PHR-S FM	Conformance Criteria	Row #
PH.3.5.1	F	Manage Health Calendar	<p>Statement: Provide a calendar to record and display health care events.</p> <p>Description: The calendar provides a method to view time related healthcare activity both in the future as scheduled events and in the past has historic events. It is a handy and well understood format. The calendar can also be used as a data input device mimicking the paper calendar where clinical observations such as gallbladder attacks or menstrual periods can be written directly onto a calendar and captured as a timed note. This idea was put forward from usability studies with lay people how they would like to interact with their PHR.</p> <p>Examples: IF a Calendar function is provided, THEN future appointments and other timed events SHOULD be displayed on the calendar.</p>	(EN)	IN.1.12	1. The system MAY provide a calendar function for recording and displaying scheduled health appointments or events.	222
					IN.1.12	2. IF a calendar function is provided, THEN future appointments and other timed events SHOULD be displayed on the calendar.	223
					IN.1.12	3. IF a calendar function is provided, THEN the calendar function SHOULD provide the ability to annotate directly onto the calendar and capture these entries as date stamped text entries.	224
					IN.1.3 IN.1.12	4. IF a calendar function is provided, THEN care plans such as a life long immunization schedules or cancer surveillance tests MAY be displayed as calendar entries.	225
PH.3.5.2	F	Manage Tasks	<p>Statement: Healthcare events or activities that require the Account Holders participation can be organized as tasks.</p> <p>Description: Care plans and other health care activities can be broken down into specific steps or tasks and organized on a task list that may be sorted by priority, date and time, problem, provider and so forth. The task list entries should serve as an index to their supporting documents.</p>	(EF)	IN.1.3 IN.1.12	1. The system SHOULD provide the ability for the account holder to manually create self care, health maintenance, preventive and wellness tasks.	226
					IN.1.7	2. The system SHOULD provide the ability to automate account holder's task creation.	227

ID#	Type	Name	Statement/Description	PRIORITY	See Also in PHR-S FM	Conformance Criteria	Row #
			Examples: Directions for a dressing change at a specific time of day can be displayed as an entry on the task list.		IN.3.2	3. The system SHOULD provide the ability to manually modify and update task status (e.g. performed, rescheduled or canceled).	228
					IN.1.7	4. The system SHOULD provide the ability to prioritize tasks.	229
					IN.1.12 IN.1.3	5. The system SHALL SHOULD provide the ability to track the status of tasks. (e.g. complete, performed)	230
					IN.1.12 IN.1.3 IN.1.6	6. The system SHOULD provide the ability to sort tasks by status or priority.	231
					IN.1.4 IN.1.6	7. The system SHOULD represent the task with a brief description and date on a task list displayed on the account holder's summary view or dashboard.	232
PH.3.5.3	F	Manage a Registry of Actors	Statement: Each individual that accesses the PHR should be registered in a directory with his or her contact information and granted specific access rights. Description: The account holder should have control of who has access to his or her PHR. All entities that send information to or request information from the PHR should be registered for proper authentication and	(EN)	IN.1.12	1. The system SHALL maintain a registry of all actors and organizations that request or have access to the PHR including data providers that import information into the PHR.	233

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			<p>authorization. The account holder may establish specific access rights for each actor or groups such as all emergency room physicians. The registry of actors may be used to capture contact information for those without digital capability as well. Potential actors may include but are not limited to:</p> <p>Trusted relatives, friends, and caregivers Healthcare providers that are part of the account holder's team. Former providers and new providers not yet seen Insurance plans Pharmacy Benefits Manager, Pharmacies Public health registries Other registries including cancer, transplant and research. Hospitals, laboratories and diagnostic imaging centers</p> <p>All PHR data is associated with a source and all sources should be registered and maintained as long as the data is maintained. All entities making a request for information or receiving information should be registered.</p> <p>Example: Each provider should be registered before being granted access rights to the PHR.</p>		IN.1.12	2. The system SHOULD provide the ability for the account holder to set specific access rights to specific sections of the PHR for each actor in the registry	234
					IN.1.12	3. The system SHALL conform to registration functions in Supportive Services Section.	235
PH.3.5.4	F	Manage Reminders	<p>Statement: Present the account holder with reminders either (a) sent by external sources such as from provider(s), or (b) internally generated from information in the PHR, such as guideline-based reminders,</p>	(EF)	IN.1.12	1. The system SHALL present the PHR account holder with reminders of scheduled events.	236

ID#	Type	Name	Statement/Description	PRIORITY	See Also in PHR-S FM	Conformance Criteria	Row #
			<p>prescription refills, appointment reminders, or other calendar entries.</p> <p>Description: The PHR account holder will want to manage reminders sent by external sources such as the account holder's provider(s) or generated from to information in the PHR, such as guideline-based reminders, prescription refills, or appointment reminders. A reminder is a notification of an upcoming event or activity that usually requires an action by the account holder. Reminders may be displayed on a view in the PHR such as the summary dashboard and may also be displayed by other electronic means such sent to an e-mail account.</p> <p>Example: The system SHOULD send a reminder of an upcoming appointment as a text message to the account holder's cellular telephone.</p>		IN.1.12	2. The system SHALL capture and display timely reminders from account holder provider(s) to include notifications for services, tests or actions that are due or overdue.	237
					IN.1.12	3. The system SHOULD provide the ability to capture a history of notifications.	238
					IN.1.12	4. The system SHOULD provide the ability to track patient configured reminders.	239
					IN.1.12	5. The system SHOULD provide the ability to configure patient notifications e.g. repetitions or timing of the activity.	240
					IN.1.12 IN.1.3 IN.1.6	6. The system SHALL SHOULD provide the ability to create account holder configured reminders e.g. repetitions or timing of the activity.	241
					IN.1.12 IN.1.3 IN.1.6 IN.3.10	7. The system MAY provide the ability to present options for the account holder to configure preferences for reminders e.g. posting on the PHR summary screen, e-mail, or text messages to another e-mail account or device.	242

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					IN.4 IN.1.6	8. The system SHOULD provide the ability to update content of notifications, guidelines, reminders and associated reference materials.	243
					IN.1.12	9. The system SHOULD provide the ability to receive and update content of notifications, guidelines, reminders and associated reference materials from the account holder provider(s).	244
					IN.1.12	10. The system MAY provide the ability to manage the lifecycle of the states of the notifications and reminders.	245
					IN.1.12	11. The system SHOULD provide the ability to modify the established criteria that trigger the reminders.	246
					IN.1.12	12. The system SHALL present reminders to the account holder of all specific preventive services that are coming due.	247
					IN.1.12	13. The system SHOULD provide the ability to accept secure messages of reminders or notifications from the account holder's provider(s) to remind the account holder of tests or actions that are due or overdue.	248
PH.3.5.5	F	Manage Health Alerts	Statement: Notify the account holder of an event or situation that may need immediate action.	(EF & OPT)	IN.1.12 IN.1.3 IN.1.6	1. The system SHOULD capture a history of alerts.	249

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			<p>Description: Alerts may be generated by processes both internal to the PHR and external from outside sources such as a provider or government authority. Alerts may be issued in real time or may be used after an event is past due, when a situation may require a response. Alerts are also used to notify of potentially dangerous situations such as drug interaction alerts or public health alerts.</p> <p>Example: Notify the Account Holder with alerts to a public health emergency situation.</p>		IN.1.12	2. The system SHOULD provide the ability to track patient configured alerts	250
					IN.1.12	3. The system SHOULD provide the ability to configure account holder alerts.	251
					IN.1.12 IN.1.3	4. The system SHOULD provide the ability to create account holder configured alerts e.g. repetitions or ignored prior alerts.	252
					IN.1.12 IN.1.3	5. The system SHALL SHOULD present a number of options for the account holder to configure how they prefer to receive reminders including posting on the PHR summary screen as well as e-mail or text messages to another e-mail account or device	253
					IN.1.6	6. The system SHOULD provide the ability to update content of alerts and associated reference materials.	254
					IN.1.5	7. The system SHOULD provide the ability to receive and update alerts from their his or her provider(s).	255
					IN.1.1 IN.1.2	8. The system MAY provide the ability to manage the lifecycle of the states of the notifications and reminders.	256

ID#	Type	Name	Statement/Description	PRIORITY	See Also in PHR-S FM	Conformance Criteria	Row #
						9. The system SHOULD provide the ability to modify the established criteria that trigger the alerts.	257
						10. The system SHALL present alerts to the account holder of all known preventive services that are due.	258
						11. The system MAY provide the ability to produce a list of all preventive services and the recommended timeframes they are due based on contained care plans.	259
PH.3.5.6	F	Manage Recommendations	<p>Statement: Capture and track provider recommendations for future care.</p> <p>Description: In many care activities recommendations are made for specific future activities. They are easy to let slip by and lose track of them. A thoughtful and documented reason for not following a particular recommendation should be captured to help manage liability risk. Some recommendations may be controversial and there are reasons not to follow them. It is useful to keep a list of recommendations as a separate check on future care to be managed with the help of the account holder's provider.</p> <p>Examples:</p> <ol style="list-style-type: none"> 1. The radiologist recommends a repeat mammogram in 6 months rather than the usual 12. 2. The PCP recommends seeing a surgeon for occasional 	(OPT)		1. The system SHALL provide the ability to capture recommendations from encounter and diagnostic studies in structured documents.	260
						2. The system SHOULD provide the ability to capture recommended actions along with the recommending provider, the date recommended and the date suggested to carry out the recommendation.	261

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			gallbladder attacks. 3. A screening colonoscopy is recommended after age 50.			3. The system SHOULD provide the ability to associate the recommendation entry on the list with the original document.	262
PH.3.6	H	Population Health and Wellness	<p>Statement: The PHR may serve as a communication tool to help control public health risks to the population and to the account holder specifically.</p> <p>Description: A formal and well defined communication channel between public health agencies and the account holder's PHR is useful. It provides for monitoring public health threats through data and observations captured within the PHR. Additionally it alerts the account holder to take corrective actions in response to public health threats.</p> <p>Examples: The system SHOULD provide the account holder the ability to subscribe to population health web site information.</p>	(OPT)			263
PH.3.6.1	F	Public Health Reporting	<p>Statement: Provide reporting to authorized public health agencies as required by applicable jurisdictional law.</p> <p>Description: Government authorities with the mandate of preserving the health of the population have a need for early detection of public health threats such as identifying the early stages of an avian flu pandemic. This may require periodic reporting of certain de-identified personal health information (PHI). Other epidemiologic studies for public health issues as well as public or private medical research studies may also request de-identified PHI. Certain public health reporting requires identified PHI and contact information for urgent</p>	(OPT)	IN.1.5 IN.1.6	1. The system SHOULD provide the ability to export de-identified data for bio-surveillance and public health reporting to legally authorized public health agencies with appropriate consent.	264
					IN.1.7	2. The system SHOULD provide the account holder the ability to subscribe to population health web site information.	265

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			epidemiologic investigations and countermeasures such as for a resistant Tb outbreak. Examples: The system SHALL conform to function S 3.3.1 (<i>Manage Consents and Authorizations</i>) regarding epidemiological investigations of clinical health within a population.		IN.1.3 IN.1.12	3. The system SHOULD capture alerts or warnings regarding population health threats.	266
						4. The system SHALL conform to function S 3.3.1 (<i>Manage Consents and Authorizations</i>) regarding "Epidemiological Investigations of Clinical Health Within a Population" when providing de-identified data to legally authorized public health agencies.	267
						5. The system SHOULD provide the ability to export selected data to legally authorized public health agencies with appropriate consent.	268
						6. The system SHOULD provide the ability for the account holder to access population health web sites.	269
						7. The system SHOULD provide the ability for the data required by public health agencies to be anonymized.	270
						8. The system MAY provide the ability for notification to the account holder on data requests from Public Health Agencies.	271

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PH.3.6.2	F	Public Health Risk Alerts	<p>Statement: Support health risk alerts from authorized sources.</p> <p>Description: Alerts of a public health threat will arrive through a variety of sources, one of which can be the PHR. The advantage of this modality is that the alerts can be prioritized to any special vulnerabilities of the account holder and more comprehensive background information and an action plan can, such as alerts from government agencies regarding medications or devices, be included.</p> <p>Examples: Poor air quality alerts from governmental authorities are electronically sent to the registered PHR of an account holder with a sensitive lung condition to take countermeasures.</p>	(OPT)		1. The system SHOULD provide the ability to capture, identify the document, index and store the notification of a health risk from public health authorities or other external authoritative sources such as either free-text or a structured and codified message.	272
						2. The system SHOULD provide the ability to report notifications of health risk to the individual account holder.	273
						3. The system MAY provide the ability to present specific actions to be taken by the account holder for a public health risk alert.	274
PH.4	F	Manage Health Education	<p>Statement: Provide reliable patient education and information customized to the patient based on the information in the PHR to help the account holder explore treatment options.</p> <p>Description: A wide variety of educational materials are available and the problem is to identify authoritative sources that provide relevant information for the account holder's age, gender, medical conditions, wellness goals, and medical health literacy. The system should be able take a request for information and screen the available libraries of educational materials against clinical information in the PHR without divulging personal health</p>	(OPT)		1. The system SHOULD provide the ability for educational materials to be tailored to the level of medical health literacy and language of the account holder or their his or her proxy.	275
						2. The system SHOULD provide the ability to access evidence-based healthcare recommendations, with documentation of sources.	276

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			information. Example: Provide breast feeding instructions in alternate languages for a new mother.			3. The system SHOULD provide the ability to access information about wellness, disease management, treatments, and related information that is relevant for a specific account holder.	277
						4. The system SHOULD provide the ability to access information related to a health question directly from data in the personal health record or other means such as key word search.	278
						5. The system SHOULD provide the ability to access patient educational information from external sources	279
						6. IF the information is external-based, THEN the system SHALL provide the ability to identify links specific to the information.	280
						7. The system SHOULD provide the ability to access a library of educational material for health concerns, conditions, or diagnosis.	281
						8. The system SHOULD provide the ability to capture, display, index and store applicable educational materials to the account holder and/or account holder representative.	282

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						9. The system SHOULD provide the ability to deliver multilingual educational material.	283
					IN.1.6	10. The systems MAY provide the ability to deliver account holder educational materials using alternative modes to accommodate patient sensory capabilities	284
					IN.1.5	11. The system SHOULD provide the ability to integrate and index guidelines and protocols captured in PH 1.5.1 with the education files in specific searches	285
					IN.1.3 IN.1.12	12. The system SHOULD provide the ability to capture, index, store, and display educational material to assist care givers to directly support the account holder.	286
PH.5	H	Account Holder Decision Support	<p>Statement: Provide clinical decision support appropriate to the use of the PHR in self-care, home health, and remote settings.</p> <p>Description: The account holder may wish to seek assistance from diagnostic decision support tools, drug interaction checking, or published guidelines at the appropriate level of health literacy. The intent is educational for more sophisticated problems as well as support for assuming care of minor conditions.</p> <p>Examples: The system should provide assistance to select an appropriate Internet based decision support tool to provide guidance in managing a young child with vomiting and fever.</p>				287

ID#	Type	Name	Statement/Description	PRIORITY	See Also in PHR-S FM	Conformance Criteria	Row #
PH.5.1	F	Manage Guidelines and Protocols	<p>Statement: Guidelines for general direction in managing a specific problem or condition can be acquired from a variety of sources for improved decision making.</p> <p>Description: Guidelines help provide general direction to manage specific health risks or problems. They may be used by the account holder to research a specific condition to verify that appropriate care is being provided. They may also be used to help self manage minor conditions.</p> <p>Examples: Capture guidelines from the internet for non-operative management of low back pain.</p> <p>(ADD a criteria to identify Payer recommended site for preferred guidelines)</p>	(OPT)		1. The system SHOULD provide the ability to capture and retain account holder specific guidelines from the internet or other electronic sources.	288
						2. The system MAY provide the ability to modify site and account holder specific care plans and guidelines. (e.g. isometric exercises in office vs. swimming in home pool).	289
					IN.1.6	3. The system SHOULD capture the source of the guideline.	290
					IN.1.5	4. The system SHOULD provide the ability for the account holder to annotate the guideline.	291
					IN.1.3 IN.1.12	5. The system SHOULD provide the ability to implement guideline features specifically relevant to the Account Holder as care plans with task list entries, calendar entries, alerts, and reminders.	292
					IN.1.3 IN.1.12	6. The system MAY provide an alert or reminder when the account holder is out of compliance with a guideline.	293

ID#	Type	Name	Statement/Description	PRIORITY	See Also in PHR-S FM	Conformance Criteria	Row #
PH.5.2	F	Drug Interaction Checking	<p>Statement: Display warnings and severity levels of potential adverse interactions based on the data in the PHR Account Holder's medication and allergy list.</p> <p>Description: Drug interaction checking is a responsibility of the prescribing provider. However, the account holder may be taking new over the counter medications or new prescription medications from providers without access to e-prescribing and may want to check for interactions. A complete interaction check would take into consideration other medications, allergies, relevant health conditions, age, weight, gender, and relevant laboratory values such as creatinine clearance.</p> <p>Example: Each time a new medication or a new allergy is entered into the PHR, perform an automated check for potential interactions among all of the current medication and allergy entries in the PHR.</p>	(EN)		1. The system SHOULD provide the ability to check for and alert account holders to interactions between prescribed and over the counter medications on the current medication list.	294
						2. The system SHOULD provide the ability to relate medication allergies to medications to facilitate allergy checking decision support for medication orders.	295
						3. The system SHOULD provide the ability to check for drug - drug interaction for all current medications in the medication list either populated prescriptions or over the counter medications	296
						4. The system SHOULD provide the ability to check for and alert account holders to interactions between prescribed and over the counter medications on the current medication list.	297
						5. The system SHOULD provide the ability to relate medication allergies to medications to facilitate allergy checking decision support for medication orders.	298

ID#	Type	Name	Statement/Description	PRIORITY	See Also in PHR-S FM	Conformance Criteria	Row #
						6. The system SHOULD provide the ability to maintain a list of drug interaction warnings that was presented to an account holder.	299
						7. The system SHOULD provide the ability to override an alert for adverse interactions or allergic reactions and enter a self prescribed medication on his or her medication list.	300
						8. The system MAY provide the ability to set the severity level at which warnings should be displayed.	301
						9. The system MAY provide the ability to check for duplicate therapies.	302
PH.5.3	F	Clinical Decision Support	<p>Statement: Provide clinical decision support tools.</p> <p>Description: The system should aid the account holder with making their his or her self assessments and treatment plans for self care. Some decision support algorithms are straightforward and can be provided as part of the PHR service. Others may be more complex and are included in the next function PH 1.5.4.</p> <p>Example: A child's weight and height can be plotted on a growth curve chart which graphically displays growth progress.</p>	(OPT)		1. The system SHOULD provide the ability to access health standards and practices.	303
						2. The system SHOULD provide the ability to compare health data and context-driven assessments to practice standards in order to prompt additional testing, possible diagnoses, or adjunctive treatment.	304

ID#	Type	Name	Statement/Description	PRIORITY	See Also in PHR-S FM	Conformance Criteria	Row #
						3. The system SHOULD provide the ability to capture rules related to abnormal trends from an authoritative source e.g. provider EHR, care management system.	305
						4. The system MAY provide the ability to compare context-driven assessments and additional health information to best practices in order to identify account holder specific growth or development patterns, health trends and potential health problems.	306
						5. The system MAY provide the ability to correlate assessment data with the data in the account holder's problem list.	307
						6. The system MAY prompt the account holder to request additional assessments, testing or adjunctive treatment OR to follow provider designated care plan related to assessment results e.g. peak flow results, blood glucose readings, weight, blood pressure.	308

ID#	Type	Name	Statement/Description	PRIORITY	See Also in PHR-S FM	Conformance Criteria	Row #
						7. The system MAY provide the ability to integrate health information contained in the PHR with appropriate health education materials e.g. consumer self-identified as a smoker, and smoking cessation materials 195sent to PHR.	309
PH.5.4	F	Integration with Third Party Clinical Decision Support Services	<p>Statement: Provide the ability to query external clinical decision support services designed for the lay consumer.</p> <p>Description: A variety of clinical decision support services are available for professional use and more will become available for lay use. The primarily focus is to assist with making an assessment and then recommending a treatment protocol.</p> <p>Example: Provide access to services that provide differential diagnoses and advice for further management for common complaints such as sore throat or cough.</p>	(OPT)		1. The system SHOULD provide the ability for the account holder to register with a third party service.	310
						2. The system SHOULD provide the ability for the account holder to specify what information from the PHR system is shared with the externs service.	311
						3. The system SHOULD provide the ability for the account holder to respond to specific structured questions form the decision support service.	312
PH.5.5 (OPT)	F	Account Holder Configured Alerts	<p>Statement: Alerts and reminders are configured by the account holder based on a variety of triggers or conditions.</p> <p>Description: The account holder may want to set up specific alerts</p> <p>Examples: The system SHOULD provide the ability to present medication recommendations based on findings related to the patient diagnosis.</p>			1. The system SHOULD provide the ability to present recommendations for medication regimens based on findings related to the patient diagnosis.	313
						2. The system SHOULD provide the ability to present alternative treatments in medications on the basis of practice standards, cost, formularies, or protocols.	314

ID#	Type	Name	Statement/Description	PRIORITY	See Also in PHR-S FM	Conformance Criteria	Row #
						3. The system SHOULD provide the ability to present suggested lab monitoring as appropriate to a particular medication	315
PH.6	H	Manage Encounters with Providers	<p>Statement: Manage information for scheduling, preparation, and assimilation of knowledge gained by encounters with providers.</p> <p>Description: Each interaction with a provider, including office visits, e-visits, hospitalizations, telephone conversations, diagnostic procedures, etc. comprise an encounter. Some encounters are non-discretionary such as emergent admission to a level 1 trauma center. Many encounters are initiated by providers in the course of care such as a scheduled chemotherapy treatment. Some encounters are initiated by the account holder requiring additional steps facilitated by their PHR.</p> <p>Examples: The account holder makes a self assessment that his or her chest pain warrants urgent evaluation and calls 911. Access to their PHR information is provided to the ambulance crew and emergency room staff. The resulting assessments update to the current data set including problems, procedures, and medications, and new care plans from the hospital evaluation are then incorporated into their PHR during or shortly after the encounter concludes. The PCP receives an alert to the changes.</p>				316
PH.6.1	F	Patient Health Data Derived from Administrative and Financial Sources	<p>Statement: The system should capture and manage financial information related to the encounter.</p> <p>Description: Tracking the personal costs of healthcare is a daunting task because of the complexity of medical billing can be complex. Charges are typically discounted by the insurance plan to allowed charges. They will pay</p>	(OPT)		1. The system SHOULD provide the ability to capture and store information related to financial data and the current balances from the user's Health related financial accounts.	317

ID#	Type	Name	Statement/Description	PRIORITY	See Also in PHR-S FM	Conformance Criteria	Row #
			<p>a portion of allowed charges with the account holder being responsible for the rest. A given encounter such as a hospitalization will have multiple charges from several providers. Keeping it all straight can be confusing and Capturing the Explanation Of Benefits from the insurance plan can help monitor the expenses. Tracking charges and associating them with each encounter will develop a cost profile that may help direct future care.</p> <p>Example: The system should capture charge information and payment data from the EOB and associate it with the encounter records stored in the PHR.</p>			2. The system SHOULD provide the ability to request correction of the administrative or financial data.	318
						3. The system SHOULD provide the ability to capture financial details and associate with each clinical encounter or billable service e.g. charges, allowed charges, insurance plan paid and account holder paid amounts.	319
						4. The system MAY provide the ability for the account holder to query the financial data and the data about their his or her health related accounts.	320
						5. The system MAY provide the ability to notify the account holder of any changes to the financial data or Health related accounts.	321
						6. IF health data is derived from administrative and financial data, THEN the system SHALL provide the ability to capture and link data about the source of the health data.	322
						7. The system MAY provide the ability to capture and link data about the source of the patient health data derived from administrative and financial data with that patient data.	323

ID#	Type	Name	Statement/Description	PRIORITY	See Also in PHR-S FM	Conformance Criteria	Row #
						8. IF health data is derived from administrative and financial data, THEN the system SHALL provide the ability to present such data and the source of that data for use by authorized users.	324
						9. The system MAY provide the ability to interact with the account holder's financial insurance coverage systems e.g. employer's benefit system or the insurance company's benefit information systems.	325
PH.6.2	F	Manage Assessments (Symptoms)	<p>Statement: Manage information related to self assessments.</p> <p>Description: The account holder may make a self assessment concluding that they need an encounter with a provider. This self assessment should include a specific reason or reasons for the encounter referred to as the chief complaint(s) and personal observations or measurements that might be germane to the encounter.</p> <p>Example: The system SHALL provide the ability to document using standard self-assessments germane to the age, gender, developmental state, and health condition as appropriate.</p>	(EN)		1. The system SHALL provide the ability to create self-assessments.	326
						2. The system SHALL provide the ability for the account holder to complete self assessment templates as available.	327
						3. The system SHOULD provide the ability to document using standard self-assessments germane to the age, gender, developmental state, and health condition as appropriate.	328
						4. The system SHOULD provide the ability to capture data relevant to standard self-assessment.	329

ID#	Type	Name	Statement/Description	PRIORITY	See Also in PHR-S FM	Conformance Criteria	Row #
						5. The system SHOULD capture account holder's self-reported physical symptoms and daily functioning as structured or unstructured data.	330
						6. The system SHOULD provide to ability to record account holder's self-reported mental health status as structured or unstructured data.	331
						7. The system MAY capture other self-reported clinical measures e.g. peak expiratory flow rate, size of lesions, oxygen saturation.	332
						8. The system MAY compute and display percentile values when data with normative distributions are entered.	333
						9. The system MAY provide normal ranges for data based on age and other parameters such as height, weight, ethnic background, gestational age.	334
PH.6.3	F	Communications Between Provider and Patient and/or the Patient Representative (capture the technically feasible as EF, the	<p>Statement: The system should enable the account holder to capture information in preparation for the encounter. The system should enable the account holder to request appointments with health care providers and capture information in preparation for the encounter.</p> <p>Description: The account holder may fulfill specific requests for data or obtain requested diagnostic studies</p>	(EF-Std & OPT)		1. The system SHALL provide the ability to capture, index and store documentation of communications between providers and the account holder and/or the account holder's representatives.	335

ID#	Type	Name	Statement/Description	PRIORITY	See Also in PHR-S FM	Conformance Criteria	Row #
		rest as OPT)	prior to the formal encounter. This may include providing PHR access to the new provider. Example: The account holder MAY fill out a current ROS (Review Of Systems) template questionnaire and specific chief complaint related questions as part of the HPI (History of Present Illness) prior to the encounter.			2. The system SHOULD provide the ability to incorporate, identify type of document scanned and index scanned documents.	336
						3. The system SHOULD provide the ability to document communication originating with the account holder or account holder representative (e.g. date, entity, details of communication).	337
						4. The system SHALL provide the ability to capture, index and store documentation regarding family member or account holder representative authorizations to receive account holder related health information.	338
						5. The system SHOULD alert account holder to the presence of provider originated communications.	339
						6. The system SHALL provide the ability to notify the account holder of a reminder of events related to their care (e.g. upcoming appointments) as agreed upon by the account holder and/or account holder representative.	340

ID#	Type	Name	Statement/Description	PRIORITY	See Also in PHR-S FM	Conformance Criteria	Row #
						6. 7. The system SHOULD provide the ability to communicate between providers and account holders or their representative using a secure internet connection.	341
PH.6.4	F	Data and Documentation from External Clinical Sources	<p>Statement: The system should capture, index, and store documentation related to the encounter.</p> <p>Description: Most encounters generate documentation that can be captured in the PHR. Additional supporting data such as diagnostic reports or consultations may be included. A prolonged hospitalization encounter may encompass numerous structured or unstructured documents.</p> <p>Example: The system should capture, index, and store encounter information include the encounter document or summary, lab results, radiographic images, PACS, EKG, and scanned documents.</p>	(EF-Std)		1. IF information is received through any electronic interface or electronically referenced, THEN the system SHALL display it upon request, in accordance with organizational policy and jurisdictional law.	342
						2. The system SHALL provide the ability to capture externally sourced electronic clinical documentation (henceforth "documentation") including original, updates and addenda, in accordance with organizational policy and jurisdictional law.	343
						3. The system SHOULD provide the ability to associate documentation and annotations with structured content including problems, diagnoses, office visit, phone communication, e-mail consult and lab results.	344

ID#	Type	Name	Statement/Description	PRIORITY	See Also in PHR-S FM	Conformance Criteria	Row #
						4. IF documentation is captured in or from an encounter with providers, THEN the system SHALL provide the ability to present captured documentation to the account holder.	345
						5. The system SHOULD provide the ability to filter, search or sort notes.	346
						6. The system SHOULD provide documentation templates for data exchange.	347
PH.6.5	H	Provider Assessments	<p>Statement: Enable the PHR Account Holder to capture provider assessments and their supporting documentation such that the account holder or another provider may independently verify the assessments.</p> <p>Description: The provider may make assessments (observations, working hypotheses, differential diagnoses, or definitive diagnoses) derived from the new clinical information obtained during the encounter supplemented by additional PHR information including the current state data set. These assessments will direct further diagnostic, therapeutic, and health maintenance care.</p> <p>Examples: The system MAY provide the ability to compare assessment data entered during the encounter and the accessed health evidence based standards and best practices.</p>	(OPT)		1. The system SHALL provide the ability to access health assessment data needed to support the assessment.	348
						2. The system SHOULD provide the ability to create standard assessments that correspond to the problem list including new problems defined during the encounter.	349
						3. The system SHOULD provide the ability for the account holder to enter a note regarding the assessment.	350
						4. The system MAY provide the ability to access evidence based standard assessments, practice standards, or other generally accepted, verifiable, and regularly updated standard clinical sources.	351

ID#	Type	Name	Statement/Description	PRIORITY	See Also in PHR-S FM	Conformance Criteria	Row #
						5. The system MAY provide the ability to compare assessment data entered during the encounter and the accessed health evidence based standards and best practices	352
PH.6.6	F	Referrals and Referral Process	<p>Statement: Manage information related to referrals for the account holder benefit and convenience.</p> <p>Description: For many referrals to other provider organizations, the account holder must manage data, approvals, and appointments related to the referral. The account holder may need to ensure that relevant data are received by the provider for the referral encounter. The account holder may need to interact with their his or her insurance company to secure authorization for payment for a referral to a provider.</p> <p>Examples: The system SHOULD provide the ability to include test and procedure results with a referral.</p>	(OPT)	NOTE: will work this in chapter consistency.	1. The system SHOULD provide the ability to send clinical and administrative data to a referral provider (e.g. insurance information) as part of the referral process.	353
						2. The system SHOULD provide the ability to include test and procedure results with a referral.	354
						3. The system SHOULD provide the ability for the account holder to assign temporary view, print, download, or export privileges the referring provider or provider representative to access the account holders PHR.	355
						4. The system SHOULD provide the ability to allow clinical, administrative data, and test and procedure results to be transmitted to the referral clinician.	356
PH.6.7	F	Patient Specific Care, Instructions, Treatment Plans, Guidelines and Protocols	<p>Statement: The system should facilitate the development of provider generated care plans and their capture and integration by the PHR.</p> <p>Description: The provider may develop and recommend a specific care plan that is tailored to the</p>	(OPT)		1. The system SHALL provide the ability to capture externally sourced instructions or references to documents containing those instructions.	357

ID#	Type	Name	Statement/Description	PRIORITY	See Also in PHR-S FM	Conformance Criteria	Row #
			<p>account holder's particular circumstances including information in their his or her PHR. The care plan may require input from several providers developed over multiple encounters. This includes enabling authorized Health Care Provider(s) to generate, communicate and record specific instructions, including instructions about diet, clothing, transportation assistance, convalescence, follow-up with physician, and other related instructions.</p> <p>Examples: The system MAY provide the ability to create and use site-specific and account holder care plans and guidelines. (e.g. isometric exercises in office vs. swimming in home pool).</p>			2. The system SHOULD provide the ability to capture details on further care such as follow up, return visits and appropriate timing of further care.	358
						3. The system SHOULD identify and display abnormal trends.	359
						4. The system MAY provide the ability to modify site-specific and account holder care plans and guidelines e.g. isometric exercises in office vs. swimming in home pool.	360
						5. The system MAY provide the ability to create and use site-specific and account holder care plans and guidelines e.g. isometric exercises in office vs. swimming in home pool.	361
						6. The system MAY identify, track and provide alerts, notifications and reports about variances from care plans and guidelines.	362
PH.6.8	F	Manage Patient-Specific Care and Treatment Plans ??? add Plan-based care??	<p>Statement: The system should facilitate the capture and implementation of the care plan in the PHR.</p> <p>Description: Once a care plan is developed it must be incorporated into the PHR and implemented. The care plan may be limited in scope or comprehensive involving</p>	(OPT)	See links	1. The system SHOULD provide the ability to capture account holder-specific plans of care and treatment e.g. information about orders, therapies.	363

ID#	Type	Name	Statement/Description	PRIORITY	See Also in PHR-S FM	Conformance Criteria	Row #
			multiple providers, encounters, institutions, and years of time. Example: A comprehensive breast cancer treatment plan may include multiple diagnostic imaging staging studies, surgical procedures, a chemotherapy protocol, details of the radiation therapy plan , plastic surgery reconstruction and long term post therapy surveillance plan to be posted in the PHR and referenced by the cancer care team.			2. The system SHOULD provide the ability to track updates to a patient's plan of care and treatment including authors, creation date, version history, references and sources as available.	364
						3. The system MAY provide the ability to capture adequate order details for account holder to understand and comply with order.	365
						4. The system SHOULD provide the ability to access care and treatment plans that are sensitive to the context of account holder data e.g. peak flow, weight, blood pressure, dietary preferences.	366

Chapter Four: Supportive Functions

ID#	Type	Name	Statement/Description	PRIORITY	See Also in EHR-S FM	Conformance Criteria	Row #
S.1	H	Provider Information	Statement: The purpose of this section is to provide the system support to obtain a list of providers in an area and/or within a health plan panel and then maintain, or provide access to, current provider information.				1
S.1.1	F	Manage Selection of Providers	<p>Statement: Support an account holder in seeking providers who may meet their healthcare requirements.</p> <p>Description: In seeking healthcare, the system should support the account holder being able to obtain a list (s) of providers by geographic area and/or within a dental or medical plan panel. Further the account holder should be able to sort providers by attributes including but not limited to specialty, office hours, gender and language. The account holder should be able to maintain, or provide access to, current provider information. An account holder may desire to research because of a planned household relocation to another geographic area, a diagnosis requiring highly specialized care by healthcare providers and or healthcare facilities that are in limited availability. The system should be flexible on alternative sources of information allowing the account holder to review providers who might best meet the individual's needs.</p>	(EN)	S.1.4	<ol style="list-style-type: none"> 1. The system SHOULD provide the ability to access multiple sources of healthcare provider and system information 2. The system SHOULD provide the ability to search on more than one or more provider attributes simultaneously. 3. The system MAY provide the ability to search the available health benefit plan provider panel based on one or more attributes. 4. The system MAY provide the ability to compare a chosen provider to the health plan provider panel in order to determine in or out of network benefits. 5. The system SHALL capture the provider contact/business information. 6. The system SHALL display the provider contact/business information. 7. The system MAY provide the ability to capture provider participation in payer networks. 8. The system MAY provide the ability to capture provider participation in payer benefit plan products. 9. The system MAY provide the ability to capture a healthcare provider privilege status at a healthcare facility. 	2 3 4 5 6 7 8 9 10

ID#	Type	Name	Statement/Description	PRIORITY	See Also in EHR-S FM	Conformance Criteria	Row #
						10. The system MAY provide the ability to verify healthcare provider credentials.	11
S.1.2	F	Manage Account Holder Provider's Information	<p>Statement: Manage contact information for the PHR Account Holder's current and past health care providers.</p> <p>Description: A system should maintain both current and past contact information about a provider. The system may also collect and maintain background information about a provider such as academic credentials, certifications and specialties. Healthcare providers may be individuals, teams, or organizations such as clinics. The system should allow the account holder to manage teams of providers. A team of providers may be a group of healthcare physicians practicing in the same healthcare facility. For example, a primary care provider, an orthopedic specialist, physiatrist and physical therapy may comprise a team at a facility during a acute hospitalization. A team of providers could also be designated by the account holder based on a disease process. For example, in the case of extended care after a motor vehicle accident with extreme facial injury, the team may be comprised of a dentist, an orthodontist, a maxillo-facial specialist, and orthopedist, a reconstructive specialist and a chiropractor. These healthcare providers may not be part of a healthcare facility, but all may be instrumental in the complete care of the</p>	(EN)		<p>1. The system SHALL provide the ability to capture account holder provider contact information.</p> <p>2. The system MAY have the ability to capture background information about and for the PHR account holder's providers.</p> <p>3. The system SHOULD provide the ability to maintain contact and background information about the providers as part of the account holder record.</p> <p>4. The system SHALL provide the ability to track updates of contact and background information.</p> <p>5. The system SHALL retrieve provider contact/business information as part of the account holder record.</p> <p>6. The system SHOULD provide the ability to identify providers as part of an existing provider defined care team(s).</p> <p>7. The system SHOULD capture information necessary to identify primary and secondary practice locations or offices of providers to support communication and access.</p> <p>8. The system MAY provide the ability to capture and output provider's scheduled work hours at each location.</p> <p>9. The system SHOULD provide the ability to identify providers as part of the PHR account holder's team(s).</p> <p>10. The system MAY provide the ability to update healthcare provider credentials.</p>	<p>12</p> <p>13</p> <p>14</p> <p>15</p> <p>16</p> <p>17</p> <p>18</p> <p>19</p> <p>20</p> <p>21</p>

ID#	Type	Name	Statement/Description	PRIORITY	See Also in EHR-S FM	Conformance Criteria	Row #
			individual, requiring coordination by the account holder.			11. The system MAY provide the ability to designate the provider as active or previous/past member of the account holder care team.	22
S.1.3	F	Manage Health Care Provider Information	<p>Statement: Support the import or retrieval of data necessary to identify a healthcare provider.</p> <p>Description: This information will assist the account holder in contacting a provider to schedule appointments and ask health-related questions. The provider roles include, but are not limited to, physician, nurse and physical therapist. This is the overall basis for the selection of provider in S.1.2.</p>	(EN)	S.3.4	<p>1. The system SHALL provide the ability to input or create information on provider location or contact information on a facility's premises.</p> <p>2. The system SHALL 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.</p> <p>3. The system SHOULD provide the ability to restrict the view of selected elements of the provider information, subject to the account holder's security and access needs.</p>	23 24 25
S.1.4	F	Manage Provider Transparency Information	<p>Statement: Support the import or retrieval of data necessary to review available quality, performance, and cost measurements regarding providers.</p> <p>Description: A variety of stakeholders offer consumers the ability to evaluate the credentialing, quality, performance, and cost. Having ready access to the information will assist the consumer in their evaluation and selection of providers.</p>	(EF-STD)	S.1.1 S.1.2	<p>1. The system SHOULD provide the ability to import or retrieve healthcare facility data required to assess health care quality, performance and cost.</p> <p>2. The system SHOULD provide the ability to read the imported information.</p> <p>3. The system SHOULD provide the ability to store and retrieve the imported information.</p>	26 27 28
S.1.5	F	Manage Healthcare Facility Information	<p>Statement: Support the import or retrieval of data necessary to identify a healthcare facility.</p> <p>Description: This information will assist the</p>	(EN)		1. The system SHALL provide the ability to input or create information on facility location or contact information on a facility's premises.	29

ID#	Type	Name	Statement/Description	PRIORITY	See Also in EHR-S FM	Conformance Criteria	Row #
			account holder in identifying where a facility is located and in contacting a facility to schedule appointments. These facilities may be local or remote from the account holder. The facility types include, but are not limited to, hospitals, clinics, same day surgery centers.			2. The system SHALL provide the ability to add, update, or inactivate information on facility's location or contact information on a facility's premises.	30
S.1.6	F	Manage Healthcare Facility Transparency Information	<p>Statement: Support the import or retrieval of data necessary to review available quality, performance, and cost measurements regarding healthcare facilities.</p> <p>Description: A variety of stakeholders offer consumers the ability to evaluate the quality, performance, and cost. Having ready access to the information will assist the consumer in their evaluation and selection of healthcare facility.</p>	(EP-std)		<p>1. The system SHOULD provide the ability to import or retrieve healthcare facility data required to assess health care quality, performance and cost.</p> <p>2. The system SHOULD provide the ability to read the imported information.</p> <p>3. The system SHOULD provide the ability to store and retrieve the imported information</p>	<p>31</p> <p>32</p> <p>33</p>
S.1.7	F	Manage Surveys on the Healthcare Experience	<p>Statement: Enable the account holder to respond to surveys on his or her healthcare experience.</p> <p>Description: This feature would enable providers, payers and account holders to assess and provide feedback on areas such as the perceived patient-centeredness of care, satisfaction and performance, and the transparency efforts to improve quality of care. The system may simply direct the account holder to a separate, external survey tool, or may provide the capacity to manage the entire survey process.</p>	(EN)		<p>1. The system SHALL provide the ability to inform the account holder that a survey is available.</p> <p>2. The system SHALL provide the ability to direct the account holder to the survey.</p> <p>3. The system MAY provide the ability to capture the results of account holder survey responses from external survey tools.</p> <p>4. The system MAY provide the ability to create a survey to capture account holder responses</p>	<p>34</p> <p>35</p> <p>36</p> <p>37</p>

ID#	Type	Name	Statement/Description	PRIORITY	See Also in EHR-S FM	Conformance Criteria	Row #
						5. The systems MAY provide the ability to manage the survey results.	38
S.2	H	Financial Management	Statement: The purpose of this section is to provide the system support in managing financial information related to benefit plan coverage and service utilization.				39
S.2.1	F	Capture and Read Health Insurance Account and Benefit Information	<p>Statement: Enable the account holder to request and/or receive and read information on their general health insurance benefits.</p> <p>Description: Account holders may want to centralize administrative information related to the insurance accounts that he/she participate in. Administrative information such as group, group number, policy number, member identification number, effective and termination dates, probationary periods, pre-existing condition constraints, prior authorization or referral requirements and others are important data for provider offices for billing purposes. Current and prior insurance coverage information is important for correct billing and payment. Detail of multiple coverages allows for coordination of benefits information to be easily provided. The ability to capture information of separate riders such as extra major medical coverage or cancer specific coverages in addition to routine benefit plans assists the account holder in better knowledge and utilization of</p>	(OPT)		<p>1. The system SHOULD provide the ability to capture health insurance benefit information.</p> <p>2. The systems SHOULD provide the ability for the account holder to read the health insurance benefit information.</p> <p>3. The system SHOULD provide the ability to support multiple payer sources of health insurance benefits information.</p> <p>4. The system SHOULD allow the insurance type to be specified e.g. medical, dental.</p> <p>5. The system SHOULD provide the ability to capture insurer(s) contact information.</p>	<p>40</p> <p>41</p> <p>42</p> <p>43</p> <p>44</p>

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			<p>the financial resources available for payments. The systems should allow the account holder to display patient responsibility and benefit plan covered costs --both estimated and final---for a given event e.g. test, procedure, surgery or provider appointment.</p> <p>In newer plan types such as Consumer Directed Health Plans (CDHP), this information will help the account holder determine the financial implications of his/her treatment options, alternative treatment options and provide information that may be needed by the provider.</p>			<p>6. The system MAY provide the ability for an account holder to display estimated patient responsibility and insurance covered costs for an event.</p> <p>7. The system SHOULD provide the ability for an account holder to display final patient responsibility and insurance determination for an event.</p> <p>8. The system SHOULD provide the ability to track multiple categories of account distributions related to the varied financial implications of funds usage in CDHP accounts</p>	45 46 47
S.2.2	F	Manage Health Insurance Plan Benefit Information	<p>Statement: Allow Enable the account holder to capture, read, update and remove access to health insurance benefit information including but not limited to past, current and future (if known) benefit plans.</p> <p>Description: Robust management features allow the account holder to actively maintain their health insurance benefits information for selected benefits related to account holder coverage needs. Over an extended period of time, with the likelihood of multiple insurance providers, it may be</p>	(OPT)		<p>1. The system SHOULD provide the ability to allow the account holder to capture selective selected insurance benefit information that is pertinent to the account holders needs.</p> <p>2. The system SHOULD provide the ability to maintain the selected health insurance benefit information.</p>	48 49

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			<p>important for there to be information management capability for the varied payer sources, varied levels of benefit information, and varied levels of coverage including allowed coverages, exclusions, limitations on specific coverages. Administrative data should be captured through PHR account holder data entry or electronically through data importing. Updating of information should be manual or electronic. If data is available electronically, the account holder should have the ability to determine which data will be added or updated. The account holder should have the ability to edit data entered by the account holder with an audit trail of those changes if the account holder so desires. The account holder should have the ability to edit data entered from other sources, but with a permanent audit trail of changes made to non-account holder originated data. For instance if the account holder changes data that originated from a dentist office, that change would be reflected in an audit trail.</p> <p>Several important features set accounts like CDHPs apart from traditional health insurance coverage. And warrant special system features and operations considerations: 1) rollover of balances to</p>			3. The system SHOULD provide the ability to track updates made to selected plan benefit information.	50
						4. The system SHOULD provide the ability to manage multiple payer sources of health insurance benefit information.	51
						5. The system MAY provide the ability to capture preauthorization requirements for medications and health services specific to the account holder's policies. The system SHOULD provide the ability to manage multiple categories of account distributions which may be related to the varied financial implications of funds usage in accounts such as CPHDs.	52
						6. The system MAY provide the ability to capture referral requirements for health care providers. The system MAY provide the ability to capture preauthorization requirements for medications and health services specific to the account holder's policies.	53

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			successive years, 2) portability of accumulated HSA balances, 3) possible tax advantages. These special CDHP attributes mean there will be system and data sharing implications for related financial models, CDHP consumer advisory services, and consumer choice for both medical services and the investment decision for “surplus” discretionary contributions.			7. The system MAY provide the ability to capture referral requirements for health care providers.	54
S.2.3a	F	Manage Standard Clinical Reporting	<p>Statement: Enable authorized account holders or designees to request and read pre-configured, packaged reports of PHR clinical information.</p> <p>Description: Account holders may request standard, pre-configured, packaged reports. The purpose is not for PHR interchange but rather for account holder’s analysis of his/her clinical data, and for sharing of the PHR information for any purposes the account holder deems appropriate. Examples include reports of conditions, medications or completed preventive care.</p>	(EN)		<p>1. The system SHALL [provide the ability to generate printer friendly standard reports of structured clinical data using either internal or external reporting tools.</p> <p>2. The system SHOULD provide the ability to include information from unstructured clinical data in the report generation process, using internal or external tools.</p> <p>3. The system SHOULD provide the ability to include information from unstructured clinical data in the report generation process, using internal or external tools.</p> <p>4. The system (or an external application using data from the system) MAY provide the ability to save report parameters for generating subsequent reports</p> <p>5. 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.</p>	65 66 67 68 69
S.2.3b	F	Manage Standard Administrative and Financial Reporting	<p>Statement: Enable authorized account holders or designees to request and read pre-configured, packaged reports of PHR administrative and financial information.</p>	(OPT)		1. The system SHOULD [provide the ability to generate printer friendly standard reports of structured administrative and financial data using either internal or external reporting tools.	

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			<p>Description: Account holders may request standard, pre-configured, packaged reports. The purpose is not for PHR interchange but rather for account holder's analysis of his/her health related financial and administrative data, and for sharing of the PHR information for any purposes the account holder deems appropriate.</p> <p>Examples would include health plan eligibility, identification numbers, coverage dates.</p>			2. The system SHOULD provide the ability to specify report parameters based on account holder administrative and/or financial data which would allow sorting and/or filtering of the data.	
						3. The system SHOULD provide the ability to include information from unstructured administrative and financial data in the report generation process, using internal or external tools.	
						4. The system (or an external application using data from the system) MAY provide the ability to save report parameters for generating subsequent reports	
						5. 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.	
S.2.4	F	Manage Ad Hoc Clinical Reporting	<p>Statement: Allow authorized account holders or designees to request and read ad hoc reports of PHR clinical information.</p> <p>Description: Account holders may request ad hoc, non-standard reports. The purpose is not for PHR interchange but rather for account holder's analysis of his/her clinical data, and for sharing of the PHR information for any purposes the account holder deems appropriate.</p>	(EN)		1. The system SHALL provide the ability for the authorized account holder to create ad hoc reports of the PHR.	70
						2. The system SHOULD provide the ability for the authorized account holder to create customized reports of summarized information based on sort and filter controls for date or date range, problem, or other clinical data element or categories e.g. medications or providers.	71
						3. The system SHOULD provide the ability to save the ad hoc reports for future retrieval and use.	72
						4. The system SHOULD provide the ability to maintain summarized information through customized views reports based on prioritization of chronology, problem or other pertinent information of importance to the authorized	73

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						account holder.	
						5. The system SHALL provide the ability to create views reports that mask certain information from other account holders e.g. providers, caregivers, payers,	74
						6. The system MAY provide the ability to produce consolidated reports across family members e.g. children.	75
						7. The system SHOULD conform to IN.6.4 (Entity Authorization.)	76
						8. The system SHALL conform to IN.6.5 (Auditable Records)	77
S.2.4b		Manage Ad Hoc Administrative and Financial Reporting	<p>Statement: Allow authorized account holders or designees to request and read ad hoc reports of PHR administrative and financial information.</p> <p>Description: Account holders may request ad hoc, non-standard reports. The purpose is not for PHR interchange but rather for account holder's analysis of his/her health related financial and administrative data, and for sharing of the PHR information for any purposes the account holder deems appropriate.</p>	(OPT)		<p>1. The system SHOULD provide the ability for the authorized account holder to create ad hoc views reports of the PHR administrative and financial data</p> <p>2. The system SHOULD provide the ability for the authorized account holder to create customized view reports of summarized information based on sort and filter controls for date or date range, problem, or other administrative or financial data element or categories e.g. eligibility dates.</p> <p>3. The system SHOULD provide the ability to save the ad hoc views reports for future retrieval and use.</p> <p>4. The system SHOULD provide the ability to maintain summarized information through customized views reports based on prioritization of chronology or other pertinent information of importance to the authorized account holder.</p> <p>5. The system SHOULD provide the ability to create views reports that mask certain information from other account holders e.g. providers, caregivers, payers.</p>	

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						6. The system MAY provide the ability to produce consolidated reports across family members e.g. children. 7. The system SHOULD conform to IN.6.4 (Entity Authorization.) 8. The system SHALL conform to IN.6.5 (Auditable Records)	
S.3	H	Administration Management	Statement: The purpose of this section is to provide the system support in managing the PHR-S and the interaction with other PHR-S and EHR-S systems. It also serves as a set of functions to manage documentation related to the PHR-S as well as legal documents that affect or may affect the PHR Account Holder.				78
S.3.1	F	Manage Interoperability of Account Holder Demographics	Statement: Support the ability to capture or have interactions with other systems, applications and modules to enable the creation and maintenance of demographic information. Description: The account holder demographic data set is needed to support identification and to enhance the prospect for interoperability. The account holder should be able to request or make changes to their demographic data and allow for export of all or parts of the demographic data to other systems.	(EF-STD)		1. The system MAY add and update demographic information through interaction with other systems, applications and modules. 2. The system MAY provide notification to the account holder of add and update demographic changes, as a result of interaction with other systems, applications and modules. 3. 2- The system SHOULD provide the ability for an account holder to make requests for maintenance of their demographic information.	79 80 81

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						4. The system SHOULD provide the ability for an account holder to make requests to other external systems for maintenance of the account holder's demographic information.	82
S.3.2	F	Manage PHR Conditions of Use	<p>Statement: Outline the sponsor requirements for use of the system.</p> <p>Description: The terms of conditions outline the sponsor requirements in using the application. The terms and conditions may include items such as copyright information, trademarks and intellectual property, third party links, indemnification, privacy, limitation of liability, term and termination and other miscellaneous provisions. The account holder should be notified of the expectations of the sponsor and have the opportunity to agree to the requirements and any changes to the requirements.</p> <p>The Condition of Use document also helps indemnify the PHR sponsor against certain misuse of the data. For example, a published article on diabetes may contain a copyright notice that forbids the storage of that article on a computer without first paying for the article. The Condition of Use document would inform the PHR Account holder that the sponsor does not support copyright infringement.</p>	(EN)		<p>1. The system SHOULD require the account holder to agree to a the Conditions of Use when the system is initially used by the account holder.</p> <p>2. The system SHOULD provide periodic reminders to the account holder of the Conditions of Use.</p> <p>3. The system MAY provide the ability to display changes to conditions of use.</p> <p>4. The system SHOULD provide the ability to view and print the conditions of use.</p> <p>5. The system SHOULD provide the ability for the account holder to report to the PHR-S sponsor(s) as part of the process to seek redress for the sponsor 's failure to meet performance expectations as specified in the Conditions of Use agreements.</p>	83 84 85 86 87

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S.3.3	H	Manage Legal and other Related Documents	<p>Statement: Manage legal and other related documents that allow or restrict the use or disclosure of the account holder's information.</p> <p>Description: The PHR system should allow for the entry of documents related to the use or disclosure of the PHR owner's information. These documents may include scanned images or electronic images sent via attachment. The system does not judge the authenticity of the document. The account holder should ensure they have the original document or approved copy of a document or other images. The system allows for multiple instances of the same document e.g. multiple authorizations. The system allows for retiring but tracking of documents no long used. The system allows for the removal of documents at the owners discretion.</p>				88
S.3.3.1	F	Manage Consents and Authorizations	<p>Statement: Maintain consents and authorization directives/statements for any entity that may or may not have access to the account holder's PHR.</p> <p>Description: The PHR owner may have Consents and/or Authorization directives that allow or prohibit certain entities from access to part or all of the PHR. Directives may take different forms including documents or system flags on consent authorization. The consent or authorization requirements would be maintained in accordance with scope of practice, organizational policy and/or jurisdictional</p>	(EN)	S.3.6	<ol style="list-style-type: none"> 1. The system SHALL provide the ability to create Consent and Authorizations that are consistent with jurisdictional law. 2. The system SHOULD provide the ability to select the entity to which the Consent or Authorization applies. 3. The system SHOULD provide the ability to define an entity to which the Consent or Authorization applies. 4. The system SHOULD provide the ability to identify a section or sections to which the Consent or Authorizations applies. 5. The system SHOULD provide the ability to identify individual elements of records to which the Consent or Authorization applies. 	89 90 91 92 93

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			law. Based on that, the consent or authorization might contain the details of the entity that may be authorized to use, or may be prohibited from using the PHR. The authorization or consent may detail to the record, field or class, the data available to be used or disclosed. The entities that the consent or authorization applies to may or may not be current account holders of the PHR.			6. The system SHOULD provide the ability to define the time period within which the Consent or Authorization is enforced. 7. The system SHOULD provide the ability to export Consents and Authorizations to other PHRs, EHRs or print. ADD referred to HL7 consent standards. 8. The system SHOULD provide the ability to capture Consents and Authorization through electronic interfaces such as scanning or faxing. 9. The system MAY provide the ability to reference external consents and authorizations (external EHR).	94 95 96 97
S.3.3.2	F	Manage End-of-Life Documents and Other Advance Directives	<p>Statement: Manages documents that provide direction for end-of-life care.</p> <p>Description: The account holder may want to capture and maintain documents that pertain to end-of-life care. End-of-life documents include but are not limited to: Advanced Directive for Healthcare; Power of Attorney for Healthcare and Physician Order for Life Sustaining Treatment. The system should allow for multiple occurrences of a document and the ability to archive documents. The documents maintained will depend on the jurisdictional law. The documents may or may not reside in the PHR system. The document may be scanned images, structured documents or simply a notation on the location of the original (hardcopy or original).</p>	(OPT)		1. The system SHOULD provide the ability to capture documents related to end-of-life care. 2. The system SHOULD provide the ability to sort a list of end-of life documents based on one or more defined data elements. 3. The system MAY provide the ability to identify a document as Active or Non-Active by category of document. 4. The systems SHOULD maintain the end-of-life document and/or notation location.	102 103 104 105

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S.3.3.3	F	Manage Documents for Personal Representation	<p>Statement: Manage documents that designate those authorized to act on behalf of the account holder.</p> <p>Description: The account holder may want to capture and maintain documents that pertain to designating those authorized to act on behalf of account holder for healthcare. Examples include but are not limited to: Guardianship, Legal Custodial Parent, Executor or Trustee. The system should allow for multiple occurrences of a document and the ability to archive documents. The documents maintained will depend on the jurisdictional law. The documents may or may not reside in the PHR system. The document may be scanned images, structured documents or simply a notation on the location of the original (hardcopy or original).</p>	(OPT)		1. The system SHOULD provide the ability to capture documents designating those authorized to act on behalf of account holder for healthcare.	106
						2. The system SHOULD provide the ability to sort a list of documents designating those authorized to act on behalf of account holder based on one or more defined data elements.	107
						3. The system MAY provide the ability to identify a document designating those authorized to act on behalf of account holder as Active or NonActive by category of document.	108
						4. The systems SHOULD maintain the document designating those authorized to act on behalf of account holder and/or notation location.	109
S.3.4	F	Manage Data Masking for Sensitive or Selective Information	<p>Statement: Allow the account holder or designee to mask data on a selective, record, field-by-field, or class basis as one aspect of controlling access to personal health data. The account holder has the ability to determine what information is available to an authorized account holder of the PHR information.</p> <p>Description: The account holder or designee needs the ability to protect sensitive information by masking specific</p>	(EN)		1. The system SHOULD provide the ability for the account holder or designee to specify records, data fields, or data class that will not display intelligibly unless viewed by specified role incumbents under specified conditions.	110
						2. The system MAY provide the ability to offer different levels of masking related to the data or to the approach for masking.	111

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			content without deleting the information. (Note: glossary should include a definition of masking specifying it as the ability to send data with a display characteristic such that the original content can only be viewed under extraordinary conditions by specific role incumbents). <i>Example:</i> The account holder wants to make the fact of STD or pregnancy known if and only if she arrives at an emergency room unconscious			3. The system SHOULD provide the ability to query systems requesting personal health information to insure the requesting system has the ability to protect masked data	112
						4. The system SHOULD provide the ability to reject a request for transfer of data to other systems that do not support the ability to protect masked data.	113
S.3.5	F	Manage PHR Output	Statement: Enable authorized account holders or designees to manage and generate PHR output Description: Account holders may request PHR output, which may include standard and ad hoc reports in hardcopy or electronic formats. This output may be for account holder's analysis of his/her health related financial and administrative data, and for sharing of the PHR information for any purposes the account holder deems appropriate.	(EN)		1. The system SHALL provide the ability to generate reports consisting of all or part of an individual's PHR.	114
						2. The system SHOULD provide the ability to define the records or reports that are considered the formal health record for disclosure purposes.	115
						3. The system SHOULD comply with IN.1.5 Store and Manage Unstructured Health Record Information, (The system SHOULD keep a record of all updates and changes made)	116
						4. The system SHOULD comply with IN.1.6 Store and Manage Structured Health Record Information, (The system SHOULD keep a record of all updates and changes made)	117
						5. The system SHOULD provide the ability to create hardcopy and electronic report summary information e.g. procedures, medications, lab results, immunizations, allergies, vital signs.	118
						6. The system SHOULD provide the ability to create reports in both chronological and specified records elements order.	119
S.3.6	F	Manage PHR Data Import and Export	Statement: Allow account holder to manage the import to and export of data from a PHR-S.	(EF-STD)		1. The system SHOULD provide the ability to accommodate the exchange of its data content to another PHR system.	120

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			<p>Description: An account holder needs to prescribe how data is exchanged with other systems including how data is imported to the PHR, and the parameters for data export (who, when, extent of data). Some import and export functions may be one time events. Others may be subscription services such that at regular intervals the PHR is updated, or other data stores are updated from the PHR. The account holder should be able to determine the information or data that he/she will accept into the PHR. The system should record the acknowledgement or refusal of data sent to the account holder's PHR.</p> <p><i>Example:</i> A PHR account holder uses an interface within the PHR to have a provider's EHR-S updated with new PHR information every time a specialist encounter is entered within the PHR.</p>			<p>2. The system SHOULD provide the ability to import accommodate the exchange of account holder-defined data from with an EHR-S.</p> <p>3. The system SHOULD provide the ability to export accommodate the exchange of account holder-defined data to an EHR-S with other systems.</p> <p>4. The system SHOULD provide the ability for the PHR account holder to designate entities from which data will be imported into the PHR.</p> <p>5. The system SHOULD provide the ability for the PHR account holder to designate entities to which data will be exported from the PHR.</p> <p>6. The system SHOULD provide the ability for the PHR account holder to exchange information with a source an entity on a one-time or a recurring basis.</p> <p>7. The system SHOULD provide the ability for the account holder to annotate incoming information, as it is filed.</p> <p>8. The system SHOULD provide the ability for the account holder to acknowledge receipt or denial of information sent from another system.</p>	<p>121</p> <p>122</p> <p>123</p> <p>124</p> <p>125</p> <p>126</p> <p>127</p>
S.3.7	F	Manage Secondary Use Requests	<p>Statement: Support the formal and routine request for account holder health record information for secondary uses.</p> <p>Description: Provide hardcopy and/or electronic output that supports the needs of a variety of secondary uses such as: annual immunization requests from schools/camps, application processing for disability requests, validation of compliance with treatment regimens. This mechanism should be provided for both chronological and</p>	(EN)		<p>1. The system SHOULD provide the ability to record the requestor of the data including date of request and date of request determination.</p> <p>2. The system MAY provide the ability for the account holder to password protect account holder defined exported records for additional privacy.</p> <p>3. The system SHOULD provide the ability to identify specific PHR information to be reviewed and acted upon by the authorized account holder for the purpose of inactivation,</p>	<p>128</p> <p>129</p> <p>130</p>

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			specified record element output. An auditable record of these requests and associated exports may be maintained by the system. The system has the capability of providing a report of accounting of disclosures of the secondary account holders in accordance with scope of practice, organizational policy and/or jurisdictional law			destruction or retention.	
						4. The system SHOULD provide the ability to include account holder identifying information on each page of the reports generated.	131
						5. The system SHOULD provide the ability to export PHR records to a variety of account holders using various platforms without needing special viewing software.	132
S.3.8	F	Manage Requests for Release of Information	<p>Statement: Support requests for release of account holder health record information.</p> <p>Description: Either the account holder or the account holder's designee may receive formal requests to release some or all of the PHR information. These requests may be ad hoc, or may also be routine, recurring requests that may be episodic or longer term. These requests may be related to patient care, administrative process, law enforcement or legal action. An auditable record of these requests and associated fulfillment(s) should be maintained by the system. The system should providing an accounting of PHR disclosures of the Release of Information Requests in accordance with scope of practice, organizational policy and/or jurisdictional law.</p>	(OPT)	IN.6.1.5 IN.6.1.5 IN 6.2.1	<p>1. The system SHOULD provide the ability to record the requestor of the data including date of request and date of request determination.</p> <p>2. The system SHOULD provide the ability to record the Authorization or Consent associated with the request for release of information.</p> <p>3. The system MAY provide the ability to manage and track the fulfillment status of requests.</p> <p>4. The system SHOULD support recurring, standing requests for PHR information</p> <p>5. The system MAY provide the ability for the account holder to password protect account holder defined exported records for additional privacy.</p> <p>6. The system SHOULD provide the ability to maintain unstructured health record information.</p> <p>7. The system SHOULD provide the ability to maintain structured health record information.</p> <p>8. The system MAY provide the ability to identify specific PHR information that is to be reviewed and acted upon by the authorized account holder for the purpose of inactivation, destruction or retention.</p>	<p>133</p> <p>134</p> <p>135</p> <p>136</p> <p>137</p> <p>138</p> <p>139</p> <p>140</p>

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						<p>6. 9. The system SHOULD provide the ability to include account holder identifying information on each page of the reports generated.</p> <p>7. 49. The system MAY provide the ability to export PHR records to a variety of account holders using various platforms without needing special viewing software.</p> <p>8. 44. The system SHOULD support S.3.4 “masking” as part of any PHR data provided.</p> <p>9. 42. The system SHOULD provide the ability to send electronic responses with unstructured and structured health record information.</p> <p>10. 43. The system MAY conform to function IN.6.2.1 (Interchange Standards) to enable data extraction in standard-based formats.</p>	<p>141</p> <p>142</p> <p>143</p> <p>144</p> <p>145</p>
S.3.9	F	Manage Information Views	<p>Statement: Support account holder-defined information views.</p> <p>Description: Views of information can be tailored for or by the account holder (PHR account holder, caregiver or other authorized account holder) for their presentation preferences and to support personal or role-based workflows.</p> <p><i>Examples:</i> A PHR account holder may prefer to see summary information about medications, while a provider’s view may include detailed information about current dosage and the account holder’s response to the medication over time.</p>	(OPT)		<p>1. The system SHOULD provide the ability for a PHR account holder, proxy or designee to configure personal views of PHR information.</p> <p>2. The system MAY provide the ability to offer role-based views of PHR information.</p> <p>3. The system MAY provide the ability for an account holder to tailor role-based views.</p> <p>4. The system MAY provide the ability for the account holder to save multiple customized views for more rapid display of information by the account holder.</p> <p>5. The system MAY provide the ability to for an account holder or authorized user to maintain individual custom views for future access.</p>	<p>146</p> <p>147</p> <p>148</p> <p>149</p> <p>150</p>

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S.4	H	Manage Other Resources	Statement: The purpose of this section is to provide the system support to both allow the account holder to participate in a variety of programs that may be directly related to areas of interest to the account holder and to enable appropriate access and support for secondary uses of PHR information.				151
S.4.1	H	Manage Clinical Research Information	<p>Statement: The system will support an Account holder in clinical trials and providing research information.</p> <p>Description: In seeking healthcare, the system should support the account holder being able to obtain a list (s) of available clinical trials/research. The holder should be able to refine trials by geographic area, by disease, by treatment, by sponsor and maintain, or provide access to, current clinical trial/research information. The system should also support the account holder's participation in and support of, appropriate secondary uses of their PHR information for clinical research which could include quality and performance analysis.</p>	S.2.2			152
S.4.1.1	F	Capture Genomic/Proteomic Data and Documentation from External Clinical Sources	<p>Statement: Incorporate genomic/proteomic data and documentation from external sources.</p> <p>Description: Mechanisms for incorporating external genomic/proteomic data and documentation (including identification of source) such as image documents, reports and other clinically relevant electronic data are available.</p>	(OPT)		<ol style="list-style-type: none"> 1. The system SHOULD provide the ability to capture relevant family genomic history. 2. The system MAY add and update genomic/proteomic information through interaction with other systems, applications and modules. 3. IF lab results are received through an electronic interface, THEN the system SHALL display the data elements upon request. 4. IF lab results are received through an electronic interface, THEN the system SHALL receive and 	153 154 155 156

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						store the data elements into the account holder record.	
						5. The system MAY provide the ability to store imaged documents.	157
						6. The system SHOULD provide the ability to receive, store and present text-based externally-sourced documents and reports.	158
S.4.1.2	F	Manage De-Identified Data Request Process	<p>Statement: Provide account holder data in a manner that meets local requirements for de-identification.</p> <p>Description: When the Personal Health Record owner desires to share his/her information in a de-identified state, the owner can export the data in a fashion that meets requirements for de-identification in that locale or realm.</p> <p>For example, if a person wants to participate in a study that will utilize de-identified data, the system should have the functionality to de-identify this data according to the requirements of the study.</p> <p>In Germany, the cancellation of a PHR subscription, PHR data may be maintained but must be in a de-identified state or be pseudonomized (similar to the limited data set in the US Privacy Rule).</p>	(OPT)		1. The system SHOULD allow the account holder to de-identify his or her information as needed to meet the requirements of a study or other request.	159
						2. The system SHOULD capture the source and date of a de-identified data request.	160
						3. The system SHOULD provide the ability to record the date, data and target of the de-identified data.	161
						4. The system SHOULD provide the ability to record confirmation of the target's receipt of the data.	162
						5. The system SHOULD provide the ability to report on the history of data submissions.	163
						6. The system SHOULD provide the ability to de-identify data consistent with jurisdictional law.	164
S.4.1.3 (OPT)	F	Manage Account Holder Notification of Clinical Trials	<p>Statement: Support member notification of clinical trials or research</p> <p>Description: An account holder should be notified of clinical trials in which they have an interest. The individual may obtain clinical trial information based on general</p>			1. The system SHOULD provide the ability to sign up for clinical trial notifications.	165
						2. The system SHOULD provide the ability to receive clinical trial notifications.	166
						3. The system MAY provide the ability to export the data fields necessary to match the account	167

ID#	Type	Name	Statement/Description	PRIORITY	See Also in EHR-S FM	Conformance Criteria	Row #
			description or specific description such as diagnosis or trial phase. An account holder should be able to make their clinical and demographic data available for clinical trials and/or research matching.			holder to trials.	
						4. The system SHOULD provide the ability to access multiple sources of clinical trial and research information.	168
						5. The system SHOULD provide the ability to perform a focused search of trials by one or more attributes.	169
S.4.1.4	F	Manage Account Holder Enrollment in Clinical Trials or Research	<p>Statement: Support member enrollment in clinical trials or research.</p> <p>Description: The system should support an account holder having the ability to enroll in clinical trials or research. The system should be able to capture administrative and consent requirements, trial or research questionnaires, data submissions and all alerts associated with a program. The account holder should also have the ability to choose which programs they desire to participate in when notified of trial availability and high quality account holder match.</p>	(OPT)		<p>1. The system SHOULD provide the ability to support an account holder's enrollment in a clinical trial or research program.</p> <p>2. The system SHOULD provide the ability to capture all administrative information about a clinical trial or research program.</p> <p>3. The system SHOULD provide the ability to sort clinical trial or research participation by categories.</p> <p>4. The system SHOULD provide the ability to capture alerts from the clinical trial program.</p> <p>5. The system SHOULD provide the ability to prompt the account holder for clinical trial requirements.</p> <p>6. The system MAY provide the ability to search the available health benefit plan clinical trial/research support.</p>	<p>170</p> <p>171</p> <p>172</p> <p>173</p> <p>174</p> <p>175</p>
S.4.2	F	Registry Notification and Management	<p>Statement: Enable data sharing and communication with registries , and manage the related information shared</p> <p>Description: Support the automated transfer of formatted demographic and clinical information to local disease specific registries (and other notifiable registries) to enable account holder to participate, if and</p>	(OPT)		<p>1. The system SHALL conform to function IN.1.1 (Entity Authentication).</p> <p>2. The system SHALL conform to function IN.1.3 (Entity Access Control).</p>	<p>176</p> <p>177</p>

ID#	Type	Name	Statement/Description	PRIORITY	See Also in EHR-S FM	Conformance Criteria	Row #
			as desired, in provider and public health monitoring and subsequent epidemiological analysis.			3. The system SHOULD provide the ability to add, change, or remove data sharing and communication to registries.	178
			The account holder can export personal health information to disease specific registries, other notifiable registries such as immunization registries, through standard data transfer protocols or messages.			4. The system MAY support the transfer of appropriately formatted demographic and clinical information to local disease specific registries (and other notifiable registries).	179
			The account holder can update and configure communication for new registries, or delete communication with an existing registry.			5. The systems MAY support registry information access for the account holder to view data on them in the registry.	180
S.4.3	F	Manage Donor Information	<p>Statement: Provide capability to capture and share needed information as a volunteer donor.</p> <p>Description: The account holder is able to capture and share donor information (for products such as blood, organs, eggs, sperm, or stem cells). The account holder can make this information available to donor matching agencies. This information may be in multiple formats, hardcopy output, standard messaging, display for authorized account holders.</p>	(OPT)	IN.6.1.5 IN.6.1.5 IN 6.2.1	<p>1. The system MAY provide the ability to document demographic and clinical information needed for organ and/or tissue donation.</p> <p>2. The system MAY share documented demographic and clinical information about potential donations with appropriate outside parties.</p> <p>3. The system SHOULD provide the ability to report export unstructured health record information.</p> <p>4. The system SHOULD provide the ability to report export structured health record information.</p> <p>5. The system SHALL conform to S.3.3.1 (Manage Consents and Authorizations).</p> <p>6. The system MAY conform to function IN.6.2.1 (Interchange Standards) to enable data extraction in standard-based formats.</p>	<p>181</p> <p>182</p> <p>183</p> <p>184</p> <p>185</p> <p>186</p>

ID#	Type	Name	Statement/Description	PRIORITY	See Also in EHR-S FM	Conformance Criteria	Row #
S.4.4	F	Manage Account Holder Education Material Updates	<p>Statement: Receive and validate formatted inbound communications to facilitate and/or perform updating of account holder education material.</p> <p>Description: Materials may include information about a diagnosis, recommended diets, associated account holder health organizations, international vaccinations needed for travel, or web links to similar educational information. These materials would be provided electronically and may require validation prior to inclusion in the system.</p>	(OPR)		1. The system SHALL allow educational materials to be updated electronically.	187
						2. The system MAY provide the ability to validate the educational material prior to update.	188
S.4.5	F	Manage Account Holder Reminder Information Updates	<p>Statement: Receive and validate formatted inbound communications to facilitate updating of account holder reminder information from external sources such as Cancer or Immunization Registries.</p> <p>Description: Information from outside groups, such as immunization groups, public health organizations, etc. may periodically have and send updates of value to account holders. The system should be capable of generating reminders based on the recommendations of these organizations. Reminders could be provided to account holders by a number of means including alerts or system generated email. A record of such reminders may become part of a account holder's record. Examples of reminders could include a recommended immunization, prophylactic guidelines for MVP, account holder self-testing for disease, etc.</p>	(EF)		1. The system MAY provide the ability to automatically associate reminders with account holders meeting specific phenotypic criteria such as age, gender, diagnosis etc.	189
						2. The system MAY provide the ability to display account holder reminders.	190
						3. The system MAY provide the ability to record the account holder reminder activity	191
						4. The system MAY provide the ability to query and report account holder reminder activity.	192
						5. The system MAY provide the ability to automatically generate account holder reminders for email, and record that reminder activity.	193

ID#	Type	Name	Statement/Description	PRIORITY	See Also in EHR-S FM	Conformance Criteria	Row #
S4.6	F	Manage Public Health Related Updates	<p>Statement: The system provides the ability to update and maintain information regarding public health notifications.</p> <p>Description: Public health updates may be applicable to entire geographic regions or specific to a specific locale or diagnosis. The system should allow the account holder to identify the types of public health updates that are of interest. The system should also allow an account holder to be notified of other public health occurrences which may affect an entire population.</p>	(OPT)		1. The system MAY provide the ability to add notification for the account holder based on the recommendations of public health authorities.	194
						2. The system MAY provide the ability to automatically associate reminders with account holders meeting specific phenotypic criteria such as age, gender, diagnosis.	195
S.4.6.1	F	Manage Access to Public Health Information Resources.	<p>Statement: Enable access to public health information resources.</p> <p>Description: Account holder shall have access to public health information resources. For example, an account holder may want to receive general news releases from specific local, state and federal agencies. An account holder may want to access to information regarding public health resources for specific areas of interest such as birth control or hepatitis prevention.</p>	(IOPT)		1. The system SHOULD provide the ability for a member to subscribe to Public Health information resources.	196
						2. The system MAY provide the ability to capture all administrative information necessary to subscribe to Public Health Information resources.	197
						3. The system SHOULD provide the ability to sort public health information resources by enrollment date, and category.	198
						4. The system SHOULD provide the ability to capture alerts from public health information resources	199
S.4.6.2	F	Manage Access to Public Health Knowledge Bases	<p>Statement: Enable access to public health knowledge bases.</p> <p>Description: Account holder shall have access to public health knowledge bases. For example, an account holder may want to access up to date information from local, state and federal agencies regarding diabetes outcomes.</p>	(OPT)	S.1.4.2	1. The system SHOULD provide the ability for a member to subscribe to Public Health knowledge bases.	200
						2. The system MAY provide the ability to capture all administrative information necessary to subscribe to Public Health Information Knowledge bases.	201
						3. The system SHOULD provide the ability to sort public health knowledge bases by enrollment date, and category.	202

ID#	Type	Name	Statement/Description	PRIORITY	See Also in EHR-S FM	Conformance Criteria	Row #
						4. The system SHOULD provide the ability to capture alerts from public health knowledge bases.	203
S.4.6.3	F	Manage Enrollment in Public Health Programs	Statement: Provide the ability to enroll in public health programs. Description: The systems should support the ability of an Account holder to enroll in all available local, state and federal public health programs. For example, an account holder would like to enroll in a local or regional maternal health program to receive care for pregnancy.	(OPT)		1. The system SHOULD provide the ability for an account holder to enroll in Public Health programs.	204
						2. The system MAY provide the ability to capture all administrative information necessary to enroll to Public Health programs.	205
						3. The system SHOULD provide the ability to sort public health programs by enrollment date, and category.	206
						4. The system SHOULD provide the ability to capture notices from public health program offices.	207
S.4.6.4	F	Manage Enrollment in Public Health Notices	Statement: Support member subscriptions to Public Health Notices. Description: An account holder should have the ability to subscribe to local, state and federal public health notices and alerts. For example, account holder enrolls to receive public health alerts from a local or regional health department that has recently issued an alert for meningitis.	(OPT)		1. The system SHOULD provide the ability for a member to subscribe to Public Health notices and alerts.	208
						2. The system MAY provide the ability to capture all administrative information necessary to subscribe to Public Health notices and alerts.	209
						3. The system SHOULD provide the ability to sort Public Health notices and alerts by publishing date, and category.	210
						4. The system SHOULD provide the ability to capture notices from Public Health notices and alerts.	211
S.4.6.5	F	Enrollment in Public Health Surveys	Statement: Support access to public health surveys. Description: An account holder will have the ability to participate in public health surveys and store their responses to those surveys. For example, the WHO is researching the number of smokers with a specific related disease.	(OPT)		1. The system SHOULD provide the ability for the account holder to access public health surveys from local, state and federal agencies.	212
						2. The system SHOULD provide the ability to capture all administrative information necessary to enroll in public health surveys.	213
						3. The system SHOULD provide the ability to sort and select public health surveys that apply to the account holder.	214

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						4. The system SHOULD provide the ability to capture account holder response to public health surveys.	215

Chapter Five: Information Infrastructure Functions

ID#	Type	Name	Statement/Description	Priority	See Also in PHR-S FM	Conformance Criteria	Row #
IN.1	H	Health Record Information Management	<p>Statement: Capture, store, secure, message, display and report PHR information across PHR-S applications. Help ensure information entered by or on behalf of an account holder is accurate. Facilitate appropriate identity checks before linking or transferring information between PHR records.</p> <p>Description: Since PHR information will typically be available on a variety of PHR-S applications, a PHR-S must provide the ability to manage information and help ensure that when information is entered in or transferred to the PHR it is information that belongs within the PHR of a given individual. Information stored within the PHR should retain its integrity. PHR information may be defined differently based on context, and a PHR-S must translate information so it is accurate when context changes (e.g., lab results defined according to one data standard can be translated to another standard and still accurately reflect the health status and needs of an individual). Audit capabilities must be provided for troubleshooting and for forensic/legal purposes. Over time, minimum data sets and taxonomies will emerge, and the PHR should take advantage of these to promote interoperability between PHRs and between PHRs and EHRs.</p> <p>Examples: Minimum data sets include those defined by: 1) national health systems; 2)</p>				1

ID#	Type	Name	Statement/Description	Priority	See Also in PHR-S FM	Conformance Criteria	Row #
			<p>payer organizations; 3) governments; and 4) standards development organizations. Examples of standard taxonomies include ICD-9, CPT-4 and SNOMED.</p> <p>Methods to ensure data integrity include data comparisons (e.g., gender, date of birth) before information transfer to confirm that PHR information belongs to an intended individual.</p> <p>Designing products supported by human factors testing can help users to enter PHR information accurately and with minimal confusion.</p>				
IN.1.1	F	Data Management	<p>Statement: Manage health record information according to user role, and as applicable, organizational policy, or jurisdictional law.</p> <p>Description: Managing health information includes:</p> <ul style="list-style-type: none"> --retaining inbound documents in the format as originally received so they may be reconstructed as sent to the receiving PHR; --documenting the method (fax, scanned document, electronically transferred) in which data or a document was received into the PHR; --storing and retrieving information in a semantically intelligent and useful manner (e.g., chronologically); --defining and applying classifications (metatags) related to structured and unstructured data -ensuring availability of information for the legally prescribed period of time to system users; and 	(EN)		1. The PHR-S SHALL provide the ability to store and retrieve health record data, and clinical documents for the legally prescribed time as applicable.	2
						2. The PHR-S SHALL provide the ability to retain inbound data or documents (related to health records) in the format originally received (unaltered, inclusive of the method in which they were received) for the legally or organizationally prescribed time in accordance with users' role, organizational policy, or jurisdictional law.	3
						3. The PHR-S SHALL retain the content of inbound data (related to health records) as originally received for the legally prescribed time.	4
						4. The PHR-S SHOULD provide the ability to retrieve both the information and business context data within which that information was obtained.	5
						5. The PHR-S SHOULD provide the ability to retrieve all the elements included in a minimum data set.	6

ID#	Type	Name	Statement/Description	Priority	See Also in PHR-S FM	Conformance Criteria	Row #
			-providing the ability to destroy and/or remove access to PHR data/records in a systematic way (including the archiving of records) according to organizational policy and jurisdictional law.			6. The PHR-S MAY provide the ability to identify specific PHR data/records for access removal, and will allow user confirmation before it occurs, and implement function IN.4 (Auditable Records).	7
						7. IF the PHR-S provides the ability to identify specific PHR data/records for access removal, THEN the PHR-S SHALL allow account holder confirmation before it occurs, and implement function IN.4 (Auditable Records).	8
						8. PHR-S SHOULD provide the ability to destroy PHR data/records so that all traces are irrecoverably removed in accordance with organizational policy and jurisdictional law.	9
						9. PHR-S SHOULD pass record retention information (if any) when providing records to another entity.	10
						10. PHR-S MAY provide an archive function or archiving mechanism for the authorized user to store records.	11
						11. PHR-S SHALL permit the account holder to define PHR information as private, and restrict views of such data in implementing IN.1.3 (Present Ad-Hoc Views of the Health Record) and IN.3.2 (Entity Authorization).	12
						12. PHR-S MAY permit the account holder to define and apply a classification scheme to structured and unstructured data.	13
IN.1.2	F	Synchronization	Statement: Maintain synchronization involving: -Interaction with entity directories;	(EN)		1. The PHR-S SHALL conform to function IN.2.1 (Interoperability Standards).	14

ID#	Type	Name	Statement/Description	Priority	See Also in PHR-S FM	Conformance Criteria	Row #
			<p>-Linkage of received data with existing entity records; -Location of each PHR component; and -Communication of changes between key systems.</p> <p>Description: A PHR-S may consist of a set of components or applications; each application manages a subset of the PHR information. Therefore it is important that, through various interoperability mechanisms, a PHR-S maintains all the relevant information regarding the PHR in synchrony.</p> <p>Example: If an account holder has received an MRI, the system should be able to link the MRI image, a summary of results, and information about the referring physician; the late arriving MRI report should be linked to the original event in a seamless manner in order to provide a complete description of the MRI event.</p>			2. The PHR-S SHOULD conform to function IN.1.7 (Patient Locator and Directory Services) to enable the use of registries and directories.	15
						3. The PHR-S SHOULD provide the ability to link entities to external information.	16
						4. The PHR-S SHOULD store the location of each known health record component in order to enable authorized access to a complete logical health record if the PHR is distributed among several applications within the PHR-S.	17
IN.1.3	F	Present Ad Hoc Views of the Health Record	<p>Statement: Present ad hoc views of the PHR information, in accordance with user roles, organizational policies and jurisdictional laws as related to privacy and confidentiality.</p> <p>Description: The customized views and/or summarized information will enable an authorized user to find information that is important and/or meaningful to him or her, easily and in an organized manner. This</p>	(EN)		1. The PHR-S SHOULD provide the ability for an authorized user to create customized views of summarized information based on sort and filter controls for date or data range, problem, or other clinical data element or categories (i.e. medications, providers, diagnoses etc).	18
						2. The PHR-S SHOULD provide the ability to access summarized information through customized views based on prioritization of chronology, problem, or other pertinent information of importance to the account holder.	19

ID#	Type	Name	Statement/Description	Priority	See Also in PHR-S FM	Conformance Criteria	Row #
			<p>function must perform such that only information that the user has been authorized to view can be seen in any ad-hoc view.</p> <p>Examples: Options to locate specific information in the PHR include keyword searches and sorting menus according to various categories of data.</p>			3. The PHR-S SHALL conform to PHR function IN.3.2 (Entity Authorization).	20
						4. 3. The PHR-S SHALL conform to PHR function IN.3.3 (Entity Access Control)	21
						5. 4. The PHR-S SHALL conform to PHR function IN.4 (Auditable Records)	22
IN.1.4		Extraction of Health Record Information	<p>Statement: Provide data extraction capabilities, including data aggregation, in accordance with data exchange, analysis, reporting and printing requirements as authorized by the account holder.</p> <p>Description: 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. A PHR-S enables an authorized user to access and aggregate the distributed information, which corresponds to the health record or records that are needed for viewing, reporting, disclosure, etc. A PHR-S should support data extraction operations across the complete data set that constitutes the health record of an individual and provide an output that fully chronicles that individual's healthcare experience. Data</p>	(EN)		1. The PHR-S SHALL provide the ability to extract health record information.	23
						2. The PHR-S SHALL conform to function IN.3.5 (Secure Data Exchange) to provide secure data exchange capabilities.	24
						3. The PHR-S SHOULD provide the ability to de-identify extracted information.	25
						4. The PHR-S SHOULD conform to function IN.2.1 (Interoperability Standards) to enable data extraction in standard-based formats.	26

ID#	Type	Name	Statement/Description	Priority	See Also in PHR-S FM	Conformance Criteria	Row #
			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. However, information should be extracted and used only in conformance with the privileges the account holder has granted; these may be defined by user status, acceptance of product terms and conditions, contractual information, organizational policies, and/or jurisdictional law. Data extraction can be to a variety of devices to promote transportability, such as a USB thumb drive, smart card or cellular phone. Data extraction can allow for the account holder to print a copy of compiled records; the PHR-S should enable printing on paper which is easily obtained within the account holder's home country (e.g., North American "letter" sized paper). "Printing" can also mean formatting the aggregated record in a universally-available format (such as a PDF) which can be electronically stored in a format compatible with the paper type locally used, and subsequently printed on paper at a later date. Note that the PHR-S has no obligation to provide supplies (paper, ink, etc.) for such printing. Examples: The printed PHR may be used during an appointment with a provider who has not yet been authorized to access the			5. The PHR-S SHOULD provide the ability to perform extraction operations across the complete data set that constitutes the health record of an individual within the PHR-S.	27
						6. The PHR-S SHOULD provide the ability to perform extraction operations across a partial data set.	28
						7. The PHR-S SHOULD provide the ability to perform extraction operations whose output fully chronicles the healthcare process.	29
						8. The PHR-S SHOULD provide the ability to extract data for administrative purposes as authorized by the account holder.	30
						9. The PHR-S SHOULD provide the ability to extract data for financial purposes as authorized by the account holder.	31
						10. The PHR-S SHOULD provide the ability to extract data for research purposes as authorized by the account holder.	32

ID#	Type	Name	Statement/Description	Priority	See Also in PHR-S FM	Conformance Criteria	Row #
			electronic PHR or who does not have electronic capabilities. An account holder may print out a copy of key aggregated PHR information anticipation of a natural disaster which might prevent electronic access. A proxy user who has been authorized to see a limited view of a PHR record may print out a version of the record that reflects their authorized view of the PHR data.			11. The PHR-S SHOULD provide the ability to extract data for quality analysis purposes as authorized by the account holder.	33
						12. The PHR-S SHOULD provide the ability to extract data for public health purposes as authorized by the account holder.	34
						13. The PHR-S SHALL provide the ability for the account holder or designee to print PHR information in a format compatible with a common/standard piece of paper.	35
IN.1.5	F	Store and Manage Unstructured Health Record Information	<p>Statement: Store and manage select health record information as unstructured data.</p> <p>Description: Unstructured health record information is information that is not divided into discrete fields AND not represented as numeric, enumerated or codified data. Managing healthcare data includes capture retrieval, deletion, correction, amendment, and augmentation. Augmentation refers to providing additional information 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.</p> <p>Examples: Unstructured health record information includes text, images, and</p>	(EN)		1. The PHR-S SHALL capture unstructured health record information	36
						2. The PHR-S SHALL retrieve unstructured health record information	37
						3. The PHR-S SHALL provide the ability to append unstructured health record information to existing PHR information.	38
						4. The PHR-S SHALL conform to function IN.1.1 (Data Management).	39
						5. The PHR-S SHOULD provide the ability to report unstructured health record information.	40

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			multimedia. Specific examples may include, a text message to physician, patient photo, scanned image of an insurance card, etc.			6. The PHR-S SHALL provide the ability to append health record information to the original unstructured health record information. A specific type of implementation is not implied.	41
IN.1.6	F	Store and Manage Structured Health Record Information	<p>Statement: Store and manage select health record information as structured data.</p> <p>Description: Structured health record information is information that is divided into discrete fields and is typically represented as numeric, enumerated or codified data. Managing healthcare data includes capture retrieval, deletion, correction, amendment, and augmentation. Augmentation refers to providing additional information 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.</p> <p>Examples: Structured health information include, a patient address, diastolic blood pressure, coded diagnosis, and a patient risk assessment questionnaire with multiple-choice answers</p>	(EN)		1. The PHR-S SHALL capture structured health record information	42
						2. The PHR-S SHALL retrieve structured health record information	43
						3. The PHR-S SHALL provide the ability to append structured health record information to existing PHR information.	44
						4. The PHR-S SHALL conform to function IN.1.1 (Data Management).	45
						5. The PHR-S SHOULD provide the ability to report structured health record information.	46
						6. The PHR-S MAY track structured health record information over time.	47
						7. The PHR-S SHOULD provide the ability to retrieve each item of structured health record information discretely.	48
						8. The PHR-S SHALL provide the ability to append health record information to the original structured health record information. A specific type of implementation is not implied.	49
IN.1.7	F	Patient Record Locator and Directory Services	<p>Statement: With the consent of the account holder, or as affirmatively required by law, enable the use of patient record locator services and directories to uniquely identify, locate and supply links for retrieval of information related to:</p> <ul style="list-style-type: none"> - patients and providers for healthcare purposes; - payers, health plans, sponsors, and employers for administrative and financial 	(EN)		1. The PHR-S SHALL provide the ability to use patient record locator services and directories.	50
						2. The PHR-S SHALL provide the ability to securely use patient record locator services and directories.	51
						3. The PHR-S SHALL conform to function IN.2.1 (Interoperability Standards) to provide standard data interoperability capabilities for using patient record locator services and directories.	52

ID#	Type	Name	Statement/Description	Priority	See Also in PHR-S FM	Conformance Criteria	Row #
			<p>purposes; - public health agencies for healthcare purposes, and - related systems and devices for resource management purposes.</p> <p>Description: Patient locator and directory service functions are critical to successfully managing the security, interoperability, and the consistency of the health record data across a PHR-S. These services enable the linking of relevant information across multiple information sources within, or external to, a PHR-S for use within an application. Directories and patient record locator services support communication between PHR Systems, and other complementary systems and devices, and may be organized hierarchically or in a federated fashion.</p> <p>Example: A local directory usage is a PHR-S application broadcasting a patient's new phone number to providers and systems maintaining demographic information about that patient. Alternately, a service may automatically route new immunization information to a school administrator. In the future, a patient may be able to subscribe to a service which can uniquely identify the patient to various service organizations, facilitating identity management among healthcare providers and systems.</p>			4. The PHR-S SHOULD communicate with local patient record locator and directory services through standardized interfaces.	53
						5. The PHR-S SHOULD communicate with non-local patient record locator and directory services (that is, to services that are external to PHR-S) through standardized interfaces.	54
						6. The PHR-S SHOULD provide the ability to use patient record locator services or directories with the consent of the account holder or as affirmatively required by law to uniquely identify patients.	55
						7. The PHR-S SHOULD provide the ability to use directories to uniquely identify providers.	56
						8. The PHR-S MAY provide the ability to use patient record locator services or directories to retrieve links to relevant healthcare information regarding a patient.	57
						9. The PHR-S MAY provide the ability to use patient record locator services and directories to supply links to relevant healthcare information regarding a patient.	58
						10. The PHR-S MAY provide the ability to use directories to identify payers, health plans, and sponsors for administrative and financial purposes.	59
						11. The PHR-S MAY provide the ability to use directories to identify employers for administrative and financial purposes.	60
						12. The PHR-S MAY provide the ability to use directories to identify public health agencies for healthcare purposes.	61
						13. The PHR-S MAY provide the ability to use directories to identify healthcare related systems and devices for resource management purposes.	62
IN.1.8	F	Standard Terminologies and Terminology Models	Statement: Employ standard terminologies to ensure data correctness and to enable semantic interoperability (both within an	(EN)		1. The PHR-S SHALL provide the ability to use standard terminologies and terminology models to communicate with other PHR-Ss (internal or external to the PHR-S).	63

ID#	Type	Name	Statement/Description	Priority	See Also in PHR-S FM	Conformance Criteria	Row #
			enterprise and externally). Support a formal standard terminology model.			2. The PHR-S SHALL provide the ability to validate that clinical terms and coded clinical data exists in a current standard terminology.	64
			Description: Semantic interoperability requires standard terminologies combined with a formal information model. A terminology provides semantic and computable identity to its concepts. Terminologies are use-case dependent and may or be realm dependent. Formal standard terminology models enable common semantic representations by describing relationships that exist between concepts within a terminology or in different terminologies. The clinical use of standard terminologies is greatly enhanced with the ability to perform hierarchical inference searches across coded concepts. Relationships between concepts in a terminology are used in the search to recognize child concepts of a common parent. Clinical and other terminologies may be provided through a terminology service internal or external to a PHR-S. Examples: An example of a terminology service is described in the HL7 Common Terminology Services specification. An example of an information model is the HL7 Reference Information model. LOINC, SNOMED, ICD-9, ICD-10, and CPT-4 are examples of formal standard terminology models. Some models may be more applicable in certain contexts (physician review of diagnoses vs. consumer view of			3. The PHR-S SHOULD provide the ability to exchange healthcare data using formal standard information models and standard terminologies.	65
						4. The PHR-S SHOULD provide the ability to use a formal standard terminology model.	66
						5. The PHR-S SHOULD provide the ability to use hierarchical inference searches e.g., subsumption across coded terminology concepts that were expressed using standard terminology models.	67
						6. The PHR-S SHOULD provide the ability to use a terminology service (internal or external to the PHR-S).	68
						7. IF there is no standard terminology model available, THEN the PHR-S MAY provide a formal explicit terminology model.	69
						8. The PHR-S SHALL provide a means of allowing the Account Holder to enter information into structured data formats using standard controlled clinical terminologies without the Account Holder having to have any knowledge of the standards or specifications used.	70
						9. The PHR-S SHALL use text forms that do not include cryptic or uncommon abbreviations.	71
						10. The PHR-S SHOULD provide the ability to translate standard terminology into a vocabulary which is appropriate for the account holder. ⁸	72

ID#	Type	Name	Statement/Description	Priority	See Also in PHR-S FM	Conformance Criteria	Row #
			diagnoses). In using hierarchical information, a parent concept such as, "penicillin containing preparations" can have numerous child concepts, each of which represents a preparation containing a specific form of penicillin.				
IN.1.9	F	Maintenance and Versioning of Standard Terminologies	<p>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.</p> <p>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 review 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 PHR-S, only</p>	(EN)		1. The PHR-S SHALL provide the ability to use different versions of terminology standards.	73
						2. The PHR-S SHALL provide the ability to update terminology standards.	74
						3. The PHR-S MAY relate modified concepts in the different versions of a terminology standard to allow preservation of interpretations over time.	75
						4. The PHR-S SHOULD provide the ability to interoperate with PHR-Ss that use known different versions of a terminology standard.	76
						5. The PHR-S SHOULD provide the ability to retire and replace terminologies.	77
						6. The PHR-S MAY provide the ability to retire and replace individual codes within a terminology.	78
						7. The PHR-S 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.	79
						8. Changes in terminology SHALL be applied to all new clinical content (via templates, custom formularies, etc.).	80

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			access to the changes needs to be maintained It should be possible to retire deprecated versions when applicable business cycles are completed while maintaining obsolescent code sets.				
IN.1.10	F	Terminology Mapping	<p>Statement: Map or translate one terminology to another as needed by local, regional, national, or international interoperability requirements</p> <p>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. 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.</p> <p>Example: There may be a need to map overlapping terminology concepts (e.g. between a PHR-S and an external laboratory system, or between a PHR-S and a billing system).</p>	(EN)		1. The PHR-S SHALL provide the ability to use a terminology map.	81
						2. The PHR-S SHOULD provide the ability to use standard terminology services for the purposes of mapping terminologies.	82
						3. The PHR-S MAY provide the ability for an administrative user to validate a mapping.	83
						4. The PHR-S MAY provide the ability to create a terminology map.	84
IN.1.11	F	Administrative Management of	Statement: Provide the ability to capture, maintain, and version business rules. Apply	(EN)		1. The PHR-S SHALL provide the ability to manage business rules.	85

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		Business Rules	<p>business rules from necessary points within a PHR-S to control system behavior. A PHR-S audits changes made to business rules, as well as compliance to and overrides of applied business rules.</p> <p>Description: PHR-S business rule implementation functions include: decision support, workflow control, and access roles, as well as system and account holder defaults and preferences. A PHR-S supports the ability of its creators 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. The PHR-S may come with pre-defined business rules. However, these rules should be open to modification by the PHR account holder to meet specific needs.</p> <p>Examples: Examples of applied business rules include:</p> <ul style="list-style-type: none"> - Flagging a combination of health behaviors as high-risk and providing appropriate guidance to the account holder; - Sending an update to an immunization registry when a vaccination is administered; - Alerting an account holder to competitive price information regarding medications; - Alerting an account holder when PHR information is accessed (or access is attempted): an account holder may modify this alert so that notification is only given when access is by someone not included in the account holder's provider list; - Alerting a proxy user when care may need 			<p>2. The PHR-S SHOULD provide the ability to create import, or access decision support rules to guide PHR-S behavior.</p> <p>3. The PHR-S SHOULD provide the ability to update decision support rules.</p> <p>4. The PHR-S SHOULD provide the ability to customize decision support rules and their components.</p> <p>5. The PHR-S SHOULD provide the ability to inactivate, obsolete, or destroy decision support rules.</p> <p>6. The PHR-S SHOULD conform to function IN.4 (Auditable Records) to audit all changes to decision support rules.</p> <p>7. The PHR-S SHOULD provide the ability to remove access to support rules.</p> <p>8. The PHR-S SHOULD conform to function IN.4 (Auditable Records) to audit all changes to diagnostic support rules.</p> <p>9. The PHR-S SHOULD provide the ability to create workflow control rules to guide PHR-S behavior.</p> <p>10. The PHR-S SHOULD provide the ability to update workflow control rules.</p> <p>11. The PHR-S MAY provide the ability to customize workflow control rules and their components.</p> <p>12. The PHR-S SHOULD provide the ability to remove access to workflow control rules.</p> <p>13. The PHR-S SHOULD conform to function IN.4 (Auditable Records) to audit all changes to workflow control rules.</p> <p>14. The PHR-S SHOULD provide the ability to create access privilege rules and roles to guide PHR-S behavior.</p>	<p>86</p> <p>87</p> <p>88</p> <p>89</p> <p>90</p> <p>91</p> <p>92</p> <p>93</p> <p>94</p> <p>95</p> <p>96</p> <p>97</p> <p>98</p>

ID#	Type	Name	Statement/Description	Priority	See Also in PHR-S FM	Conformance Criteria	Row #
			to be provided to a dependent; - Limiting access to mental health information to only those permitted by the PHR account holder: the account holder may change who has access to this information at any time. - Preventing access to information to proxy users as directed by the PHR account holder; - 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.			15. The PHR-S SHALL provide the ability to update access privilege rules.	99
						16. The PHR-S SHALL provide the ability to customize access privilege rules and their components.	100
						17. The PHR-S MAY provide the ability to inactivate, obsolete, or destroy access privilege rules.	101
						18. The PHR-S MAY conform to function IN.4 (Auditable Records) to audit all changes to access privilege rules.	102
						19. The PHR-S SHOULD conform to function IN.4 (Auditable Records) to audit all changes to other business rules.	103
						20. The PHR-S SHOULD support the ability to selectively export business rules.	104
						21. The PHR-S SHOULD support the ability to selectively import business rules.	105
IN.1.12	F	Workflow Management	Statement: Support workflow management functions related to business rules to direct the flow of end user tasks. Description: Workflow management functions that an PHR-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; and -Support for notification based on system triggers. Workflow definitions and management may be implemented by a designated application or distributed across a PHR-S. Examples: A workflow may send an alert to	(EN)		1. The PHR-S SHALL employ measures to terminate idle sessions after a system specified, but configurable period of session inactivity 2. The PHR-S SHOULD use workflow-related business rules to direct the flow of work assignments. 3. The PHR-S SHOULD provide the ability to create workflow (task list) queues. 4. The PHR-S SHOULD provide the ability to manage workflow (task list) queues. 5. The PHR-S MAY use PHR-S interfaces that support the management of workflow (task lists) queues. 6. The PHR-S MAY provide the ability to distribute information to and from internal and external parties.	106 107 108 109 110 111

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			<p>an adult caregiver for an elderly patient, and that patient's personal care physician (PCP) when an alert had been sent to refill a prescription and the prescription had not been filled within a week.</p> <p>A patient decides to take St John's Wort. When this information is entered into the PHR-S, an on-screen alert displays saying this herbal remedy may negatively interact with other medications the patient is currently taking.</p>			7. The PHR-S MAY provide the ability to route notifications and tasks based on PHR-S triggers.	112
						8. The PHR-S MAY dynamically escalate workflow according to business rules.	113
						9. The PHR-S MAY dynamically redirect workflow according to business rules.	114
						10. The PHR-S MAY dynamically reassign workflow according to business rules.	115
IN.2	H	Standards Based Interoperability	<p>Statement: With the consent of the account holder or as affirmatively required by law, provide automated health care delivery processes and seamless exchange of clinical, administrative, and financial information through standards-based solutions.</p> <p>Description: Interoperability standards enable a PHR-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.</p> <p>Examples: Interoperability standards can enable the sharing of information between different PHR systems, between PHR and EHR systems, and between PHR systems and, public health systems, payer/health plan systems, and pharmacy systems. Interoperability standards allow for the timely and efficient access to and capture of information with minimal impact to the account holder.</p>				116

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IN.2.1	F	Interoperability Standards	<p>Statement: Support the ability to operate seamlessly with other systems, either internal or external, that adhere to recognized interoperability, security and privacy standards. "Other systems" include other PHR and EHR Systems, applications within a PHR-S, or other authorized entities that interact with a PHR-S.</p> <p>Description: The PHR-S typically uses a number of interoperability standards to meet its external and internal interoperability requirements, and there must 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 PHR-S, is to occur in a manner which is seamless to the account holder. If interoperability involves double entry, or manual cut-and-paste steps by the user, it is not considered seamless. Representation of PHR content is transmitted in a variety of interoperability 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)</p>	(EN)		1. The PHR-S SHALL provide the ability to use interoperability standards as required by realm specific and/or local profiles.	117
						2. The PHR-S SHALL provide the ability to seamlessly perform interoperability operations with other PHR-Ss or EHR-Ss that adhere to recognized interoperability standards.	118
						3. The PHR-S SHALL conform to functions under header IN.6.1.8 (Standard Terminologies and Terminology Services) to support terminology standards in accordance with a user's role, organizational policy, or jurisdictional law.	119
						4. The PHR-S SHOULD provide the ability to exchange data using an explicit and formal information model and standard, coded terminology.	120

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			<p>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. Standard terminology is a fundamental part of interoperability and a formal explicit information model further optimizes interoperability. Organizations typically need to deal with more than one information model and may need to develop a mapping or a meta-model. Delivery confirmation processes provide system assurance that an attempted interchange actually occurred.</p> <p>Examples: A variety of interaction modes are typically supported such as: -Unsolicited Notifications, e.g. the PHR-S account holder receives a notification from his/her healthcare team regarding a new development related to their condition. -Query/Response e.g., "Show me the latest lab results for my child." -Service Request and Response, e.g., "Look up a recent episode of care and find out the number of patients a doctor sees for that</p>			5. IF there is no standard information model available, THEN the PHR-S MAY provide a formal explicit information model in order to support the ability to operate seamlessly with other systems.	121
						6. The PHR-S SHOULD have the ability to exchange its data content with other systems.	122
						7. The PHR-S SHOULD have the ability to synchronize a minimum data set with another system.	123
						8. The PHR-S SHOULD request delivery confirmation from a system external to the PHR-S whenever information is sent by the PHR-S to that system.	124

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			condition, as well as the quality/cost estimates for that treatment." -Information interoperability between my PHR (properly deidentified) and public health organizations. -Structured/discrete clinical documents, e.g., "Here is my updated list of allergies." -Unstructured clinical document, e.g., "Add a free-text annotation in my diabetes diary as to how I feel today."			9. The PHR-S SHOULD log and maintain a record of each delivery confirmation request that it sends to a system external to the PHR-S, and each delivery confirmation it receives in response.	125
						10. The PHR-S SHOULD provide confirmation to a system external to the PHR-S whenever that system requests confirmation that information it sent was accepted by the PHR-S.	126
						11. The PHR-S SHOULD log and maintain a record of each delivery confirmation request it receives from a system external to the PHR-S, and each delivery confirmation it sends in response.	127

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IN.2.2	F	Interoperability Standards Versioning and Maintenance	<p>Statement: Enable version control according to local policies to ensure maintenance of utilized interoperability standards.</p> <p>Description: Version control of an interoperability standard implementation includes the ability to accommodate changes as the source interoperability standard undergoes its natural update process. 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.</p> <p>Interoperability 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 Interoperate 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.</p>	(EN)		1. The PHR-S SHALL provide the ability to use different versions of interoperability standards.	128
						2. The PHR-S SHALL provide the ability to change (reconfigure) the way that data is transmitted as an interoperability standard evolves over time and in accordance with business needs.	129
						3. The PHR-S SHOULD provide the ability to retire and replace an interoperability standard.	130

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			<p>Examples: [In these examples, organization is synonymous with a collection of interoperating systems – i.e. the PHR-S and entities with which it engages in electronic data interoperability (EHR-S, pharmacies, public health systems, etc.)]</p> <p>If the organization migrates to an HL7 v2.5 messaging standard, it may choose to take advantage of new capabilities such as blood bank information. The organization may find that certain fields have been retained for backwards compatibility only or withdrawn altogether.</p> <p>Standards typically evolve in such a way as to protect backwards compatibility. However, sometimes there is little, or no, backwards compatibility when an organization may need to replace an entire standard with a new methodology (e.g. migrating from HL7 v2 to HL7 v3).</p> <p>Large (and/or federated) organizations typically need to use different versions of an interoperability 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.</p> <p>It should be possible to obsolete interoperability standards versions when applicable business cycles are completed while maintaining these versions. An example use of this is for possible claims</p>			4. The PHR-S SHOULD provide the ability to interoperate with other PHR-Ss or EHR-Ss that use known earlier versions of an interoperability standard.	131

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			<p>adjustment throughout the claim's life cycle.</p> <p>When interoperability 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.</p> <p>.</p>				
IN.2.3	F	Standards-Based Application Integration	<p>Statement: Enable standards-based application integration.</p> <p>Description: When a PHR-S is based on a combination of applications, it must use standardized methods. Standards-based application integration may be achieved in a variety of ways. The method used depends on the organization's approach to application integration. An organization could conceivably use multiple integration approaches.</p> <p>Examples: -context integration may be achieved via</p>	(EN)		<p>1. The PHR-S SHALL provide the ability to support standards-based application integration when complemented by and/or composed of disparate applications.</p>	132

ID#	Type	Name	Statement/Description	Priority	See Also in PHR-S FM	Conformance Criteria	Row #
			HL7 Clinical Context Object Workgroup (CCOW) standards -user-based security and session integration may be achieved via Security Application Markup Language (SAML) -PHR-S may be integrated in an Enterprise Information System Architecture via Service Oriented Architecture (SOA) standards				
IN.2.4	F	Interoperability Agreements	<p>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 interoperability agreement, including privacy and security requirements, when exchanging information.</p> <p>Description: Systems that wish to communicate with each other, must agree on the parameters associated with that information exchange. Interoperability Agreements allow a PHR-S to describe those parameters/criteria. A PHR-S can use the entity registries to determine the security, addressing, and reliability requirements between partners. A PHR-S can use this information to define how data will be exchanged between the sender and the receiver. Discovery of interoperability</p>	(9)		<p>1. The system PHR-S SHOULD use interoperability agreement descriptions when exchanging information with partners.</p> <p>2. The system PHR-S SHOULD use interoperability agreement description standards (when available).</p>	133
							134

ID#	Type	Name	Statement/Description	Priority	See Also in PHR-S FM	Conformance Criteria	Row #
			<p>services and capabilities can be automatic, or alternately, an interoperability agreement may take the form of a requirements document which the interoperability partners agree to implement.</p> <p>Examples:</p> <ul style="list-style-type: none"> - 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). 			3. The system PHR-S MAY conform to function IN.1.7 (Registry and Directory Services) to interact with entity directories to determine the address, profile and data exchange requirements of known and/or potential partners.	135
						4. The system PHR-S MAY provide the ability to automatically discover interoperability services and capabilities.	136

IN.3	H	Security	<p>Statement: Secure the access to a PHR-S and PHR information. Manage the sets of access control permissions granted within a PHR-S. Prevent unauthorized use of data, data loss, tampering and destruction.</p> <p>Description: To enforce security, all PHR-S applications must adhere to the rules established to control access and protect the privacy of PHR information. Security measures assist in preventing unauthorized use of data and protect against loss, tampering and destruction. A PHR-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.</p>				137
IN.3.1	F	Entity Authentication	<p>Statement: Authenticate PHR-S account holders and/or entities before allowing access to a PHR-S.</p> <p>Description: Both users and applications are subject to authentication. The PHR-S must provide mechanisms for users and applications to be authenticated. Users will have to be authenticated when they attempt to use the application, and the applications must authenticate themselves before accessing PHR information managed by other applications.</p> <p>For the purposes of this model, we include methods of extending access to other individuals which use a security token (e.g., knowledge of a shared secret or possession</p>	(EN)		1. The PHR-S SHALL capture key demographic elements needed to uniquely identify the account holder.	138
						2. The PHR-S SHALL verify the account holder identity prior to granting access to information in the PHR.	139
						3. The PHR-S SHALL authenticate the account holder prior to every session.	140

			<p>of a one-time pass code) which is given to a user by the account holder) As being valid methods for authentication (authentication is dependent on the presence of a valid security token).</p> <p>Chain of Trust relationships may be established that contractually state specific authentication mechanisms before data may be accessed or transferred to individuals and systems external to the PHR-S.</p> <p>The PHR-S may itself manage authentication credentials, or may rely on an external service to do so, in determining the validity of requests to create, read, update or transfer information residing in an individual's PHR.</p> <p>Examples:</p> <ul style="list-style-type: none"> -username/password -digital certificate -secure token -biometrics -shared secret - RFID tags linked to a known identity 			4. The PHR-S SHALL authenticate authorized users other than the account holder prior to every session. Feasible to separate the others for every session	141
						5. The PHR-S SHALL authenticate any other PHR-Ss, EHR-Ss or other related systems prior to any release of information about the PHR account holder.	142
						6. —	143
						6. The PHR-S SHALL employ measures to prevent unauthorized access.	144
						7. The PHR-S SHALL prevent access to PHR-S applications or PHR-S data to all non-authenticated principals.	145
						8. —	146

						8. The PHR-S SHOULD provide the ability to implement a Chain of Trust agreement.	147
						9. The PHR-S MAY provide the ability to manage authentication credentials to enable access and data exchange with systems external to the PHR-S with appropriate consent measures.	148
IN.3.2	F	Entity Authorization	<p>Statement: Manage the sets of access-control permissions granted to entities that use a PHR-S (PHR-S Users). Enable PHR-S account holders to extend partial or full access to PHR information to other individuals who can act on behalf of the account holder (proxy users), clinicians, systems, and others. Enable PHR-S account holders to deny access to PHR information. Enable PHR-S account holders to determine what information, and information from which external sources, may be accepted into an account holder's PHR.</p> <p>Description: PHR-S users, other than the account holder, may be authorized to use the components of a PHR-S according to their identity, role and/or the patient's present condition; however, access may be typically extended on an explicit, individual basis (e.g., allowing a particular clinician access to all PHR information except for chemical dependency treatment notes).</p> <p>Examples: User based authorization refers</p>	(EN)		1. The PHR-S SHALL allow the Account Holder to assign different levels of access for Authorized Users.	149
						2. The PHR-S SHALL allow the Account Holder to designate Proxy Users to access and conduct PHR functions on behalf of the account holder following appropriate consent measures.	150
						3. The PHR-S SHALL provide a means for emergency access to clinical information which does not require action on the part of the account holder to grant access. This access should always be in accordance with prearranged directions of the account holder.	151

			<p>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.</p> <p>A context-based example is a patient-granted authorization to a specific third party for a limited period to view specific PHR records. Another example is a right granted for a limited period to view those, and only those, PHR records connected to a specific topic of investigation.</p> <p>Examples of authorized users include school nurse, judicial system officers, insurance carriers, care providers, health program administrators/coaches, and secondary PHR users (e.g., public health, research organizations, and clinical trials).</p>			4. The PHR-S SHALL allow the Account Holder to designate Authorized Users to access and conduct PHR functions.	152
						5. The PHR-S SHALL conform to function IN.4 (Auditable Records) for the purpose of recording all authorization actions.	153
						6. The PHR-S MAY permit access to previously unauthorized individuals in emergency situations and when legally-mandated as dictated by jurisdictional laws.	154
IN.3.3	F	Entity Access Control	<p>Statement: Verify and enforce access control to all PHR-S components, PHR information and functions for end-users, applications, sites, etc., to prevent unauthorized use of a resource.</p> <p>Description: Entity Access Control is a fundamental function of a PHR-S. To ensure that access is controlled, a PHR-S must perform authentication and authorization of users or applications for any operation that requires it and enforce the system and</p>	(EN)		1. The PHR-S SHALL protect the security and privacy of PHR information.	155
						2. The PHR-S SHALL conform to function IN.3.1 (Entity Authentication).	156
						3. The PHR-S SHALL conform to function IN.3.2 (Entity Authorization).	157

			information access rules that have been defined.			4. The PHR-S SHALL provide the ability to define PHR-S and data access rules.	158
						5. The PHR-S SHALL enforce PHR-S and data access rules for all PHR-S resources (at component, application, or user level, either local or remote).	159
						6. The PHR-S SHALL provide the capability to prevent unauthorized use of the PHR-S, data, services or functions.	160
IN.3.4	F	Non-Repudiation	<p>Statement: Limit a PHR-S user's ability to deny (repudiate) the origination, receipt, or authorization of a data exchange by that user.</p> <p>Description: A PHR-S allows data entry and data access to a patient's personal health record. Non-repudiation guarantees that the source of the data record can not later deny that it is the source. Specifically, this means that the sender or receiver of a message cannot later deny having sent or received the message.</p> <p>Examples: Non-repudiation may be achieved through the use of: 1) a digital signature, which serves as a unique identifier for an individual (much like a written signature on a paper document); 2) 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</p>	(EN)		1. The PHR-S SHALL time stamp initial entry, modification, or exchange of data, and identify the actor/principal taking the action as required by; organizational policy, or jurisdictional law.	161
						2. The PHR-S SHALL provide additional non-repudiation functionality where required by organizational policy, or jurisdictional law.	162
						3. The PHR-S SHALL conform to function IN.4 (Auditable Records) to prevent repudiation of data origination, receipt, or access.	163
						4. The PHR-S MAY conform to function IN.3.7 (Information Attestation) to ensure the integrity of data exchange and thus prevent repudiation of data origination or receipt.	164

IN.3.5	F	Secure Data Exchange	<p>Time Reference).</p> <p>Statement: PHR data needs to be exchanged securely. This requires measures to insure the confidentiality and integrity of the data.</p> <p>Description: Exchange of PHR information requires appropriate security and privacy considerations including data obfuscation and both destination and source authentication when necessary. For example, it might be necessary to encrypt data sent to remote destinations. This function requires that there is an overall coordination regarding what information is exchanged and how the exchange will occur, between PHR-S and entities with which it engages in electronic data interoperability. 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 the PHR-S or external to the PHR-S.</p> <p>Route electronically-exchanged PHR data only to/from known, registered, and authenticated destinations/sources (according to applicable healthcare-specific rules and relevant standards).</p> <p>Examples: Browser based interface uses SSL to view PHR; EHR-S to PHR-S uses x.509 certificate to identify EHR-S system to regional Identity Provider, and after authentication the regional Identity Provider provides a SAML assertion defining the attributes of the EHR-S needed by the PHR-S to allow proper access and controls. For example, a common encryption</p>	(EN)		1. The PHR-S SHALL employ methods to assure integrity and privacy between the source and intended destination, as well as provide means of assurance of receipt.	165
						2. The PHR-S SHALL transmit any information about the account holder in accordance with the directions of the account holder.	166
						3. The PHR-S SHALL encrypt and decrypt PHR information that is exchanged over a non-secure link.	167
						4. The PHR-S SHALL follow the account holder's directions regarding subsequent release of PHR information.	168
						5. The PHR-S SHALL conform to function IN.3.6 (Secure Data Routing).	169

			algorithm for point-to-point transmission is 256 bit AES. An example encryption algorithm is 1024 RSA which is also used to effect digital signatures. Both of these are routinely used in generation of x.509 certificates. One example technology for securing the content of a message sent as a SOAP message would be Web Services Security (WSS) which permits encryption of specific elements, digital signatures as well as the permission information.			6. The PHR-S MAY provide the ability to obfuscate data.	170
						7. The PHR-S SHALL support standards-based encryption mechanisms when encryption is used for secure data exchange.	171
IN.3.6	F	Secure Data Routing	<p>Statement: Route electronically exchanged PHR data only to/from known, registered, and authenticated destinations/sources (according to applicable healthcare-specific rules and relevant standards).</p> <p>Description: A PHR-S needs to ensure that it is exchanging PHR 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 system user may elect to send immunization records to a school admissions office. To accomplish this, the system 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</p>	(EN)		1. The PHR-S SHALL automatically route electronically exchanged PHR data only from and to authenticated sources and destinations and over secure networks.	172
						2. The PHR-S MAY route electronically exchanged PHR data to and from unauthenticated sources and destinations at the individual account holder's direction	173

			and destinations systems can use authentication mechanisms as described in IN.1.1. For example, the sending of a lab result from a lab system to a PHR-S within the same organization usually uses a simple static setup for routing. In contrast sending a lab result to a institution outside of the organization will involve some kind of authentication process.			3. The PHR-S SHOULD conform to function IN.4 (Auditable Records) to provide audit information about additions and changes to the status of destinations and sources.	174
IN.3.7	F	Information Attestation	<p>Statement: Manage electronic attestation of attestable information including the retention of the signature of attestation (or certificate of authenticity) associated with incoming or outgoing information.</p> <p>Description: The purpose of attestation is to show authorship and assign responsibility for an act, event, condition, opinion, or diagnosis. Every entry in the PHR must be identified with the author and should not be made or signed by someone other than the author. Attestable content may be received from related systems (e.g., EHR-Ss). 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 requirements. Attestation of PHR information promotes trustworthiness and use of PHR information by clinicians and other stakeholders.</p> <p>Example: An individual PHR account holder enters family history information into a PHR record. This information is shared</p>	(O)		1. The PHR-S SHALL conform to function IN.3.1 (Entity Authentication).	175
						2. The PHR-S SHALL conform to function IN.3.2 (Entity Authorization).	176
						3. The PHR-S SHALL provide the ability to associate any attestable content added or changed to an PHR with the content's author (for example by conforming to function IN.4 (Auditable Records).	177
						4. The PHR-S SHALL provide the ability for attestation of attestable PHR content by the content's author.	178
						5. The PHR-S SHALL indicate when attestable data has not been attested.	179

			electronically with a health care provider, and when entered into the provider's EHR system, the entry retains information that continues to attribute the history statements to the individual who provided them.			6. The PHR-S MAY provide the ability for attestation of PHR content by properly authenticated and authorized users different from the author as required by user role, organizational policy, or jurisdictional law.	180
						7. The PHR-S MAY provide the ability to use digital signatures as the means for attestation.	181
IN.3.8	F	Patient Privacy and Confidentiality	<p>Statement: Enable the enforcement of the applicable jurisdictional and organizational patient privacy rules as they apply to various parts of a PHR-S through the implementation of security mechanisms.</p> <p>Description: Patients' privacy and the confidentiality of PHRs are violated if access to PHRs occurs without authorization anywhere PHR information exists (locally or over a distributed network). 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 a PHR is most definitive if made by the explicit and specific consent of</p>	(EN)		<p>1. The PHR-S SHALL provide the ability to fully comply with the requirements for patient privacy and confidentiality in accordance with organizational policy and jurisdictional law.</p> <p>2. The PHR-S SHALL provide the ability to maintain varying levels of confidentiality as specified by the account holder and as required by jurisdictional law.</p> <p>3. The PHR-S SHALL provide the ability to manage Account Holder consent to, or restrictions against, any use of data.</p> <p>4. The PHR-S SHALL conform to function IN.3.1 (Entity Authentication).</p> <p>5. The PHR-S SHALL conform to function IN.3.2 (Entity Authorization).</p> <p>6. The PHR-S SHALL conform to function IN.3.3 (Entity Access Control).</p> <p>7. The PHR-S SHOULD conform to function IN.3.4 (Non-Repudiation).</p>	<p>182</p> <p>183</p> <p>184</p> <p>185</p> <p>186</p> <p>187</p> <p>188</p>

			the patient. Please see the definition of masking in the glossary. However, it must be noted that in many areas of the world, the legal status of a PHR record is undetermined. In addition, while these conformance criteria express a high normative standard for respecting patient privacy, PHR information is subject to legal discovery under certain circumstances.			8. The PHR-S SHALL conform to function IN.3.5 (Secure Data Exchange).	189
						9. The PHR-S SHALL conform to function IN.4 (Auditable Records).	190
						10. —	191
						10. The PHR-S SHOULD provide the ability to mask parts of the personal health record (e.g. medications, conditions, sensitive documents, ad-hoc views) from disclosure according to account holder direction, user role, organizational policy or jurisdictional law.	192
						11. The PHR-S SHOULD provide the ability to override a mask in emergency or other specific situations as specified by the account holder and as required by jurisdictional law.	193
						12. The PHR-S SHALL have a fully transparent privacy policy.	194
						13. The PHR-S SHALL provide the capability to capture Account Holder consent to a fully transparent privacy policy.	195
						14. —	196
IN.3.9	F	Service Availability	<p>Statement: Availability refers to the days and hours a service is potentially ready for use.</p> <p>Description: The availability (days and</p>	(EN)		14. The PHR-S SHALL provide a means to capture authorized users' opt-in agreement to the terms and conditions of the PHR service.	197
						1. The PHR-S SHALL provide the ability for a user to obtain service level agreement information.	198

			<p>hours of service for data access) and timeliness (response time to data requests) of the PHR-S should be specified in a Service Level Agreement (SLA) between the PHR Service Provider and the PHR Sponsor or PHR Account Holder. This is important for a variety of reasons, including availability for emergency situations, and may help consumers determine which of many choices of PHR-Ss would be best for their needs and circumstances. ; We intend the implementation of this Function to be neutral as to the method it is fulfilled. For example, his information may be available at run-time, presented within a paper version of a Terms of Use agreement, or requested by phone.</p> <p>Example: An agreement may state that the system is available 95% of the time, 7 days a week, 24 hours a day.</p>			<p>2. The PHR-S MAY provide the ability for the account holder to obtain performance statistics, including service availability statistics, as specified in the service level agreement.</p>	199
IN.3.10	F	Secure Messaging	<p>Statement: Enable secure electronic communication between PHR Account Holders and Health Care Providers.</p> <p>Description: A PHR-S account holder may send and receive electronic communication to and from an interested, capable provider in such a manner that identities are verified and information exchanges are encrypted during transmittal.</p> <p>Example: A PHR-S account holder composes a message to a health care</p>	Priority= O		<p>1. The PHR-S SHOULD provide the capability for PHR Account Holders and Health Care Providers to electronically communicate in a secure manner.</p>	200

			provider asking for clarification about a treatment plan. Using functionality within the PHR-S, the account holder's message is encrypted before being sent over the Internet, and the message contains information verifying the identity of the sender. The message recipient receives a "tickler" message through general email which states the recipient has received a secure message from the PHR-S. The recipient authenticates identity to the PHR-S system, and is then able to retrieve the secure message.			2. The PHR-S SHOULD provide the ability to archive messages in the PHR-S.	201
IN.4	F	Auditable Records	<p>Statement: Provide audit capabilities for system access and usage indicating who accessed the record, when, what actions were taken, and when the actions occurred. Examples of auditable actions include: created, modified, viewed, extracted or deleted a record. Date and Time stamps require corresponding time zones (see ISO 8601 Standard Time Reference) and consistent time synchronization across complementary information systems (see IETS RFC 1305). Auditable records extend to information exchange, to audit of consent status management and to entity authentication attempts. Audit functionality includes the ability to generate audit reports and to interactively view change history for individual health records. Audit log formats may conform to standards such as IETS RFC 3881 (Security Audit & Access Accountability Message XML Data Definitions for Healthcare Applications).</p> <p>Description: Audit functionality extends to security audits, data audits, audits of data</p>	(EN)		1. The PHR-S SHALL log access and usage of system, data, and organizational resources to minimally include who performed the action, what the action was, and when it was performed.	202
						2. The PHR-S SHALL conform to function IN.3.1 (Entity Authentication).	203
						3. The PHR-S SHALL audit access to PHR-S according to user role, organizational policy, or jurisdictional law.	204
						4. The PHR-S SHALL audit object or data creation according to user role, organizational policy, or jurisdictional law.	205
						5. The PHR-S SHALL audit object or data modification according to user role, organizational policy, or jurisdictional law.	206
						6. The PHR-S SHALL audit data extraction according to user role, organizational policy, or jurisdictional law.	207
						7. The PHR-S SHALL audit data exchange according to user role, organizational policy, or jurisdictional law.	208
						8. The PHR-S SHALL audit data view according to user role, organizational policy, or jurisdictional law.	209
						9. The PHR-S SHALL audit object or data deletion according to user role, organizational policy, or jurisdictional law.	210

<p>exchange, and the ability to generate audit reports. Audit capability settings should be configurable to meet the needs of local policies. PHR-S audit operations and policies should have two points of view. First, audit capabilities need to be present to fulfill professional audit responsibilities related to data security and forensics. Models in which the PHR-S is sponsored and housed by HIPAA entities are especially in need of this type of audit capability. However, audit capabilities are also needed for consumers. For example, a relevant consumer-facing audit report may list who has accessed PHR information, and when.</p> <p>Examples:</p> <ul style="list-style-type: none"> - Security audit, which logs access attempts and resource usage including account holder login, file access, other various activities, and whether any actual or attempted security violations occurred; - Data audit, which logs who, when, and by which system a PHR record was created, modified, viewed, extracted, or (if local policy permits) deleted - Data exchange audit, which logs data exchanges between a PHR-S and other complementary electronic information systems (for example, sending application; the nature, history, and content of the information exchanged; outbound/received messages); and information about data transformations (for example, vocabulary translations and transmission and reception event details) - Audit-data may refer to: system setup data or clinical and patient management data; changes to the system clock 					10.	The PHR-S MAY provide audit capabilities indicating the data value before a change.	211
					11.	The PHR-S SHALL conform to function IN.3.3 (Entity Access Control) to limit access to audit record information to appropriate entities in accordance with user role, organizational policy, or jurisdictional law.	212
					12.	The PHR-S SHALL provide the ability to generate an audit report in accordance with user role, organizational policy, or jurisdictional law.	213
					13.	The PHR-S SHOULD provide the ability to view audit information related to a particular record or data set in accordance with user role, organizational policy, or jurisdictional law.	214
					14.	The PHR-S SHOULD log PHR-S maintenance events for loading new versions of, or changes to, the PHR-S.	215
					15.	The PHR-S SHOULD log PHR-S maintenance events for loading new versions of codes and knowledge bases.	216
					16.	The PHR-S SHOULD log changes to the PHR-S system date and time where the PHR-S allows this to be done.	217
					17.	The PHR-S SHOULD log system maintenance events for creating and restoring of backup.	218
					18.	The PHR-S SHOULD log system maintenance events for archiving any data.	219
					19.	The PHR-S SHOULD log system maintenance events for restoration of an archived PHR.	220
					20.	The PHR-S SHOULD log beginning and ending of a system maintenance session.	221
					21.	The PHR-S SHOULD log remote access connections including those for system support and maintenance activities.	222
					22.	The PHR-S SHOULD utilize standardized time keeping (for example using the IHE consistent time profile for coordinating time across computer networks).	223
					23.	The PHR-S SHOULD provide the ability to record and report upon audit information using a standards-based	224

						audit record format (for example RFC 3881).	
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