HL7 Child Health Work Group Project Team

**HL7 Functional Domain Profile**

**for Developmental Screening Release 1**

**US Realm**

**Based on HL7 EHR System Functional Model and Standard, Release 2.1**

**Overview**

**May 2017**

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| --- |
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# Preface

## Notes to Readers: Introduction

1. The HL7 Functional Domain Profile for Developmental Screening (US Realm) (informative) Ballot Package includes the following documents:

* Overview (this document, as .pdf).
* HL7 Functional Domain Profile for Developmental Screening (US Realm) functions and criteria are ordered according to EHR-S FM sections and subsections (as .pdf).
* The reader is advised to review the Appendix (below) to appreciate the preparatory work effort that was done to arrive at the essential child health developmental screening functions of the EHR.

2. The HL7 Functional Domain Profile for Developmental Screening (US Realm) is published at this time for HL7 Informative Standard ballot. This is the first HL7 Functional Domain Profile for Developmental Screening (US Realm) (FP), based on ISO/HL7 10781 Electronic Health Record System Functional Model Release 2, to be published with the Enterprise Architect-based FP development tool.

3. The HL7 EHR Work Group is co-sponsor of this effort.

4. The Project details can be viewed at the HL7 wiki site - http://wiki.hl7.org/index.php?title=Developmental\_Screening\_Derived\_Domain\_Profile

5. The intent of the HL7 Functional Domain Profile for Developmental Screening (US Realm) is to provide the essential functions of the EHR that supports the child health developmental screening.

8. This project was initiated on January 2015. The Project Scope Statement can be viewed here – http://wiki.hl7.org/index.php?title=File:PSS\_DerivedDomainProfile\_to\_the\_CHFP\_for\_Developmental\_Screening\_12302014.pdf

9. Relevant Project Milestones include:

January 13, 2015 - Approved by EHR WG

January 20, 2015 - Approved by Child Health WG

February 3, 2015 - Approved by US Realm WG

February 27, 2015 - Approved by DESD

March 9, 2015 - Approved by TSC

March 2015 - Gap Analysis

May 2015 - Draft of Requirements available for review

September 2015 - Draft of Requirements available for review

January 2016 - Review of EHR FM R2 and HL7 Functional Domain Profile for Developmental Screening (US Realm)

November 2016 - Final Functional and Informational Requirements available

February 2017 - Intent to Ballot submitted

March/April 2017 - Ballot reconciliation

May 2017 - WGM Ballot Reconciliation

September 2017 - Close Project

12. The voter is requested to review the HL7 Functional Domain Profile for Developmental Screening (US Realm)

13. All comments will be reconciled.

Thank you for your review and input.

## Acknowledgements

This publication effort was sponsored by the Department of Biomedical Informatics, University

of Arkansas for Medical Sciences.

We are thankful for the support of the Center for Diseases and Control and the American

Academy of Pediatrics for providing expertise in reviewing the early drafts of the project.

We are indebted to the authors of the publication. They spent countless hours on the

development of the project. They are, in alphabetical order:

* Gay Dolin, MSN, RN - Intelligent Medical Objects
* Marsha Gerdes, PhD - Children’s Hospital of Philadelphia
* Sean Mikles, MPH - University of Washington
* Michael Padula, MD, MBI - Children’s Hospital of Philadelphia
* Catherine Rice - Emory University
* Maria Santini, RD, LDN - LifeSpan
* Feliciano Yu, MD, MSPH, MSHI – University of Arkansas for Medical Sciences and Arkansas Children’s Hospital

We also acknowledge the contribution of our HL7 Publication Facilitators

* Anneke Goossen
* Michael van der Zel

# BACKGROUND

## Project Scope Statement

This project aims to develop an HL7 Functional Domain Profile for Developmental Screening (US Realm) that identifies the critical capabilities for pediatric Developmental Screening and Reporting services utilizing EHR systems. This work will reference content and functions from the existing HL7 EHR-S Functional Model Release 2, and specifically complementing the HL7 Child Health Functional Profile Release 1, under the advice and direction of the HL7 Child Health and Electronic Health Record Work Groups.

A set of requirements are developed for vital functions relevant to the Developmental Screening and follow-up process as recommended by entities such as CMS, AAP and Bright Future’s schedule, thus providing EHR vendors with conformance standards that are specific and essential to pediatric Developmental Screening process in the US realm. The framework that is designed may have further applications with other developmental or mental health screenings as well.

The Project uses the Enterprise Architect-EA (© Sparx Systems) based HL7 EHR-Tooling Product to develop the HL7 Functional Domain Profile for Developmental Screening (US Realm).

## Project Need

Early identification and management of children with developmental delays is very important in the clinical setting. A number of developmental screening instruments have been promoted by child health experts over time and its use have been widespread for screening infants and young children and for intervening with families to identify developmental delays and disabilities.

With the emerging presence of EHRs, there is a potential for creating a set of functions that could be useful for EHR vendors to review as they build products and systems that are used to caring for children.

This is an HL7 Functional Domain Profile for Developmental Screening (US Realm) that focused only on the developmental screening aspects of the EHR.

***Function of the HL7 Functional Domain Profile for Developmental Screening (US Realm)***

Child development is the process by which children gain the skills they need to succeed in school and in life, encompassing a wide range of competencies such as motor movement, emotional development, social interaction, communication skills, and thinking and problem-solving.1 Most children progress on a relatively similar path in relation to the timing and type of skills acquired in the first few years of life. For example, most infants and toddlers are walking without support and have acquired many words by the age of 2 years. The American Academy of Pediatrics (AAP) defines a developmental delay as the condition in which a child is not developing skills in accordance with an expected time frame, and a developmental disability as a physical or mental impairment that inhibits daily life activities.2 Development proceeds at its fastest pace between the ages of 0 and 5 years, and it is important to address potential delays and disabilities as quickly as possible to mitigate potential negative effects throughout the child’s life course.3 Unfortunately, a significant number of children in the United States experience developmental delays and disabilities, and many of these children do not receive needed developmental services. National Health Interview Survey (NHIS) data from 2006-2008 indicates that approximately 15% of children in the United States have some form of developmental disability.4 Children of families with lower economic means or of a minority race have a higher risk for developmental delays and are less likely to receive sufficient developmental services.4,5 Interventions for child developmental delays and disorders that are provided early in life can lead to more adaptive outcomes.3 Research has shown that early intervention (EI) services, though varied in practice, provide benefits to children who face increased risks to developing a developmental disorder, showing significant positive gains in developmental skills, cognitive function and school readiness.6,7

While the monitoring of child development and the treatment of delays and disabilities may happen in many professional settings, child development has received significant attention in the medical field as a place where most, if not all, young children are seen by a professional during their early years. The early identification of child developmental disorders is considered to be an integral part of the primary care medical home.2 However, pediatric practices vary greatly in terms of the processes used to identify and address developmental disabilities and the effectiveness of these processes. Recent studies have found that the use of standardized screening instruments developed to identify children with potential developmental delays improves rates of disability identification, increases referrals to developmental services,8–10 and also decrease time to identification.8 Screening is the process of administering a brief questionnaire to aid in the identification of a developmental disorder.2 Surveys of pediatric practices have unfortunately found that a significant portion of pediatric practices do not regularly use screening instruments.11,12

To help address issues around identifying developmental delays, the AAP published an algorithm in 2006 to guide pediatricians in addressing developmental disabilities.2 This algorithm defines a sequence of activities to be integrated into standard well-child visits to help with the identification of potential issues and management of issues that are identified.  These activities include continual surveillance (also known as “developmental monitoring”), the regular use of validated, developmental screening instruments when a child is 9, 18, and 24 or 30 months old, and referrals to in-depth evaluations and services when developmental concerns are suspected or identified. Subsequent research has indicated that pediatric practices struggle to meet these standards.13 Recent studies, however, indicate that electronic health records (EHRs) have to potential to support the collection of developmental screening information and its use for decision support, care management, and quality reporting purposes.14,15 Currently, there are no agreed upon data standards for supporting and capturing the clinical process of early developmental screening in pediatric primary care.

Screening itself is a multi-step process. EHRs can help support this process along the way. The purpose of this HL7 Functional Domain Profile for Developmental Screening (US Realm) is to delineate the steps involved in early developmental monitoring, screening, follow-up, and reporting per the current AAP guidelines (see Appendix). Beginning with developmental surveillance/monitoring, EHRs can provide a place to prompt, document and manage information from caregivers, healthcare provider observations, and developmental history on risk factors and concerns related to developmental delays. At certain key ages, the healthcare provider should utilize a validated developmental screening tool to elicit more specific information about the child’s development. This includes adjusting for prematurity if the child was born before 38 weeks of gestation. Screening support via the EHR begins when the system flags that the child is within the age range for a screener. Once the child is flagged, the health care provider can give the standardized screening tool to the caregiver. The handing of the tools can either be a process of giving a parent paper screening tool or in some settings, parents are given an electronic device such as a laptop or tablet.  The parent is then tasked with answering questions about their child’s development and behavior. The system should capture the completion, result, and follow-up needed from the screener. There are a number of results of this step. The parent can refuse to do it.  It can go unfinished. It can be completed. The EHR needs to record the status of completion, even in this first step. Once the screener is done, the next step is scoring. Scoring can be done either by hand or some EMR have in use algorithms for scoring. The results of the scores need to be recorded in the child’s medical record. The interpretation of the scores into the categories of “no concern” or “concern” is helpful. The next step is a discussion with the family. Information is shared between the family and the health care provider to better put the scores into context.  The occurrence of this feedback and discussion should be documented and the appropriate follow-up included. When a child is referred for services or other specific actions are needed, recording this recommendation in a child’s EHR medical record is important and allows the health care provider to take steps to ensure that the referral is completed. Finally, the EHR can support the ability to report on quality metrics including whether screeners were completed at the recommended times.

## Target Realm

The HL7 Functional Domain Profile for Developmental Screening is targeted to the U.S. realm.

## Target End-Date

The HL7 Functional Domain Profile for Developmental Screening (US Realm) target end-date is September 2017.

## Sponsors

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### HL7 International and HL7 Child Health Work Group

Founded in 1987, Health Level Seven International (HL7, <http://www.HL7.org> ) 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 structured document 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 EHR Technical Committee (EHR-TC) only to be subsequently renamed the EHR Work Group (EHR WG). In 2004 the EHR WG published the *EHR-S Functional Model (EHR-S FM)* as a Draft Standard for Trial Use (DSTU).The Functional Model underwent membership level ballot in September 2006 and January 2007, and was approved as a standard in February 2007. In 2009, EHR System Functional Model Release 1.1 was jointly balloted and published by ISO TC215 and CEN TC251.

In April 2014, EHR-S FM Release 2 completed HL7 balloting and was approved for publication. Balloting continues at ISO TC215 and CEN TC251 and will conclude with approval and joint (HL7, ISO, CEN) publication of EHR-S FM Release 2.1, anticipated for late Summer 2014.

Founded in 2003, the HL7 Child Health Work Group supports the HL7 mission by creating and promoting health information technology standards that define data standards and functional requirements for systems that are used to improve the care and health of infants, children, and adolescents.

More information on the HL7 Child Health Work Group can be found below:

<http://www.hl7.org/Special/committees/pedsdata/overview.cfm>

<http://wiki.hl7.org/index.php?title=Child_Health>

## What is a HL7 Functional Domain Profile?

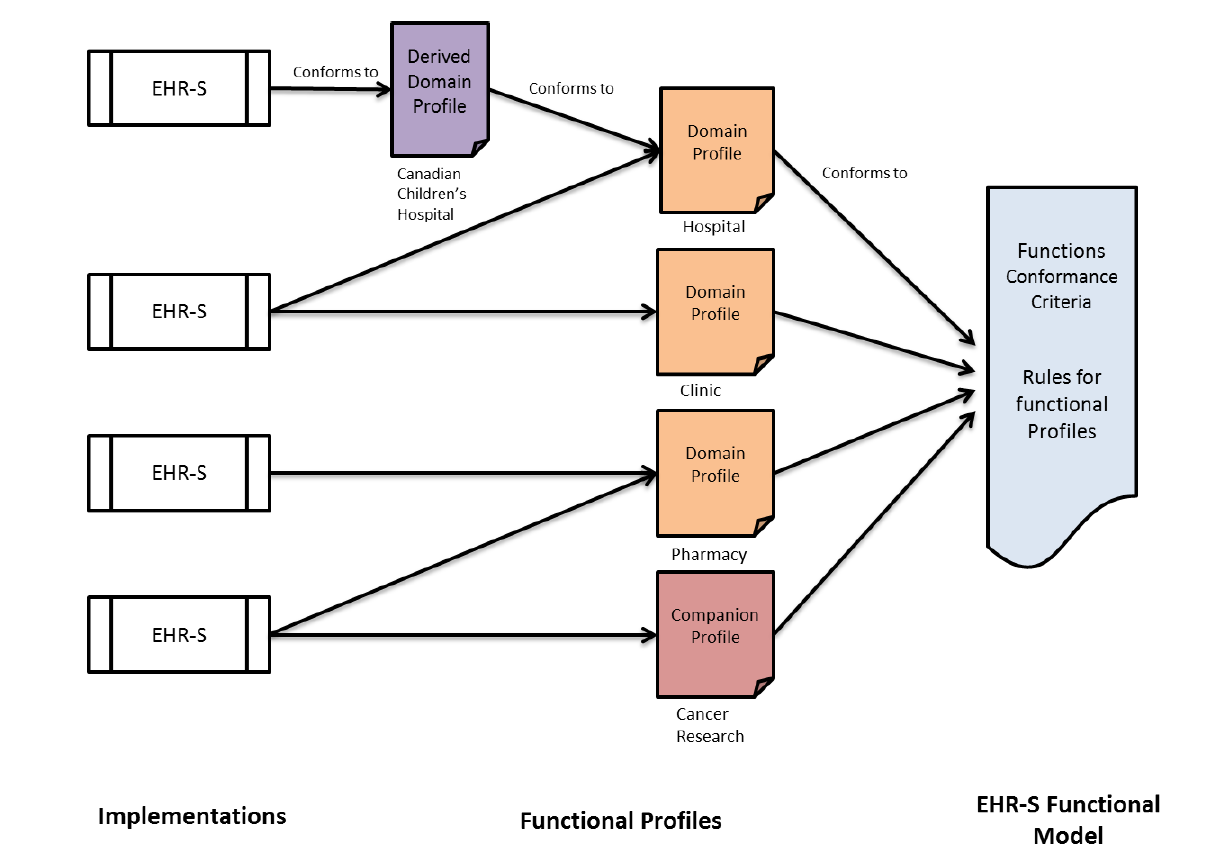
The EHR-S FM is a list of all functions that COULD be present in EHR systems and criteria for achieving that function. Any given EHR-S will perform one or more functions (i.e., a subset) from the FM list (i.e., the superset), depending on the purpose of the system. The select subset of functions and the criteria for conforming to these functions characterize the EHR-S capabilities and are referred to as an “ HL7 Functional Domain Profile for Developmental Screening (US Realm)”. The functions and conformance criteria will vary across functional profiles, depending on the operational needs of the system, i.e., what the system is in place to accomplish.

Functional Profiles - Creating a Functional Profile is a method for defining subsets of the Functional Model. A Functional Profile is a specification which uses the Functional Model to indicate which functions are required, desired, or implemented for certain EHR systems, healthcare delivery settings, or for other purposes (e.g. profile for Records Management and Evidentiary Support EHR). Functional Profiles can be created by healthcare community stakeholders with interest in using and/or providing a Functional Profile for an EHR system. Functional Profiles can represent the functionality required and desired for a care setting or application, or reflect the functionality incorporated in a vendor’s EHR system.

There are two types of Functional Profiles. The Functional Domain Profile is the common type of profile used to describe an EHR system for use in one or more care settings, or to describe an EHR system for use in a selected realm to meet the rules, regulations and standards applicable for that realm. The Functional Companion Profile is a type of profile that must be paired with one or more Domain Profiles. The purpose of a Companion Profile is to add unique features to an EHR System, such as for research or for evidentiary support.

Once a Functional Profile is defined it can be implemented by EHR systems or it may trigger the creation of derived Functional Profiles. A derived Functional Profile is a Functional Profile that is created from an existing Functional Profile, inheriting functions from the base (existing) Functional Profile.

In this case, we developed a “child health” Functional Domain Profile based on the EHRS-FM Release 2, which is aimed at augmenting the Child Health Functional Profile Release 1. Given that the EHRS-FM Release 2.1 (errata version) is more current than the Child Health Functional Profile Release 1, the project team decided to use the more current EHRS-FM R2.1 (errata version) as the basis for the profile.



## EHR-S Definitions and Standards

ISO/HL7 10781 EHR-S FM references the International Organization for Standardization (ISO) *ISO/TR-20514 Health Informatics – Electronic health record – Definition, scope and context[[1]](#footnote-1)* and states:

*“The primary purpose of the EHR is to provide a documented record of care that supports present and future care by the same or other clinicians…. Any other purpose for which the health record is used may be considered secondary.”*

*“The Core EHR contains principally clinical information; it is therefore chiefly focused on the primary purpose. The Core EHR is a subset of the Extended EHR. The Extended EHR includes the whole health information landscape; its focus therefore is not only on the primary purpose, but also on all of the secondary purposes as well. The Extended EHR is a superset of the Core EHR.”*

In this respect, the HL7 FUNCTIONAL DOMAIN PROFILE FOR DEVELOPMENTAL SCREENING (US REALM) may be regarded as a set of Extended (i.e., not Core) EHR functions.

## The term “Jurisdiction”

For the purposes of this document, the term “jurisdiction” is used as follows:

A *jurisdiction* is an area, generally geo-political, in which a governmental agency or corporation has public health oversight and/or management responsibilities; a territorial range of authority or control. The jurisdiction could be a state, a metropolitan area (New York City, Chicago, etc.), a county within a state, or some other subdivision of a larger jurisdiction. A jurisdiction might encompass the entire country, as is the case with nationwide jurisdictions such as the jurisdictions of the Department of Veterans Affairs and the Federal Bureau of Investigation. A *subordinate jurisdiction* is a jurisdiction that is a subset of another jurisdiction.

## Systems, Components, and Applications

An EHR system consists of a collection of systems, applications, modules, or components, developed on different architectures. For example, a provider might pair one vendor's clinical documentation system with another's tracking, discharge, or prescribing system. An EHR system may be provided by a single vendor, multiple vendors, or by one or more development teams.

## Organization of the HL7 EHR-S Functional Model

The EHR-S Functional Model is composed of a list of functions, known as the Function List, which is divided into seven sections: Overarching, Care Provision, Care Provision Support, Population Health Support, Administrative Support, Record Infrastructure and Trust Infrastructure.

|  |
| --- |
| Overarching (OV) |
| Care Provision (CP) |
| Care Provision Support (CPS) |
| Population Health Support (POP) |
| Administrative Support (AS) |
| Record Infrastructure (RI) |
| Trust Infrastructure (TI) |

Table 1: Function List Sections

The seven sections of the function list reflect content from prior HL7 DSTUs (EHR Interoperability and Lifecycle Models), the Records Management/Evidentiary Support and other Functional Profiles (based on prior releases of the EHR System Functional Model).

Within the seven Sections of the Functional List the functions are grouped under header functions which each have one or more sub-functions in a hierarchical structure.

## Sections of the Function List

The seven sections of the function list reflect content of the Interoperability Model, now integrated in the Functional Model, and input from several profiles of the earlier versions of the Functional Model. Below is a summary description of each of the seven sections:

* **Overarching**: The Overarching Section contains Conformance Criteria that apply to all EHR Systems and consequently must be included in all EHR-S FM compliant profiles.
* **Care Provision**: The Care Provision Section contains those functions and supporting Conformance Criteria that are required to provide direct care to a specific patient and enable hands-on delivery of healthcare. The functions are general and are not limited to a specific care setting and may be applied as part of an Electronic Health Record supporting healthcare offices, clinics, hospitals and specialty care centers.
* **Care Provision Support**: The Care Provision Support Section focuses on functions needed to enable the provision of care. This section is organized generally in alignment with Care Provision Section. For example, CP.4 (Manage Orders) is supported directly by CPS.4 (Support Orders).
* **Population Health Support**: The Population Health Support Section focuses on those functions required of the EHR to support the prevention and control of disease among a group of people (as opposed to the direct care of a single patient. This section includes functions to support input to systems that perform medical research, promote public health, & improve the quality of care at a multi-patient level.
* **Administrative Support:** The Administrative Support Section focuses on functions required in the EHR-S to enable the management of the clinical practice and to assist with the administrative and financial operations. This includes management of resources, workflow and communication with patients and providers as well as the management of non-clinical administrative information on patients and providers.
* **Record Infrastructure**: The Record Infrastructure Section consists of functions common to EHR System record management, particularly those functions foundational to managing record lifecycle (origination, attestation, amendment, access/use, translation, transmittal/disclosure, receipt, de-identification, archive…) and record lifespan (persistence, indelibility, continuity, audit, encryption). RI functions are core and foundational to all other functions of the Model (CP, CPS, POP, AS).
* **Trust Infrastructure**: The Trust Infrastructure Section consists of functions common to an EHR System infrastructure, particularly those functions foundational to system operations, security, efficiency and data integrity assurance, safeguards for privacy and confidentiality, and interoperability with other systems. TI functions are core and foundational to all other functions of the Model (CP, CPS, POP, AS and RI).

Each function in the HL7 EHR-S Functional Model is identified and described using a set of elements or components as detailed below.

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
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| |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | | ID | Type | Name | Statement | Description | Conformance Criteria | | CP.1 | F | Manage Clinical History | Manage the patient's clinical history lists used to present summary or detailed information on patient health history. | Patient Clinical History lists are used to present succinct “snapshots” of critical health information including patient history; allergy intolerance and adverse reactions; medications; problems; strengths; immunizations; medical equipment/devices; and patient and family preferences. |  | | CP.1.4 | F | Manage Problem List | Create and maintain patient- specific problem lists. | A problem list may include, but is not limited to chronic conditions, diagnoses, or symptoms, injury/poisoning (both intentional and unintentional), adverse effects of medical care (e.g., drugs, surgical), functional limitations, visit or stay-specific conditions, diagnoses, or symptoms… |  | | CP.1.4 | C |  |  |  | 1. The system SHALL provide the ability to manage, as discrete data, all active problems associated with a patient. | | CP.1.4 | C |  |  |  | 2. The system SHALL capture and render a history of all problems associated with a patient. | | CP.1.4 | C |  |  |  | 3. The system SHALL provide the ability to manage relevant dates including the onset date and resolution date of problem. |   Table 2: Example of Functional Model Elements  **Function ID**  This is the unique identifier of a function in the Function List (e.g., CP.1.1) and should be used to identify uniquely the function when referencing functions. The Function ID also serves to identify the section within which the function exists (CP = Care Provision Section) and the hierarchy or relationship between functions (CP.1.1 is at the same level as CP.1.2, CP.1.1 is also a parent of CP.1.1.1 and child of CP.1. In many cases the parent is fully expressed by the children.  **Function Type**  This is an indication of the line item as being a Header (H), Function (F) or Conformance Criteria (C). The Tag (T) is used to identify a new section in the spreadsheet and its related functions in the spreadsheet. A Tag has no directly associated Functions or Criteria.  **Function Name**  This is the name of the Function and while expected to be unique within the Function List; it is not recommended to be used to identify the Function without being accompanied by the Function ID.  Example: *CP.1.3, Manage Medication List*  **Function Statement**  This is a brief statement of the purpose of this function. While not restricted to the use of structured language that is used in the Conformance Criteria (see below); the Statement should clearly identify the purpose and scope of the function.  Example: *Create and maintain patient-specific medication lists*  **Description**  This is a more detailed description of the function, including examples if needed.  Example: *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.*  **Conformance Criteria**  Each function in the Function List includes one or more Conformance Criteria. A Conformance Criteria, which exists as normative language in this standard, defines the requirements for conforming to the function. The language used to express a conformance criterion is highly structured with standardized components with set meanings.  Example: *1. The system SHALL provide the ability to manage, as discrete data, all active problems associated with a patient.* |  |

## Conformance Clause

These profiles are based on the HL7 EHR-S Functional Model, Release 2, April 2014.

Key to the Functional Model and HL7 Functional Domain Profile for Developmental Screening (US Realm) is the concept of *conformance,* which is defined (by the EHR-S FM) as *“verification that an implementation meets the requirements of a standard or specification”*. In the Functional Model and in HL7 Functional Domain Profile for Developmental Screening (US Realm), the general concept of conformance may be expressed in a number of forms. For instance, a profile can be said to conform to the Functional Model if it adheres to the defined rules specified by the Functional Model specification. Similarly, an EHR system may claim conformance to one of these profiles if it meets all the requirements outlined in the profile.

## Conformance Criteria

Each function defined in the Functional 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 hearing tests associated with a patient”). Conformance criteria have been developed in accordance with the standards set forth by the EHR Work Group. In order to ensure consistent, unambiguous understanding and application of the Functional Profile, a consistent set of keywords (normative verbs) has been employed to describe conformance requirements.

The key words SHALL, SHALL NOT, SHOULD, and MAY in this document are to be interpreted as described in HL7 EHR-S Functional Model, Release 2, April 2014 Conformance Clause:

|  |  |
| --- | --- |
| **SHALL** | Indicates a mandatory requirement to be followed (implemented) in order to conform. Synonymous with ‘is required to’ and ‘must’. |
| **SHOULD** | Indicates an optional recommended action, one that is particularly suitable, without mentioning or excluding others. Synonymous with ‘is permitted and recommended’. |
| **MAY** | Indicates an optional, permissible action. Synonymous with ‘is permitted’. |

Table 3: Optionality key words

## Functional Profiles

A “Functional Profile" is a selected set of functions that are applicable for a particular purpose, user, care setting, domain, etc. Functional profiles help to manage the master list of functions. It is not anticipated that the full Functional Model will apply to any single EHR-S implementation. As such, an EHR system does not conform directly to the Functional Model; rather, it conforms to one or more Functional Profiles.

Functional profiles are the expression of usable subsets of, or modifications or additions to, functions and criteria of the EHR-S Functional Model.

The act of creating a Functional Profile is to support a business case for EHR-S use by selecting an applicable subset of functions from the EHR-S Functional Model list of functions, in effect constraining the model to meet specific requirements. For example, a Functional Profile may be created by a purchaser, to indicate requirements; by a vendor, to indicate the capability of specific products; or by any person/entity wishing to stipulate a desired subset of functions for a particular purpose, including a care setting within a specific realm.

## Conformance of Derived Functional Profiles

HL7 Functional Domain Profile for Developmental Screening (US Realm) may prove valuable for:

1. specifying certain subsets of EHR systems used to care for specific groups of population, e.g., children, adults, women, or geriatrics; and/or specific care settings, e.g., acute care, ambulatory care, specialty care, pharmacy, laboratory, or radiology.
2. supporting information exchanges between clinical care and public health information systems.

In order for a derived functional profile to claim conformance with one or more domain’s listed in the HL7 FUNCTIONAL DOMAIN PROFILE FOR DEVELOPMENTAL SCREENING (US REALM), the HL7 Functional Domain Profile for Developmental Screening (US Realm) **SHALL** adhere to the principles and methods detailed in the Conformance Clause of the EHR-S FM.

## Normative Language

Additional clarification is necessary to understand the standardized nomenclature used to describe the actions performed by a system. The following excerpt from the EHR-S FM R2 Glossary, illustrates the hierarchical nature of the nomenclature. For example, the term “Capture” is used to describe a function that includes both direct data entry (“Enter”) and indirect data entry (e.g., “Import” from another system. Similarly, “Maintain” is used to describe a function that entails storing, updating, and/or removing data.

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Manage (Data) | | | | | | | | | | |
| Capture | Maintain | | | Render | | | Exchange | Determine | | Manage-Data-Visibility |
| Auto-Populate  Enter  Import  Receive | Store | Update | Remove | Extract | Present | Transmit | Export  Import  Receive  Transmit | Analyze | Decide | De-Identify  Hide  Mask  Re-Identify  Unhide  Unmask |
| Archive  Backup  Decrypt  Encrypt  Recover  Restore  Save | Annotate  Attest  Edit  Harmonize  Integrate  Link  Tag | Delete  Purge |

Table 4: "Manage Data" Action-Verbs

# 

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## Appendix

**Essential EHR functional components for developmental monitoring, screening, follow-up, and reporting per the current AAP guidelines**

This appendix serves as a companion guide to this work effort and describes the construct for identifying the essential components of the functional profile for Developmental Screening in EHRs. At a very high level, EHRs must be able to support the 1) monitoring, 2) screening, 3) medical home developmental follow up, and 4) quality reporting functions of care givers and providers of children who are concerned about their developmental well-being.

The matrix below is organized by following categories:

* ID#: This is the identifier for the specific line item
* Type: Describes the hierarchy for the purposes of describing the nesting of the functional requirements and concepts, where;
  + Header (H) is the main category of functionality
  + Function (F) is “parent” functionality, and
  + Criteria (C) is “child” function of (F)
* Name: Is the description of the EHR function
* Statement: A brief narrative/overview of the function
* Description: A more detailed explanation of the function
* Conformance Criteria: A more specific description of the behavior of the EHR system
* Source/reference: where the function was referenced from
* EHRS-FM R2: this is the EHRS-FM R2 criteria when the specific line item is mapped to

**Mapping the components below to the EHRS-FM Release 2 (2014):** Through a series of meetings, each line of the matrix below is mapped to the specific conformance criteria in EHRS-FM R2. (See next page)

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| ID# | Type | **Name** | **Statement** | **Description** | **Criteria** | ***Source or Reference: Policy (P); Mandate/Law (M); Quality Measure (QM)*** | ***EHRS-FM R2*** |
| 1 | H | **Monitoring** | Support and manage the process of recognizing children who may be at risk of developmental delays | Developmental surveillance (aka, "monitoring") is a flexible, longitudinal, continuous, and cumulative process whereby knowledgeable health care professionals identify children who may have developmental problems. Surveillance can be useful for determining appropriate referrals, providing patient education and family-centered care in support of healthy development, and monitoring the effects of developmental health promotion through early intervention and therapy. A great breadth and depth of information is considered in comprehensive developmental surveillance; it is important to note, however, that much of this information (e.g., static risk factors such as low birth weight, results of previous screenings) will accumulate within the child’s health record, where it can be reviewed and flagged as necessary before the visit. There are 5 components of developmental surveillance: 1) eliciting and attending to the caregivers’ concerns about their child’s development; 2) documenting and maintaining a developmental history; 3) making accurate observations of the child; 4) identifying risk and protective factors; and 5) maintaining an accurate record of documenting the process and findings. http://pediatrics.aappublications.org/content/118/1/405.short | The EMR/EHR should be able to support developmental monitoring during every well-child visit through prompting the steps of monitoring and documenting the results and follow-up needed. | AAP (P)  <http://pediatrics.aappublications.org/content/118/1/405.short> | CPS.3 |
| 1.1 | F | Eliciting and Attending to the caregivers’ Concerns |  | Healthcare providers (HCPs) are expected to ask caregivers if they have concerns about their child's development at every visit. |  | AAP (P) |  |
| 1.1.1 | C |  | HCP elicits caregiver concerns about development | At every pediatric well-child visit, the HCP will conduct developmental monitoring by asking specific questions to the caregiver. Questions as specified by AAP guidance. | The system shall present the standard question: “Do you have any concerns about your child’s development?" The system should allow "Yes" and enable 1.1.7 to document note or "No" and go on to next question. | AAP (P)  Questions are from AAP Policy guideline referenced above | CPS.3.1#03 |
| 1.1.2 | C |  |  |  | The system shall present the standard question: “Do you have any concerns about your child’s behavior?" The system should allow "Yes" and enable 1.1.7 to document note or "No" and go on to next question. |  | CPS.3.1#03 |
| 1.1.3 | C |  |  |  | The system shall present the standard question: “Do you have any concerns about your child’s learning?" The system should allow "Yes" and enable 1.1.7 to document note or "No" and go on to next question. |  | CPS.3.1#03 |
| 1.1.4 | C |  |  |  | The system shall present the standard question: “Do you have any concerns about your child’s vision?" The system should allow "Yes" and enable 1.1.7 to document note or "No" and go on to next question. |  | CPS.3.1#03 |
| 1.1.5 | C |  |  |  | The system shall present the standard question: “Do you have any concerns about your child’s hearing" The system should allow "Yes" and enable 1.1.7 to document note or "No". |  | CPS.3.1#03 |
| 1.1.6 | C |  |  |  | The system shall allow for the documentation of other developmental monitoring questions.  The system should allow "Yes" and enable 1.1.7 to document note or "No" |  | CPS.3.1#03 |
| 1.1.7 | C |  | HCP documents any concerns | The HCP provides a brief note of the caregiver's concerns about the child's development from questions 1.1.1 - 1.1.5 | The system should allow documentation of any specific developmental concern raised in 1.1.1 - 1.1.6 prompt to add a brief note to describe areas of concern. |  | CP.3.3#03 |
| 1.2 | F | Maintaining a Developmental History |  | The HCP will note any significant physical, behavioral, or environmental events or changes since last visit. | Link to the Child EHR Developmental History | AAP (P) | CP.3.1 |
| 1.2.1 | C |  | HCP elicits caregiver report of developmental changes | At every pediatric well-child visit, the HCP will elicit information on developmental delays, deviances, or loss of skills (regression) that have occurred since the last visit. | The system should present the standard question: “What changes have you seen in your child’s development since our last visit?” | AAP (P)  Question is from AAP Policy guideline referenced above | CPS.3.1 |
| 1.2.2 | C |  | HCP documents any changes in developmental history | The HCP notes whether there have been any relevant developmental changes. | The system should allow text documentation of any specific developmental changes in the Developmental History section of the EHR.  Link to the Child EHR Developmental History |  | CP.1.1 |
| 1.3 | F | Making Accurate and Informed Observations of the Child |  | At every pediatric well-child visit, the HCP will observe the child's physical and developmental status and observe interactions with the HCP and caregiver for physical, behavioral, or environmental signs of developmental concerns. |  | AAP (P)  Observations suggested from AAP Policy guideline | CP.3.3 |
| 1.3.1 | C |  | HCP documents any physical, behavioral, or environmental observations | The HCP documents any physical, behavioral, or environmental observations | The system should allow text documentation of any specific physical, behavioral, or environmental observations. | AAP (P) | CP.3.3 |
| 1.4 | F | Identifying the Presence of Risk and Protective Factors |  | Through history review and observation, note potential risk and protective factors (Environmental, genetic, biological, social, and demographic) related to the child's development. |  | Observations suggested from AAP Policy guideline | POP.2.1#1 or #2 |
| 1.4.1 | C |  | HCP documents any potential risk and protective factors related to the child's development | Through history review and observation, the HCP notes potential risk and protective factors (Environmental, genetic, biological, social, and demographic) related to the child's development. | The system should allow text documentation of any specific potential risk and protective factors related to the child's development. | AAP (P) | CP.3.3 |
| 1.5 | F | Documenting the Process and Findings |  |  |  | AAP (P) | CP.3.3#1 |
| 1.5.1 | C |  | Concern Indicated | Based eliciting and attending to concerns, updating developmental history, HCP observations, and/or presence of risk factors, the HCP will note if a developmental concern is indicated. | The system shall indicate that a developmental concern was reported by someone is indicated by selecting "Yes, developmental concern" or "No developmental concern at present" | AAP (P) | CP.3.3 |
| 1.5.2 | C |  | Document Developmental Concern | HCP documents what the developmental concern is. | The system should allow text documentation of the specific developmental concern. |  | CP.3.3#6 |
| 1.5.3 | C |  | Concern Indicated by | If a developmental concern is present, the HCP may document the source of the developmental concern. | The system may allow documentation of the source of the developmental concern as the Healthcare provider (HCP), Caregiver, Both HCP and Caregiver, or Other source. |  | CP.3.3#1 |
| 1.5.4 | C |  | Follow-up Needed | The HCP will document whether developmental follow-up is needed for this visit. No (complete developmental monitoring at next visit); Yes (specify). | The system shall indicate whether follow up is needed based on concern about development. The system shall indicate "No" to indicate no follow-up needed and to conduct developmental monitoring on the next well-child visit. Then system shall indicate "Yes" to indicate that follow-up is needed based on developmental concerns. Prompt for 1.5.5 to indicate the type of follow-up needed. | AAP (P) | CP.3.3#18 |
| 1.5.5 | C |  | Follow-up Type | If 1.5.4 is "Yes", the HCP will document the type of developmental follow-up that is needed. | The system shall indicate the type of follow up needed for developmental concerns by allowing the HCP to select the "Type of Follow-up Needed" In-office consultation (conversation, information); Developmental Screening; Order Specific Testing (specify); Referral for Further Evaluation; Referral to Early Intervention; Referral to community services; Other |  | CP.3.3#18 |
| 2 | H | **Screening** | Support the use of standardized screening tools to identify a child at risk of a developmental delay or disorder | Screening is a “brief assessment procedure designed to identify children who should receive more intensive diagnosis or assessment.” Developmental screening is aimed at identifying children who may need more comprehensive evaluation. Evaluation does not always included diagnosis.  Its purpose is also to refer children for appropriate intervention based on concern. It communicates the child health provider's interest in the patient's development and well-being, not just his or her physical health. (source: http://pediatrics.aappublications.org/content/108/1/192.full) | The EMR/EHR should be able to support developmental screening using a standardized tool at the recommended ages or when indicated by developmental monitoring through prompting the steps of developmental screening and documenting the results and follow-up needed. |  | CPS.3.1 |
| 2.1 | F | Present Alerts | Present Reminders and Alerts as Clinical Decision Support | Health care providers using EMR will be aided in the completion of developmental screeners if prompts for when it is required are present. The prompts can be directed in multiple ways.  Caregivers can be prompted prior to the child's well child visit to complete a screener through a email system or patient portal system.  The advantage of caregivers’ reminders is that it allows the caregiver time to observe developmental skills at home prior to responding to screener items about the skill.  The alerts can also be directed to the patient care representatives (registrars, administrative office managers, schedulers etc.) who may have the responsibility to notify the family.  The alerts can also be directed to the health care provider and embedded the child's well child template. |  |  | CPS.3.4 |
| 2.1.1 | C |  | Calculate child's age to determine if an alert to conduct developmental screening is needed | There are 4 mandated ages for developmental screening which at 9 month, 18 months, 24 months and 30 months of age +/- 3 months.  These mandated ages were determined by the EPSDT guidelines based on AAP Bright future recommendations.   The windows around each age are the same at the Medicaid schedule for periodic well child visits. | The system shall have the ability to calculate the child's age in months and days and include the appropriate window to determine if eligible for a developmental screen. If the child's age is 9, 18, 24 or 30 months + or - 3 months the child is eligible for developmental screening. | EPSDT age windows  Ages should be updated based on AAP and CMS guidelines for ages of developmental screening | CPS.3.4 |
| 2.1.2 | C |  | Alert HCP based on age to prompt for developmental screening | The system alerts the healthcare provider that the child is due for developmental screening based on the child's age | If the child is in an eligible age (9,18, 24, or 30 months +- 3 months), the system should alert the healthcare provider or identified staff that the child needs a developmental screener prior to the well child visit. |  | POP.1.1 |
| 2.1.3 | C |  | Alert caregiver based on age to prompt for developmental screening |  | The system may have the ability to notify the caregiver that the child is due for screening. For example, the EMR can use the recorded email of the caregiver or communicate via the patient's portal or notify the caregiver at the time of arrival at health care center. | <http://pediatrics.aappublications.org/content/124/4/e648.full.pdf+html> | POP.1.2 |
| 2.2 | F | Conduct Screening Tests | Conduct validated developmental screening tests | A developmental screening test must have been designed for the purpose of screening, appropriate for children between the ages of birth and 5 years, cover multiple developmental domains, be available and provide information on administration, training, reliability, and validity.   For ease of use it is also short and low literacy.  All health care practices will need the system to provide documentation for the process of screening (given, completed, results and follow-up steps). Some health care practices that use an open source screening tools or obtain permission to use a copyrighted screening tool in their EMR system will need the system to support the actual screening tool (questions, responses, scoring, and presentation of the results). |  | Watch me Thrive, AAP, Child Trends  <http://www.acf.hhs.gov/programs/ecd/child-health-development/watch-me-thrive> | CPS.3.3 |
| 2.2.1 | C |  |  | In some cases, the health care system may be able to place a validated screening tool in the electronic medical record. the following conformance criteria are for those cases. | The system should support validated screening tools such as indicated in AAP/CDC Roadmap to Integrate Developmental Screening into Electronic Health Records |  | CPS.3.3 |
| 2.2.2 | C |  |  |  | The system shall select the correct form of the screener based on child's age |  | CPS.3.4 (age context) |
|  | C |  |  |  | The system shall select the correct form of the screener based on caregiver/caregiver's primary or preferred language. |  | CPS.1.7.1 (language) |
| 2.2.3 | C |  |  |  | The system shall select the correct form of the screening tool based on child's age adjusted for prematurity when the child is <37 weeks gestation and younger than 25 months, if GA is available in EHR. |  | CPS.3.4 |
| 2.2.4 | C |  |  | While screening is mandated at 4 ages between 9 months and 30 months, a health care provider may want to initiate the use of a validated screener outside of these ages.   The desire to do a screener outside the mandated ages may be triggered based on caregiver concerns, surveillance efforts or observations made by the health care provider. | The system may make the appropriate screening tools available outside the mandated age parameters. |  | CPS.3.1 |
| 2.2.6 | C |  |  | Some screeners can be scored electronically based on caregiver responses to questions that are typical scored numerically as 0, 1, or 2 and a cut-offs point for each given age to indicate no concern or of concern .Other screeners require the reading of written responses.  So not all screener are able to be scored electronically.   When it is possible, screener authors can provide the algorithms for scoring. | The system may have the ability to score the screening tool |  | CP.3.1 #16 |
| 2.3 | F | Document Results of Developmental Screening | Document and manage screening test scores | The completion of the screener is key in the screening process. whether the caregiver report screener was completed needs to be documented as this is a quality health metric in some states. |  |  |  |
| 2.3.1 | C |  |  |  | The system shall report if the screening was completed for the child by recording "Yes" if completed and "No" if not completed. . The system shall provide completion options for 1) completed, 2) Not completed. | AAP;EPSDT, CMS, (QM) NQF, CHIPRA core child Measures | AS.5.4#2 |
| 2.3.2 | C |  |  |  | The system shall report reasons for non-completion if the response to completion was "No". the system shall provide non-complete reason options 1) caregiver refused, 2) too few items were completed, 3) language or literacy issue (screening tool not available in caregiver's language and interpreter service were not used) and 4) screener not provided at time of visit. |  | CP.3.4#15 |
| 2.3.3 | C |  |  | The flow of screener will vary depending of the flow of each health care office, Some health care settings will continue to provide screeners on paper and will need the ability to enter the results. Developmental screening tools are screeners and results should be viewed with caution. Even the best screener has false positive and false negatives. The results are best classified as "No concern" and "Concern" in order to reflect the non-definitive nature of the results. These will also model the appropriate words to use with caregivers. | The system shall be able to document the results of the completed developmental screener using 1) no concern (if there are negative findings to screen) and 2) concern.(if there are positive findings to the total screener score or one or more domains of the screener results). |  | CP.3.3#1 |
| 2.3.4 | C |  |  | Health care centers often need to retain the item by item responses of each screening tool as proof of how the caregiver answered every single question. This is required in some states for billing 96110 for interpretation and report and the item by item responses will have to be produced during an audit. | The system may allow the documentation of the responses to each item of the screener. |  | CP.3.3#1 |
| 2.3.5 | C |  |  | Some health care setting will also want screening results to be recorded by developmental domains: communication, gross motor, fine motor, problem solving and personal social. Not all screener break the results into domains. | The system may be able to document the results of the screening by domain scores using 1) no concern (if there are negative findings to screen) and 2) concern.(if there are positive findings to one or more domains or potential concern was indicated on screener results). |  | CP.3.3#1 |
|  |  |  |  |  | The system should be able to document the source of the developmental screener using 1) well child visit 2) outside sources such as childcare setting. |  | CPS.2.5#1 |
| 2.4 | F | Documentation of Interpretation and Follow-Up | Support and manage the documentation and interpretation of the screening process | Developmental screening results should be interpreted in the context of caregiver concern, previous results of surveillance, occupational therapist, educators, psychologist or developmental pediatricians. “No concern" screening results can also prompt a referral to community support for children and families such as Early Head Start, Head Start, Home -visiting program, prekindergarten centers and high quality child care centers.  lance when available and knowledge of the child's biologic and environmental risks.  The results of a positive ("Concern") screen will typically results in referral for further attention.  One common referral next step is the Infant and Toddler Early Intervention (Part C of the Individuals with Disabilities Education Act, IDEA) or Preschool Early Intervention programs that are available in every state.  Other referrals might include to private audiology, speech pathologist, physical therapist, occupational therapist, educators, psychologist or developmental pediatricians. “No concern" screening results can also prompt a referral to community support for children and families such as Early Head Start, Head Start, Home -visiting program, prekindergarten centers and high quality child care centers. |  |  |  |
| 2.4.1 | C |  | Follow-up Needed | The HCP will document whether developmental follow-up is needed for this visit. No (complete developmental monitoring at next visit); Yes (specify) | The system shall indicate whether follow up is needed based on concern about development. The system shall indicate "No" to indicate no follow-up needed and to conduct developmental monitoring on the next well-child visit. The system shall indicate "Yes" to indicate that follow-up is needed based on developmental concerns. Prompt for 2.4.4 to indicate the type of follow-up needed. | AAP (P) | CP.3.3#1 |
| 2.4.2 | C |  | Follow-up Type | If 2.4.1 is "Yes", the HCP will document the type of developmental follow-up that is needed. | The system shall indicate the type of follow up needed for developmental concerns by allowing the HCP to select the "Type of Follow-up Needed". The following domains of follow-up should be provided: In-office consultation (conversation, information); Order Specific Testing (specify); Referral for Further Evaluation; Referral to Early Intervention system; Referral to Other services (private therapy, preschools, and behavioral health services). The system should allow for more than one option to be chosen. |  | CP.3.3#1 |
| 2.5 | F | Support for management of outgoing referral |  | Referrals that can be made directly by the health care provider based on discussion and agreement with the family can be facilitated by an electronic referral for the evaluation or service. |  |  |  |
| 2.5.1 | C |  |  |  | The systems should support the rendering (extract, present, and transmit) of a referral form to referral source indicating consent of guardian obtained, referral concern, follow-up requested. |  | CP.4.6#1 |
| 2.5.2 | C |  |  |  | The system may support the documentation that the referral was sent successfully. |  | CP.4.6#1 |
| 5 | H | **Medical Home Developmental Follow-up** | Support and Manage the follow-up of patients identified with concerns about development | The follow up process can occur in both the primary caregiver and subspecialist. This can also occur in between patient visits, when practice is reviewing care delivered to patient population. |  |  |  |
| 5.1 | F | Prompt reminder to follow-up after visit |  | The healthcare provider should follow-up with the caregiver to ensure that follow-up was taken after developmental concern |  |  |  |
| 5.1.1 | C |  |  |  | The System may have a function that will remind the Health care providers at a selected interval after the referral to contact the family to check to see if referral (as indicated in 2.4.1 and 2.4.2) was completed. |  | CP.4.6#9 |
| 5.1.2 | C |  |  |  | The system may support documentation that follow-up call was made |  | CP.3.3#18 |
| 5.1.3 | C |  |  |  | The system shall allow the documentation of the follow-up on the referral status: 1) Completed 2) In process and 3) No follow-up. |  | CP.4.6#8 |
| 5.2 | F | Prompt follow-up at next visit | Support and manage the follow-up of patients at the time of the next well child visit | The healthcare provider will review the results of the previous developmental screening and the referrals that were made at that time. |  |  |  |
| 5.2.1 | C |  |  |  | The system shall provide documentation in the child's next visit template of most recent previous screening results including: Concern/No Concern and Referral decision |  | CP.3.1#13 |
| 5.2.3 | C |  |  |  | The system shall allow the documentation of the referral status: 1) Followed up complete, 2) Follow-up in process, 3) No follow-up. |  | CP.4#4 |
|  |  |  |  |  | The system shall allow the documentation of the source of referral status: 1) Caregiver only, 2) Professional, or 3) Both Caregiver and Professional. |  | CPS.1.4#2 |
| 5.3 | F | Document Developmental Support Needs Identified | Support and manage the process aimed at identifying specific developmental disorders that are affecting a child | Developmental evaluation may lead to a definitive diagnosis, development of an interdisciplinary comprehensive plan of remediation, realization that there is no significant problem, or a decision that additional observation is warranted. |  | (source: http://pediatrics.aappublications.org/content/108/1/192.full) |  |
| 5.3.1 | C |  | Document developmental evaluation results that identified specific controlled terminologies or classifications (e.g., ICD-10 diagnoses) or specific service eligibility categories |  | The system shall allow the documentation of any relevant diagnoses either from the healthcare provider in a standard terminology form or from other qualified sources indicating specific delays or categories of service eligibility. |  | CP1.4#20 |
| 5.3.2 | C |  |  |  | The system shall allow for the documentation, sharing of the results and treatment recommendations, care plan, and other information related to the follow up care of the patient, such as need for additional developmental support or a health concern. |  | CP.3.4#1 |
| 6 | H | **Quality Indicator Reporting** | Support the process of monitoring, accounting, auditing and reporting of specific metrics related to the process and outcomes of care to stakeholders |  |  |  |  |
| 6.1 | F | **Report on recognized metrics** | Report on practice metrics related to giving and following up on developmental screening | The metrics can be directed to internal or external reporting |  |  |  |
| 6.1.1 | C |  | The system should report on the number of children who were eligible for screening according to age within a specified time period based on the child's birthdate. For example, Percentage of children screened for risk of developmental, behavioral, and social delays using a standardized screening tool in the 12 months preceding their first, second, or third birthday (in accordance with CMS reporting). | The system should identify the appropriate denominator based on the total number of children eligible for developmental screening within a specified time period. | The system shall refer to 2.1.2 to identify those children eligible for developmental screening based on age. | CMS Optional Reporting for Developmental Screening in the First Three Years of Life. http://www.medicaid.gov/Medicaid-CHIP-Program-Information/By-Topics/Quality-of-Care/Downloads/Medicaid-and-CHIP-Child-Core-Set-Manual.pdf | POP.6.2#1 |
| 6.1.2 | C |  |  | The system should report on the number of children who were eligible for screening according to age within the screening window. | The system shall document for each child identified in 6.1.1 whether they should be counted in a denominator based on screening eligibility and age: Denominator 1: The children in the eligible population who turned 1 during the measurement year. Denominator 2: The children in the eligible population who turned 2 during the measurement year. Denominator 3: The children in the eligible population who turned 3 during the measurement year. Denominator 4: All children in the eligible population who turned 1, 2, or 3 during the measurement year, i.e., the sum of denominators 1, 2, and 3. |  | POP.6.1#3 |
| 6.1.3 | C |  |  | The system should report on "Standardized developmental and behavioral screening: proportion of children whose health care provider obtained a completed caregiver-completed standardized developmental and behavioral screening tool". Source: AHRQ http://www.qualitymeasures.ahrq.gov/content.aspx?id=27468 | The system shall identify children with a "yes" response to 2.3.1 (screening conducted) | AHRQ; NQF endorsed measure  <https://www.aap.org/en-us/professional-resources/practice-support/quality-improvement/Quality-Improvement-Innovation-Networks/Documents/DSFMeasureWorksheet_Draft1.pdf> | POP.6.1#3 |
| 6.1.4 | C |  |  | The system should report on "Standardized developmental and behavioral screening: proportion of children whose health care provider administered and scored a caregiver-completed standardized developmental and behavioral screening tool" whose results were "Of Concern". Source: AHRQ http://www.qualitymeasures.ahrq.gov/content.aspx?id=27468 | The system shall identify children with a response "of concern" in 2.3.3 |  | POP.6.1#3 |
| 6.1.5 | C |  |  | The system should report on "Standardized developmental and behavioral screening: proportion of children whose health care provider administered and completed a caregiver-completed standardized developmental and behavioral screening tool" and whose results were "Of Concern" where follow-up is indicated as needed. | The system shall identify children with both a response "of concern" for 2.3.3 AND a response "yes" for follow-up needed in 2.4.1 | <https://www.aap.org/en-us/professional-resources/practice-support/quality-improvement/Quality-Improvement-Innovation-Networks/Documents/DSFMeasureWorksheet_Draft2.pdf> | POP.6.1#3 |
| 6.1.6 | C |  |  | The system should report on "Standardized developmental and behavioral screening: proportion of children whose health care provider administered and completed a caregiver-completed standardized developmental and behavioral screening tool" and whose results were "No Concern" where follow-up is indicated as needed. | The system shall identify children with both a response of "no concern" for 2.3.3 AND a response "yes" for follow-up needed in 2.4.1 |  | POP.6.1#3 |

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1. ISO/TR 20514: Health informatics -- Electronic health record -- Definition, scope and context. 2005-10-17 (Available at: http://www.iso.org) [↑](#footnote-ref-1)