



# EHR Connectivity – Integration Specification

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## HeC Contact information

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## OVERVIEW

This document outlines the interoperability specifications for integrating an electronic health record (EHR) system with HealtheConnections (HeC) health information exchange (HIE).

The specification includes the HealtheConnections accepted technical requirements such as transport protocols, transaction methods, security connections, supported document types, etc. In addition, data requirements are defined for various types of entities, along with the expected data that needs to be shared with the HIE.

This document is not to be used to evaluate the EHR's ability to connect with HealtheConnections health information exchange. HealtheConnections will require a detailed EHR questionnaire to be completed for HIE integration consideration.

## KEY MINIMUM REQUIREMENTS FOR INTEGRATION SELECTION/PRIORITIZATION

- EHR must be certified (ONC Certified, CEHRT)
- EHR meets HealtheConnections' minimum dataset requirements
- EHR vendor has commitment of resources available to initiate integration per HealtheConnections' priority assignment

## HIGH-LEVEL PRIORITIZATION PROCESS

1. HeC provides EHR vendor with *EMR Connectivity – Integration Specification* document for use in self-evaluation
2. EHR vendor indicates to HeC whether the product meets the minimum requirements
  - a. If minimum requirements are met, HeC will provide a questionnaire to EHR vendor to document and formalize the EHR's capabilities
  - b. If minimum requirements are not met, HeC will provide a questionnaire to EHR vendor to understand the gap in meeting minimum requirements. EHR vendor will not be considered for integration until gaps are met.
3. EHR vendor completes and submits questionnaire to HeC for review
4. HeC will utilize the returned questionnaire when it determines integration plans and priorities.
5. When selected for integration, HeC will contact EHR vendor with priority assignment and timeline to initiate integration and any potential agreements between HeC and EHR vendor.



# EHR Connectivity – Data Specification

## Supported Data Sets

In order to provide our users with the most complete and accurate information HeC requires minimum data elements be submitted. The data required will vary depending on each organization. For example, a radiology center would not be expected to submit lab data. Further data requirement details will be discussed during our engagement process. HealthConnections will work with each site to ensure that required elements are present in the submitted data files.

Typical data categories that are expected per facility type.

Categories	Hospitals	Nursing Homes	Diagnostic & Treatment Centers	Home Care	Hospices	Physicians
Allergies	X	X	X	X		X
Care Team	X	X		X	X	X
Problems (Conditions / Diagnosis)	X	X	X	X	X	X
Immunizations	X	X		X		X
Medications	X	X	X	X	X	X
Orders	X	X	X	X	X	X
Order Results	X	X	X	X	X	X
Patient Demographics	X	X	X	X	X	X
Care Management	X			X		X
Procedures	X	X	X	X		X
Social History	X	X	X	X	X	X
Unique Device Id	X					X
Visit Information	X	X	X	X	X	X
Vitals	X	X		X	X	X



# EHR Connectivity – Data Specification

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Several of the data elements associated with these categories require more details regarding the codes, values and code systems submitted in the transaction data. Our follow up questionnaire will allow you to specify the values you send compared to the code sets used by HeC. This is commonly referred to as a data compendium.

Category	Minimum Data Elements Required, if data set included in transaction
Allergies	Date reported, allergen type, allergy substance, allergy reaction, allergy severity
Care Team Members	Providers active in the patient's care and other support persons
Problems (Conditions/Diagnosis)	Date reported, problem details, diagnosing provider
Immunizations	Administered date, immunization administered, dosage
Medications	Date reported (begin and end, if applicable), medication details, medication dose
Orders	Tests, Test date, Test details
Order Results	Results, result date, order item details, result
Patient Demographics	Name, date of birth, date of death (if applicable), ethnicity, race, gender, address including zip code, preferred language
Care Management	Health concerns, assessment, goals and instructions
Procedures	Procedure date, procedure performed, performing provider
Social History	Tobacco use, Alcohol use, Birth Sex
Unique Device Id(s)	Unique device id (UDI) for a patient's implantable device
Visit Information	Visit date, discharge date, provider name, provider NPI, provider role, provider specialty, patient class, discharge instructions
Vitals	Date recorded, vital item, result



# EHR Connectivity – Technical Specification

## Practice/Data Source Identity Management

Element	Value
OID (Organization ID)	<a href="http://www.healthconnections.org/wp-content/uploads/2017/05/OID-Registration-Instructions.pdf">http://www.healthconnections.org/wp-content/uploads/2017/05/OID-Registration-Instructions.pdf</a>

## Supported Transport Protocol and Directionality for Document Submission

Element	Value
Supported Document Transport Protocols	XDS.b
	XDR
	HL7v2
	Direct Messaging
Supported Directionality (EHR Centric)	<b>Outbound:</b> Export PUSH from EHR to HIE
	<b>Inbound:</b> Query PULL from HIE

## Supported Transaction Security

Transaction	Security
HL7v2	VPN
CCD/C-CDA import/export	Certificate/Mutual TLS
	VPN
	XDR
Notes: Self-signed certs ok for testing and will require client and server authentication in the encryption algorithm.	
SAML (Security Assertion Markup Language)	Used by EHR to embed user assertions in the SOAP header. HeC will utilize the OrganizationID assertions for auditing and access control.

## Patient Identity Management

Element	Value
Supported Identity Management protocols	PIX
	ADT
Patient identifier used	Practice MRN
	HeC Unique Identifier
Supported Patient identifier Exchange models	PIX Query
	PIX Feed
	ADT Feed
Supported Patient identifier Exchange methods	PIX Only
	PIX/PDQ
	ADT
Supported PIX HL7 version:	v2
	V3



## Supported Document Types

HL7v2 (ADT, ORU, MDM, etc.)
CCDA
CCD of any version (C32, C62, etc.)
IHE XDS-MS, Referral, ED Referral
.CSV/flat file

## Supported Transaction Generation for Export – Standard Workflow

Real-time data flow
Encounter lock/finalization
System trigger
Custom batch script

## Supported CCD Types

Document Types	Description
Longitudinal	Contains all the patient clinical data across all visits for the practice.
Episodic/Encounter-based	Contains the clinical data generated during the patient visit.

## Consent

	Element
Supported Automated Consent Collections Mechanism	ADT (Typically PD1-12 if not otherwise stated)
	XACML
	BPPC
	Batch Load
Supported Consent Values	Y - Yes
	N – No
	E – Emergency Only
	U - Unknown
	NULL