i-heal 2.0
Electronic Health Information Data Export

Abstract

The i-heal 2.0 Electronic Health Information (EHI) Data Export tool is used to export and retrieve all electronic health records documented in i-heal 2.0 for selected patient(s) in accordance with 2015 Cures Act update § 170.315(b)(10). The export archive contains clinical documentation entered for each patient into over 70 forms; the archive documents are delivered in machine readable xml format and combined into a .zip file that can be downloaded from i-heal.

This document describes the format of the content along with the definition of common elements that can be used to extract and relate data with the patient, visit, associated documents, signatures, and photos / files. A companion document, *EHIExport – Data Dictionary,* provides a data dictionary and identifies the elements within each document.

HIPAA

As part of its use as an Electronic Health Record (EHR) management system, ePHI is collected and stored within i-heal 2.0. The Electronic Health Information (EHI) data export extracts and exports ePHI; the archive delivered contains proprietary and protected information as well as reference links containing access tokens that can retrieve protected information as defined by HIPAA.

Under the Health Insurance Portability and Accountability Act of 1996 (HIPAA), Healogics, Inc. and its subsidiaries (Healogics, Inc.) are "Business Associates" of each Hospital to which they provide wound care management services and, as such, are statutorily and contractually obligated and liable for maintaining the privacy and security of the "protected health information" (known as "PHI") for all patients treated in the Hospital's Wound Healing Program (Program). Under the HIPAA "Privacy Rule", "Security Rule" "HITECH Rule", and under each Hospital management agreement, Healogics, Inc. is also required to have comprehensive policies and procedures for the use and disclosure of PHI and located on the Healogics WebPortal within the Policy tab at https://www.dcswebportal.com.

In accordance with Healogics policies, by retrieving EHI data exports using the i-heal 2.0 data export feature, you agree to securely store and protect unauthorized or unnecessary access to the export archives and the data access reference links contained within.

Disclaimer

While Net Health makes every effort to deliver all electronic health records for the requested patient(s), some data may be inaccessible or missing from the delivered archive due to unforeseen or unavoidable reasons. As the recipient of the export EHI records, it is your responsibility to validate the content is complete. Please, notify Healogics, inc. of any missing or inaccurate information; however, neither Net Health nor Healogics can be held liable for any missing or inaccurate information.

EHI Data Requests

Electronic Health Information (EHI) data export requests for a facility are made using a feature in i-heal 2.0 accessible to users having the *Facility Administration* user role or the *Emergency Access* user role when activated.

EHI data export may be requested for either a single patient or all patients within the facility. The EHI data export archive may be downloaded from the i-heal 2.0 EHI Data Export feature once the request has been processed and is completed, usually within 48 hours.

Export Archive Format

Electronic Health Information (EHI) data is exported for each patient grouped into numerous “document” archives for each condition, visit, and EHI data type (i.e. wound, vital signs, wound assessment, progress note, etc).

Each “document” archive is extracted as a separate file in XML format having a filename of *<documentType>_<documentId>.xml* where *<documentType>* designates the type of information and *<documentId>* designates the unique identifier of the data instance.

All document archive files for a patient are grouped in a folder having a folder name *<patientId>*, i-heal 2.0’s internal identifier for the patient. A folder is present for each patient in the request. The folders and files are packaged, compressed, and delivered in a zip formatted file.

Figure 1 EHI Data Export Zip File Content

	Size	Packed Size	Modified
147322	**188144**	**41997**	
147774	**197100**	**43673**	
PatientDocument_47875.xml	6759	1639	11/1/23 12:47
WoundDocument_368117.xml	3573	1160	11/1/23 12:47
WoundDocument_635248.xml	3667	1150	11/1/23 12:47
WoundDocument_635774.xml	3440	1121	11/1/23 12:47
WoundAssessmentDocument_332836.xml	12464	2960	11/1/23 12:47
WoundAssessmentDocument_368115.xml	13745	3316	11/1/23 12:47
WoundAssessmentDocument_368118.xml	13717	3325	11/1/23 12:47
DebridementDocument_332860.xml	5457	1433	11/1/23 12:47
...			
149155	**198301**	**46802**	
150766	**234596**	**57333**	
155858	**9722**	**2662**	
...			

Export Data File Format

Electronic Health Information (EHI) data for each patient is grouped into numerous "document" archive files for each condition, visit, and EHI data type (i.e. wound, vital signs, wound assessment, progress note, etc) and stored using xml format. These document archive files are machine readable, can be parsed, associated with like data, and ingested into other disparate systems.

Common data elements are included in all/many archive files describing the patient, treating clinicians, relationships with other document archives, visit/date of service, signatures, and associated photos and/or files. Discussions regarding these common data elements are included in this document. Refer to the companion *EHIExport – Data Dictionary* document for a detailed definition of each document archive type.

Document Types

Electronic Health Information (EHI) data for each patient is grouped into numerous "document" archive files for each condition, visit, and EHI data type (i.e. wound, vital signs, wound assessment, progress note, etc). Below are the document archive types and the type of data contained:

Patient Information

PatientDocument – describes demographic information for the patient as well as the clinical care team, emergency contact, and insurance information. Spans multiple encounters.

Treatment Course / Conditions

HBOTreatmentCourseDocument – defines any HBO treatment courses that have been applied for the patient. Spans multiple encounters.

NonWoundConditionDocument – identifies any non-wound conditions the patient may have had; includes the condition and location. Spans multiple encounters.

StomaDocument – identifies any Ostomy conditions the patient may have had; includes the type, location, and status. Spans multiple encounters.

WoundDocument – identifies any wound conditions the patient may have had; includes etiologies, location, wounding event, and date acquired. Spans multiple encounters.

Encounter Documentation

AllergyListDocument

AncillaryServiceDocument

ArrivalInfoDocument

BiopsyDocument

ChiefComplaintDocument

ClinicLevelOfCareDocument

CompressionTherapyDocument

ConservativePatientAssessmentDocument

CustomForm1Document

CustomForm2Document

CustomForm3Document

CustomForm5Document

CustomForm6Document

CustomForm7Document

CustomForm8Document

CustomForm9Document

CustomForm10Document

DebridementDocument

DermalMatrixSubstituteDocument

DischargeInfoDocument

DischargeInstructionsDocument

FallRiskDocument

GeneralVisitNotesDocument

HBODocument

HBOPreTreatmentEvaluationDocument

HBOSafetyChecklistDocument

HBOScreeningChecklistDocument

HPIDocument

HROSDocument

ImmunizationsDocument

IncisionAndDrainageDocument

LowerExtremityDocument

MultiDisciplinaryCarePlanDocument

MultiWoundChartNotesDocument

NeuropathyDocument

NH_EducationAssessmentDocument

NH_PatientCaregiverEducationDocument

NonWoundConditionAssessmentDocument

NonWoundTreatmentNotesDocument

NPWTApplicationDocument

NPWTMaintenanceDocument

NutritionRiskDocument

OstomyPreOperativeDocument

OtherProcedureDocument

PainAssessmentDocument

PhysicalExamDocument

PhysicianOrdersDocument

PrescriptionDocument

PressureUlcerRiskDocument

ProblemListDocument

ProgressNoteDocument

SkinPerfusionPressureDocument

StomaAssessmentDocument

StomaTreatmentNotesDocument

SuperBillDocument

TCOMDocument

TopicalGrowthFactorDocument

TotalContactCastDocument

VitalSignsDocument

WoundAssessmentDocument

WoundTreatmentNotesDocument

Non-Encounter Documentation

CustomScanDocument

PatientCommunicationDocument

TestResultDocument

Document Properties

Each document archive includes a containing element, <*DocumentProperties*> that defines key identifiers, patient, date of service, the treating clinical team, and the data entry user.

Identifiers include a unique document identifier of the archive, visit identifier, and a parent document identifier if applicable. These identifiers are further described in the *Document Relationship* section of this document.

Patient information includes an unique, internal patient identifier along with the patient's first name, last name, middle name, patient number/mrn, and date of birth.

The treating clinical team includes clinician and physician unique, internal identifiers along with their respective first, last, and middle names.

```
<DocumentProperties>
        <DocumentID>735126175</DocumentID>
        <VisitID>115735302</VisitID>
        <Patient>
```

<ID>3198638</ID>
<FirstName>Santa</FirstName>
<LastName>Clause</LastName>
<MiddleName />
<PatientNumber />
<PatientDOB>1/1/1900</PatientDOB>
</Patient>
<ParentDocumentID>662478537</ParentDocumentID>
<DocumentDate>2/8/2023</DocumentDate>
<PreviousDocumentID xsi:nil="true" />
<FacilityID>3654</FacilityID>
<ProviderID xsi:nil="true" />
<SecondaryProviderID xsi:nil="true" />
<ClinicianID xsi:nil="true" />
<SecondaryClinicianID xsi:nil="true" />
<DocumentDateAdded>2023-02-08T14:37:08.6722065-05:00</DocumentDateAdded>
<RecordActive xsi:nil="true" />
<Physician>…</Physician>
<Clinician>…</Clinician>
<DateAdded>2023-02-08T14:37:08.6878331-05:00</DateAdded>
<User>…</User>
<LastUpdated>2023-02-08T14:37:08.6878331-05:00</LastUpdated>
<LastUpdatedBy>…</LastUpdatedBy>
<FacilitySettingsInstanceID>106399</FacilitySettingsInstanceID>
</DocumentProperties>

Document Relationships

Numerous document archives containing all clinical records for each patient are provided with the export. These documents are related to their patient, visit, and potentially a condition or treatment course. These relationships are defined using the identifiers found in the <*DocumentProperties*> container in the xml.

PatientID – every document archive contains a unique, internal patient identifier that can be used to group clinical records with their patient. Find the *PatientDocument* archive having the same **PatientID** to identify the patient associated with the clinical information;

find documents having the same **PatientID** to identify all documents related to the same patient.

VisitID – many document archives contain a unique, internal visit identifier that can be used to group clinical records with the visit/encounter they belong; *DocumentDate* provides the date of service of the visit. Find documents having the same **VisitID** to identify those documents recorded for the same encounter.

ParentDocumentID – many document archives are associated with a condition or treatment course document. The parent identifier can be used to associate the clinical records (observations or procedures) with their condition or treatment course. Find the document identified by the **ParentDocumentID**, if present, to identify the condition or treatment course for which the procedure or observation applies.

Parent / Child Relationships

- HBOTreatmentCourseDocument
    - HBODocument
- NonWoundConditionDocument
    - BiopsyDocument
    - CompressionTherapyDocument
    - IncisionAndDrainageDocument
    - NonWoundConditionAssessmentDocument
    - NonWoundTreatmentNotesDocument
    - OtherProcedureDocument
    - TotalContactCastDocument
- NPWTApplicationDocument
    - NPWTMaintenanceDocument
- StomaDocument
    - OstomyPreOperativeDocument
    - StomaAssessmentDocument
    - StomaTreatmentNotesDocument
- PhysicianOrdersDocument
    - PrescriptionDocument
    - TestResultDocument
- WoundDocument
    - BiopsyDocument
    - CompressionTherapyDocument
    - DebridementDocument
    - DermalMatrixSubstituteDocument
    - IncisionAndDrainageDocument

- NPWTApplicationDocument
- OtherProcedureDocument
- TopicalGrowthFactorDocument
- TotalContactCastDocument
- WoundAssessmentDocument
- WoundTreatmentNotesDocument

Document Signatures

Most documents, except the condition and treatment course documents, are signable within i-heal. One or more electronic signatures may be applied to the document by various administrators, clinicians, or providers.

A list of electronic signatures is included in the xml archive in the *<ElectronicSignatures>* container if any have been applied to the document. The container may include one or more signature blocks providing the signer's internal user identifier, first name, last name, credentials, and date/time signed.

```
<ElectronicSignatures>
    <ElectronicSignature>
        <UserID>9863</UserID>
        <FirstName>Betty</FirstName>
        <LastName>Davies</LastName>
        <DateSigned>11/10/2023 8:04:40 AM</DateSigned>
        <Credentials/>
    </ElectronicSignature>
    ...
</ElectronicSignatures>
```

Document Photo/File Links

A few documents support attachment of external photos or files. Patient, condition assessment, and TCOM documents may have one or more associated photos; scanned documents and test result documents may have one attached file of various formats.

Documents having associated external file(s) will include the *<FileReferences>* container in their xml archive. The container includes a list of one or more file reference urls that can be used to retrieve the external file.

The file reference url securely retrieves photos & files and expires after 90 days from the export date. Execute the HTTPS GET request to retrieve the content of the photo or file.

```
<FileReferences>
	<FileReference>https://deviheal.blob.core.windows.net/2460/205530?sv=2023-08-03&amp;st=2023-11-10T13%3A57%3A28Z&amp;se=2024-02-08T13%3A57%3A28Z&amp;sr=b&amp;sp=r&amp;sig=6zG9PI4nOwTdG86j9R04J0UKy9Pyxwd7%2Ff%2FDmiODIe4%3D
	</FileReference>
</FileReferences>
```

Documentation with Photos

The following documents may contain one or more photos. Photo types supported may include .jpg, .png, .bmp, etc; image types supported by most major, modern browsers may be present.

NonWoundConditionAssessmentDocument - 0 or more photos may be associated with the document.

PatientDocument – only 1 photo may be associated with the document.

StomaAssessmentDocument - 0 or more photos may be associated with the document.

TCOMDocument – 0 or more photos may be associated with the document.

WoundAssessmentDocument – 0 or more photos may be associated with the document.

Documentation with Files

CustomScanDocument – 1 file may be associated with the document.

TestResultDocument – 1 file may be associated with the document.