



eClinicalWorks Database Assessment

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Summary of ECW Database Analysis

Given the complexity and non-traditional nature of data structure and storage within the eCW database, Galen has performed an analysis on the source database to confirm the ability to extract the different types of structured and non-structured clinical data components from the database. The goal of this analysis is to provide confirmation of data integrity as well as yield a clearer scope definition allowing for New World Health to make more informed decisions regarding which clinical data types are feasible to pursue for conversion. Below you will find a high-level summary of the feasibility of each data component.

In general the eCW database presents some complexities to the migration process due to the following two facts:

- Most of the data is stored at an encounter level and duplicated at each encounter rather than stored at a patient level and simply referenced at each encounter
- The application allows for nearly any type of data to be entered as unstructured data

A large part of a conversion project is the data mapping portion. The unstructured entries allowed in eCW substantially increase this effort. This analysis also aimed to provide a snapshot of what the mapping effort would look like for each data component.

Problems

- Active
 - Stored as structured data and associated to ICD9 codes
 - These are not a problem to convert once ICD9 codes are mapped to Medcin codes
 - Note that ICD9 to Medcin is typically a one to many relationship
 - 3400 unique eCW Active Problems that have to be mapped to Allscripts Problems to be able to convert
- Past Medical, Past Surgical, and Family History
 - Stored as unstructured data within the note and replicated at each visit
 - This data can be converted by taking the history from the patients most recent visit note
 - 27,000 unique eCW Past Medical History entries that have to be mapped to Allscripts entries to be able to convert

- 19,000 unique eCW Past Surgical History entries that have to be mapped to Allscripts entries to be able to convert
- 18,000 unique eCW Family History entries that have to be mapped to Allscripts entries to be able to convert
- Alternatively all this data will display in the last converted note if not converted discretely
- Social History
 - Stored as question and answer within the note and replicated at each visit
 - This data can be converted by taking the social history from the patients most recent visit note
 - Most of the data is stored as yes/no type question and answer with additional details
 - The recommended approach to convert this data is to map the yes/no eCW Social History entries to Allscripts Social History entries and bring the details into the problem description if desired.
 - This would only require 30 social history mappings.

Allergies

- Stored as structured and unstructured data; replicated at each visit
- This data can be converted by extracting a distinct list of the patient's allergies
 - Due to the unstructured values there is some risk of duplicate entries
- 2500 unique eCW Allergies that have to be mapped to Allscripts Allergies to be able to convert
- Allergy reactions are recorded as unstructured data
 - 3100 unique eCW reaction values that have to be mapped to Allscripts Reactions to be able to convert

Medications

- Stored as structured and unstructured data; replicated at each visit
- This data can be converted by extracting the most recent instance of the medication
- Medication name, Strength, and Formulation are stored separately rather than all together in the Medication Name as in Allscripts
 - This allows for the strength to be changed or left blank on any particular instance of a medication

- This will cause a medication with a strength that has been discontinued or left blank to show as active when it might not be active
- 15,000 unique eCW Medications that have to be mapped to Allscripts Medications to be able to convert
 - Unable to associate with any standard coding system
 - 1400 unique eCW Medications that do not have a strength and may present mapping issues

Immunizations

- Stored as structured data and not a problem to convert
- 104 unique eCW Immunizations that have to be mapped to Allscripts Immunizations to be able to convert
- 490 unique eCW Manufacturers that have to be mapped to Allscripts Manufacturers to be able to convert

Notes

- Stored as XML and need to be converted to RTF to import into Allscripts as unstructured Documents
- These are converted with basic formatting that may not resemble the formatting as it is in eCW although the content will remain the same
- Encounters must be locked for the note to be completely compiled and in a state that can be converted
 - Currently 22,000 encounters that are unlocked and will prevent the note from being converted

Scanned Images

- 99% stored as TIF images and should not be a problem to convert all images
- Document Type mapping will have to be done by eCW Document Type ID that references the higher level categories as seen in eCW Patient Docs
- Unable to make use of custom name as there are over 300, 000 unique values in custom name
 - Custom name will display in Allscripts Touchchart, but will not display in Allscripts EHR

Vitals

- Stored as structured data and unstructured data
 - Vital values can be entered as free text without constraints
- 98% of this data is not a problem to convert
- 2% of this data will prove difficult to convert due to the lack of constraints around the vital values
 - This 2% may have to be manually abstracted or not converted
- Mapping for Vitals is minimal

Results

- Most results appear to be stored as structured data
- 6400 eCW order/result combinations that will have to be mapped to Allscripts order/result combinations to be able to convert
 - If the same lab codes are used and already built in the OID in Allscripts this mapping may be minimized
 - Alternatively an auto-filer can be deployed to build OID/RID combinations that don't exist when the eCW results are imported
- eCW Imaging results should come in as scanned images