

Solving Legacy EMR Data Access with Interoperability

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Conference &
Exhibition



You're Implementing a new EMR



What do you do with the historical clinical data in your legacy EMR?



The data from your legacy EMR will not fit well into your new EMR



Your physicians need easy access to this historical clinical data

Allscripts

athenahealth

Cerner

Evident

Epic

Healthland

MCKESSON

MEDHOST

MEDITECH

Medsphere
Transforming Healthcare

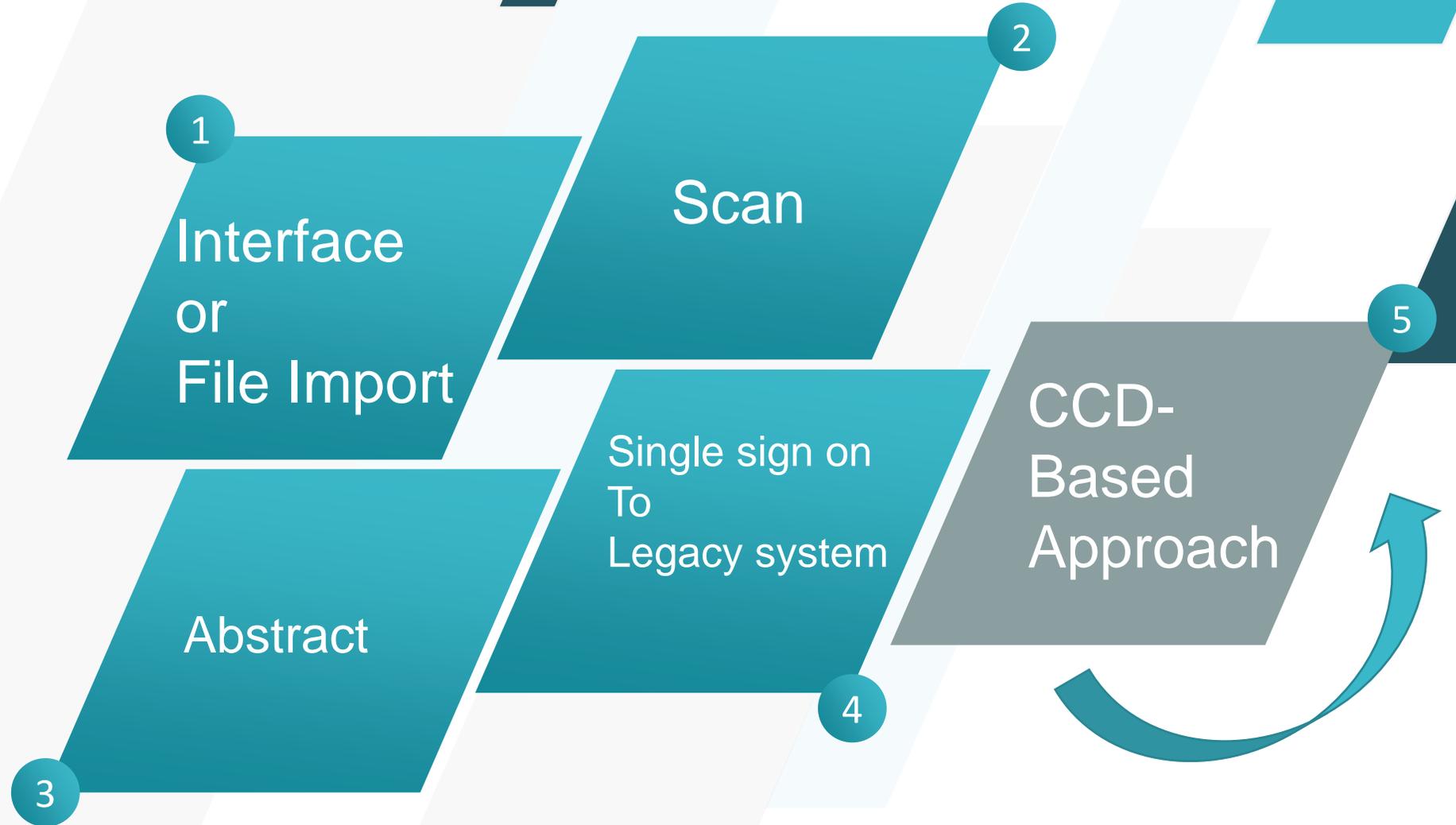
NEXTGEN
HEALTHCARE

QuadraMed
Quality Care. Financial Health.

Sigmund
SOFTWARE

eClinicalWorks

Ways To Get Legacy Data



Clinical Content is the Focus

KEY TAKEAWAY



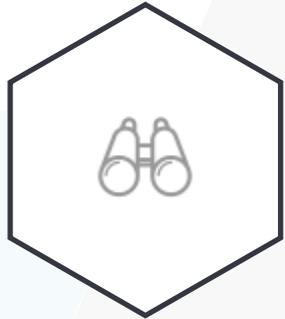
Meet with physician leadership to agree on content.



Extract the generic CCD from the legacy EMR.

- You could make a decision to use the CCD method and successfully extract the CCD's out of your legacy EMR and into Epic.
- However, if you're not thinking it through, you won't end up with the clinical content your physicians need.
- I will discuss with you today the **process** we used to help make this a **successful project**.
- Along the way, I will point the Do's and Don'ts associated with this process in the Key Takeaway box.

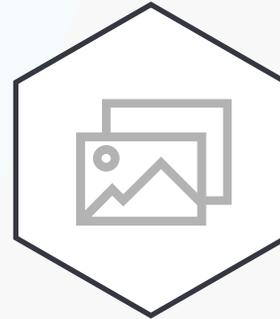
PROCESS



Define data requirements and get Charter approval



Extract data from legacy EMR, then validate and map



Construct and load CCD into Prod copy (after EMPI Patient Load)



Iterative extract from Legacy EMR then load into PRD of new EMR

Define Data Requirements

KEY TAKEAWAY



Start working with production data ASAP, if you're comfortable with the process, start with production data

1. What are the vendor's capabilities?
 - a) Limitations to what can be extracted
 - b) Elect to extract raw data
2. Sit down with physician groups and determine the necessary data sets (i.e. Op Notes, Consults, H&P, etc.)
3. Determine date range and encounter types to be used (i.e. # of years to go back, which encounters to exclude, # of inpatient visits)
4. Create a Project Charter that documents each decision around the content of the CCD

Extract All CCDs from the Legacy EMR

1. Specify CCD content
2. Modify vendor generic CCD generation process or you can extract the raw data. I prefer the hybrid solution of extracting CCD's and then adding and subtracting data as agreed on in the project charter
3. Create an automated script to batch extract using the defined business rules from the Project Charter
4. CCD is file-based and filename is legacy EMR MRN

Extract CCDs from the Legacy EMR

5. Export the created CCD into a shared file system
6. Execute code to create or edit the CCD's
7. Create a few trial CCD's and load them into Epic to ensure format and content is accurate

KEY TAKEAWAY



Validate extracted data against the Legacy EMR



Start mapping of all reconcilable data

Legacy EMR System Performance and Speed

1. Perform a full extract of CCD's from your legacy EMR for all defined patients, or the full extract of the raw data
2. Add this duration to your project plan for use in the real production extract
3. Consider multi-threading this process



KEY TAKEAWAY



Run the CCD creation on Production server



Run the extract on a VM server or similar



Monitor system performance on legacy EMR as you are creating the CCDs or extracting the data

Load the CCD Files into new EMR

1. Use Epic's Patient Data Abtractor Interface to load the CCD files into Epic your PRD copy (SUP). This will actually be 20-30 concurrent interfaces, depending on your timing restraints
2. CCD's will be on the SnapShot tab or in Happy Together views if you're using that
3. Ensure that user roles have the necessary security settings to view the CCDs and associated data

KEY TAKEAWAY



Validation of trial loads, compare legacy EMR against the EPIC CCD



Load 1 or 2 CCDs and validate before starting full load



Discrete Data Mapping

1. Medications
2. Allergies & Reactions
3. Problems
4. Immunizations

General Mapping Considerations

5. Give extra attention to the fields that are can be reconciled in Epic: Problems, Allergies/Reactions, Medications, and Immunizations (2018 release includes auto Lab reconciliation if enabled)
6. Create mapping tables that attempt to map the CCD data against the corresponding Epic master file records
7. Put them into a database or a spreadsheet where you can sort them by number of occurrences.
8. Start the mapping on the values that occur most often

KEY TAKEAWAY



Involve your Meds team in the mapping process



Map the entries that occur most often



Spend a lot of time trying to map something that only has a few occurrences

Discrete Data Element Mapping

- a. If values don't match the screens won't populate the data – e.g. dose, route and frequency)
- b. Map as much of the discrete data as possible (some table driven, some free text)
- c. Data elements from multiple CCDs displayed at time of reconciliation (normal Epic behavior)

KEY TAKEAWAY



Create a Plan for Mapping and document it in your schedule



Overlook the vital step of mapping

Mapping Meds

Record Select

Search:

Name	ID	Description
2 TIMES DAILY	200006	Twice Daily
2 TIMES DAILY	200007	Twice Daily
2 TIMES DAILY AFTER MEALS	200056	2 Times Daily After Meals
2 TIMES DAILY PRN	201029	2 Times Daily As Needed
2 TIMES DAILY WITH MEALS	200009	2 Times Daily with Meals
3 TIMES DAILY	200045	3 Times Daily
3 TIMES DAILY AFTER MEALS	200048	3 Times Daily After Meals
3 TIMES DAILY PRN	201030	3 Times Daily As Needed
3 TIMES DAILY RESP	200047	3 Times Daily
3 TIMES DAILY WITH MEALS	200011	Three Times Daily with Meals
30 MIN PRIOR TO ATG	200500	
30 MINUTES PRIOR TO SURGERY	200420	
4 TIMES DAILY	200042	4 Times Daily
4 TIMES DAILY AFTER MEALS & AT BEDTIME	200022	4 Times Daily After Meals & at Bedtime
4 TIMES DAILY PRN	201031	4 Times Daily As Needed
4 TIMES DAILY RESP	200043	4 Times Daily
4 TIMES DAILY WITH MEALS	200012	4 Times a Day with Meals and at Bedtime
5 TIMES DAILY	200002	5 Times Daily
60 MINUTES PRIOR TO SURGERY	200421	
90 MINUTES PRIOR TO SURGERY	200422	
AFTFR FVFRY DIAI YSIS	201028	

50 records loaded, more records to load.

KEY TAKEAWAY



Leave values un-mapped if no 1:1 mapping or uncertain



Map values you are not 100% certain of – consult an expert

1. Exact matching of the sig is required to import into the reconciliation screen (frequency, dosage, route – see next slide)
2. Mapping these fields removes frustration from the physicians of having to enter the data and map it themselves

Legacy EMR allowed for free text of frequency, so mapping is a challenge

Mapping Allergies

Each EMR chooses a different subset of the national standard for Reactions

Reconcile Outside Info ? Close X

Allergies Medications Problems Immunizations

Outside of Local Medical Record

Agent	Reaction	Source	Updated on	
? Uncoded Allergy <i>New</i>	? Anxiety	Sentara TEST	8/4/2015	Add Discard
Acesulfame <i>Update</i>	swelling	Sentara TEST	8/12/2015	Add Discard
Aspirin <i>Update</i>	swelling	Sentara TEST	8/13/2015	Add Discard
Chocolate <i>Update</i>	wheezing/sob	Sentara TEST	8/12/2015	Add Discard
Clarithromycin <i>Update</i>	gi distress	Sentara TEST	10/30/2015	Add Discard
Dust (House Dust) <i>Update</i>	hives	Sentara TEST	12/10/2015	Add Discard
Latex, Natural Rubber <i>Update</i>	mild rash/itching	Sentara TEST	8/6/2015	Add Discard
Penicillin G <i>Update</i>	hives	Sentara TEST	1/22/2015	Add Discard
Penicillins <i>Update</i>	hives	Sentara TEST	10/16/2015	Add Discard
Other reaction(s): Rash				
Strawberries <i>Update</i>	hives	Sentara TEST	10/28/2014	Add Discard

Discard Remaining

Current Allergies/Contraindications in Local Medical Record

Agent	Reaction	Severity	Reaction Type	Noted	Updated on
Acesulfame	swelling			8/12/2015	8/12/2015
Aspirin	swelling			8/13/2015	8/13/2015
Chocolate	wheezing/sob		Intolerance	8/12/2015	8/12/2015
Clarithromycin	gi distress			10/30/2015	10/30/2015
Dust (House Dust)	hives			12/10/2015	12/10/2015
Latex, Natural Rubber	mild rash/itching			8/6/2015	8/6/2015
Penicillin G	hives		Allergy	1/22/2015	1/22/2015
Penicillins	hives		Allergy	10/14/2014	10/16/2015
Other reaction(s): Rash					
Ranitidine	cough			4/27/2016	4/27/2016
Strawberries	hives		Allergy	10/28/2014	10/28/2014

Next File & Close Close

Note: Outside medications and problems are available for reconciliation.

Mapping Problems

Issues with Duplicates – *Source legacy EMR may be sending repetitive problems from each encounter that should be reduced to one problem before import (Screen shot of multiple COPD)*

KEY TAKEAWAY



Be on the lookout for repeated entries, if the Reference ID is different, they will repeat.

Chronic respiratory failure (Chronic respiratory failure (HCC))	New	Sentara Healthcare	4/3/2016	Add	Discard
Chronic respiratory failure (Chronic respiratory failure (HCC))	New	Sentara Healthcare	4/3/2016	Add	Discard
COPD exacerbation (Obstructive chronic bronchitis with exacerbation (HCC))	New	Sentara Healthcare	4/3/2016	Add	Discard
? COPD, severe	New	Sentara Healthcare	4/3/2016	Add	Discard
? COPD, severe	New	Sentara Healthcare	4/3/2016	Add	Discard
? COPD, severe	New	Sentara Healthcare	4/3/2016	Add	Discard
? COPD, severe	New	Sentara Healthcare	4/3/2016	Add	Discard
? COPD, severe	New	Sentara Healthcare	4/3/2016	Add	Discard
COPD, very severe (Chronic obstructive pulmonary disease (HCC))	New	Sentara Healthcare	4/3/2016	Add	Discard
? COPD	New	Sentara Healthcare	4/3/2016	Add	Discard
? COPD	New	Sentara Healthcare	4/3/2016	Add	Discard
? COPD	New	Sentara Healthcare	4/3/2016	Add	Discard
? COPD	New	Sentara Healthcare	4/3/2016	Add	Discard
? COPD	New	Sentara Healthcare	4/3/2016	Add	Discard
? COPD	New	Sentara Healthcare	4/3/2016	Add	Discard
? COPD	New	Sentara Healthcare	4/3/2016	Add	Discard
Dietary surveillance and counseling (Dietary counseling and surveillance)	New	Sentara Healthcare	4/3/2016	Add	Discard
Disorders of bursae and tendons in shoulder region, unspecified (Disorder of bursae and tendons in shoulder region)	New	Sentara Healthcare	4/3/2016	Add	Discard
Herpes (Herpes simplex)	New	Sentara Healthcare	4/3/2016	Add	Discard
Hypoxemia	New	Sentara Healthcare	4/3/2016	Add	Discard
Hypoxemia	New	Sentara Healthcare	4/3/2016	Add	Discard
RLL pneumonia (Pneumonia, organism unspecified)	New	Sentara Healthcare	4/3/2016	Add	Discard

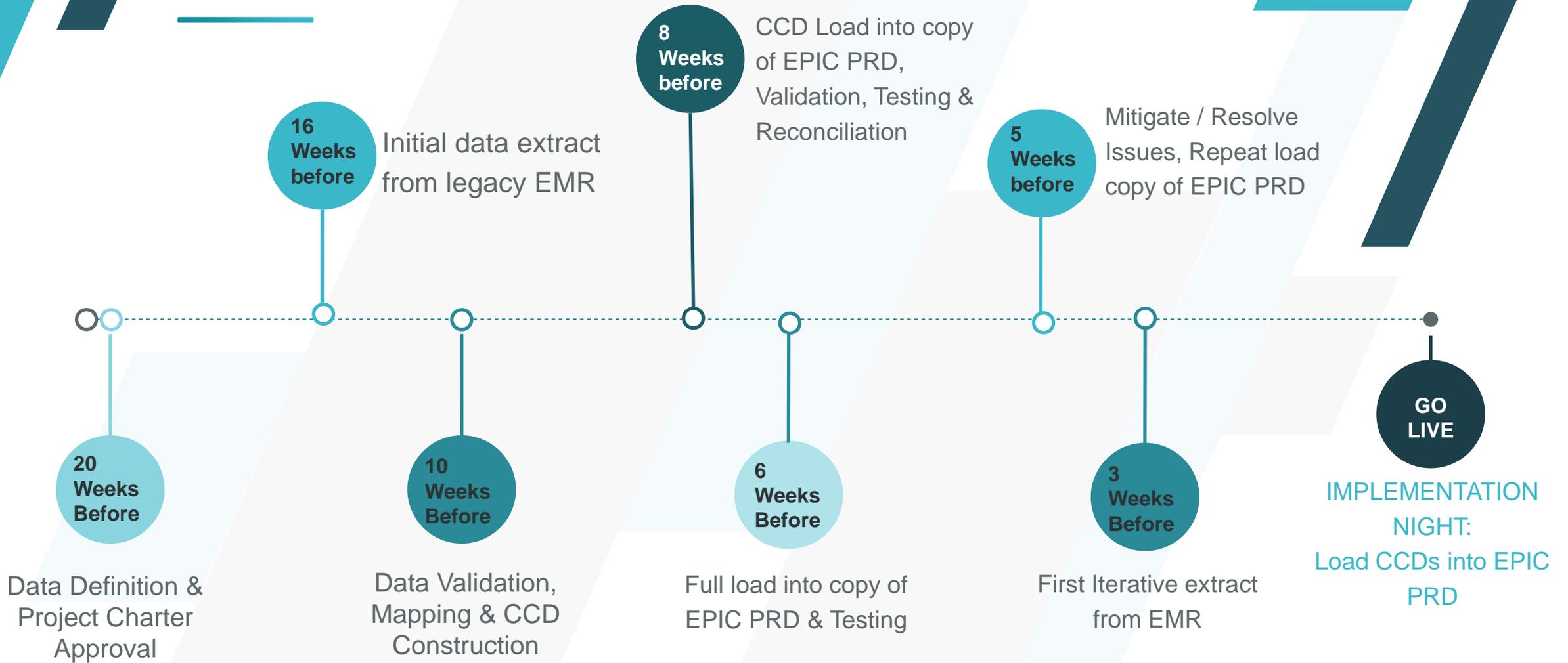
3/27/2014

Mapping Immunizations

- Example: Problem with mapping the CVX codes: Legacy EMR had only tetanus, and in Epic there were three.
- When we did the first load there was a 50% success rate and after the mapping of the codes had a 90% success rate.

Conclusions

- 1) Approach utilizes national standards and Care Everywhere infrastructure;
- 2) The number of format issues was low, so approach useful for viewing;
- 3) Mapping issues were problematic, preventing easy import of key elements (but still better than importing a file);
- 4) Work with PRD data as soon as possible;
- 5) Remember that you're doing this to help physicians.



Sample Timeline: Weeks Before Implementation

Questions?

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