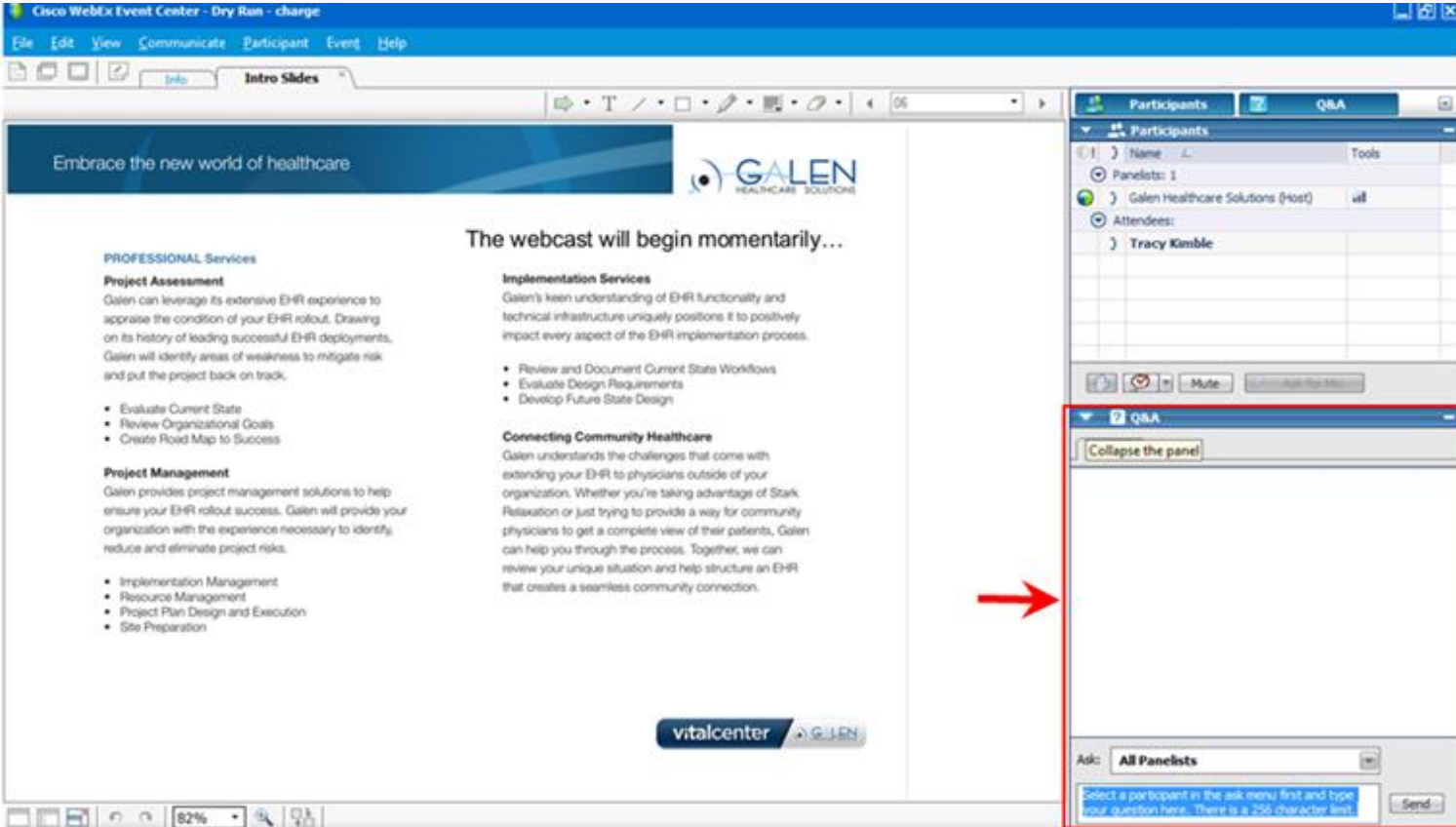


# Clinical Data Conversions: Functional and Technical Considerations

Empowering Extraordinary Patient Care

Your phone has been automatically muted. Please use the Q&A panel to ask questions during the presentation!



The screenshot shows a Cisco WebEx Event Center window titled "Cisco WebEx Event Center - Dry Run - charge". The main presentation slide displays the text "Embrace the new world of healthcare" and the GALEN logo. The slide content is divided into three sections: "PROFESSIONAL Services", "Implementation Services", and "Connecting Community Healthcare". A red arrow points from the main slide area to the Q&A panel on the right.

**PROFESSIONAL Services**

**Project Assessment**

Galen can leverage its extensive EHR experience to appraise the condition of your EHR rollout. Drawing on its history of leading successful EHR deployments, Galen will identify areas of weakness to mitigate risk and put the project back on track.

- Evaluate Current State
- Review Organizational Goals
- Create Road Map to Success

**Project Management**

Galen provides project management solutions to help ensure your EHR rollout success. Galen will provide your organization with the experience necessary to identify, reduce and eliminate project risks.

- Implementation Management
- Resource Management
- Project Plan Design and Execution
- Site Preparation

**Implementation Services**

Galen's keen understanding of EHR functionality and technical infrastructure uniquely positions it to positively impact every aspect of the EHR implementation process.

- Review and Document Current State Workflows
- Evaluate Design Requirements
- Develop Future State Design

**Connecting Community Healthcare**

Galen understands the challenges that come with extending your EHR to physicians outside of your organization. Whether you're taking advantage of Stark Relaxation or just trying to provide a way for community physicians to get a complete view of their patients, Galen can help you through the process. Together, we can review your unique situation and help structure an EHR that creates a seamless community connection.

**Participants**

Name	Tools
Panelists: 1	
Galen Healthcare Solutions (host)	url
Attendees:	
Tracy Kimble	

**Q&A**

Collapse the panel

Ask: All Panelists

Select a participant in the ask menu first and type your question here. There is a 256 character limit.

Send

# Introduction

## August Borie

- Technical Consultant
- **Epic Bridges Certified**
- **4 years working in Healthcare IT**
- **Experience in conversions, implementation, and system configuration**
- **Exposure to a variety of EMR systems for conversions**

## Fallon Hartford

- Technical Consultant
- **M.S. in Health Informatics**
- **Epic Bridges Certified**
- **6 years working in Healthcare IT**
- **Experience in conversions, Crystal reporting, ETL, Works database training**

# Overview

- **Why are there so many decisions to make?**
- **Functional Considerations**
- **Technical Considerations**
- **Lessons Learned**
- **An opportunity to ask your questions**



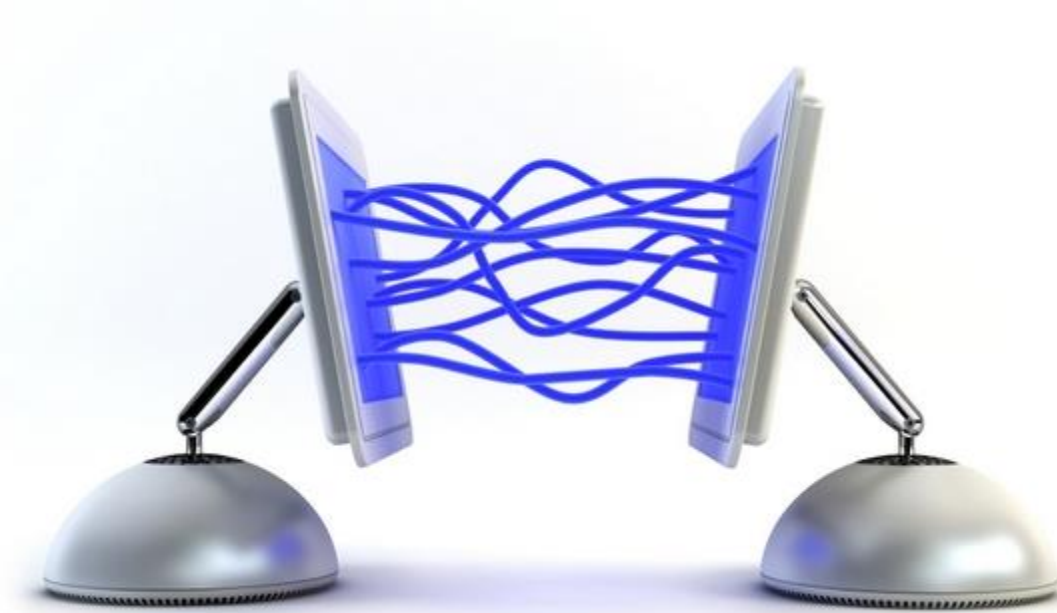
# So Many Decisions!



- **Why?**

- Sometimes adding a large amount of data
- Very difficult to change once data has been loaded
- Way the data is stored in the source system does not always play nice with how the target system accepts it
  - Way the source system records medication refills may be different from how the target system records them
- Often need to think long term and about the global context in the organization
  - Mapping highly utilized medication in source system to rarely used medication in target system may not be a good idea

# Functional Considerations



# Scope of Conversion

- **Multiple ways to filter the data**
  - Decide what data types will be converted
    - Immunizations, allergies, medications, results, problems, documents, vitals, images
  - Not every data type may be present in the source system
    - If organization has no inbound results interface then there may not be results to extract
  - Different ways to filter clinical data depending on need
- **Clearly define what fields will be converted**
  - Can help to display where fields render in the target system
  - All fields might not be available to convert
- **Can depends on workflow**

# Current Medications vs. Medication History

- **Current Medications**


- Only shows most recent occurrence of medication
- Not necessarily last time it was prescribed

- **Medication History**

- Each time medication was recorded will convert separately
- Can clog up Past Medications

# Annotations

- **Easy way to signify that clinical data came from another system**
- **Way to add data that is not able to be mapped or able to be brought over discretely**
  - Free text comments in source system

 **Medication Viewer**

[Details](#) [Rx History](#) [Annotations](#) [MAR History](#)

**Lipitor 40 MG Oral Tablet** Lipitor 40MG, 1 (one) Tablet daily ,08/01/2012

Lipitor 40MG, 1 (one) Tablet daily ,08/01/2012; Qty: 30 (Tablet); Refill: 11; Recorded as History: **09Apr2013** L  
AHS Pro

Ordered by: Authorization: Not Required Rx #:  
Rx Benefit: None  
Therapy: Managed by: Start Date: 01Aug2012 Status: Active  
Date: **01Aug2012**

## Rx History

**Recorded as History 09Apr2013** Last Updated By: Conversion, AHS Pro  
Lipitor 40 MG Oral Tablet, Lipitor 40MG, 1 (one) Tablet daily ,08/01/2012; Qty: 30 (Tablet); Refill: 11;

Ordered by: Authorization: Not Required Rx #:  
Rx Benefit: None  
Therapy: Managed by: Start Date: 01Aug2012

## Annotations

Order Annotated 09Apr2013 01:17PM by Conversion, AHS Pro  
Lipitor 40 MG Oral Tablet  
OK for generic  
Prescription sent to: Coborns #2016, 645 LAKE STREET S, LONG PRAIRIE, MN, (320) 732-2915

**Entry Date**

8/23/2009

**LIPID PANEL FASTING (CHOL, TRIG, HDL, LDL)**

Status: Final result    Visible to patient: This result is not viewable by the patient.    Next appt: None



Newer results are available. Click to view them now.

	Range	5yr ago
TRIGLYCERIDES	<150	175 (H)
CHOLESTEROL, TOTAL	125 - 200	196
HDL CHOLESTEROL	> OR = 46	44 (L)
LDL-CHOLESTEROL	<130	117
Comments: See Note 1		
CHOL/HDLC RATIO	< OR = 5.0	4.5

**Result Narrative**

Ordering Provider: MATUNIS

Performing Lab: OW Quest Diagnostics-Cincinnati 6700 Steger Dr Cincinnati OH 45237-3046

Aug 24 2009 10:04AM: Labs are ok except HDL is a little low. Increase monounsaturated fats such as fish, nuts, olive and canola oil; continue Zetia.

Recheck in 6 months, Aug 24 2009 10:27AM: Pt. notified; Result Communication: No patient communication needed at this time

 Specimen Collected: 08/22/09    Last Resulted: 08/23/09 2:06 AM  
 12:00 AM

[Lab Flowsheet](#) [Order Details](#) [View Encounter](#) [Lab and Collection Details](#) [Routing](#) [Result History](#)

# Providers

- **Map all providers**
  - Able to associate providers to meds prescribed, orders placed etc.
  - Not always connected to most recent record
- **Use generic “conversion” provider**
  - At a quick glance allows users to see where item came from
  - Conversion MD, HeartPro
- **Non-providers**
  - Administered by
  - Recorded by
  - Can use annotations as well

# Galen Intelligent Mapper

- **Problems**
  - Name
  - ICD-9
  - Problem Code
- **Medications**
  - Name
  - NDC
  - Medication Code
- **Allergies**
  - Name
  - Allergy Code

# Mapping Considerations

- **Use counts to map most commonly used items**
- **What items to exclude (NKA, NKDA, No Known Medications etc.)**
- **Think critically about why values may be present**
  - Data could have been entered incorrectly
- **Ancillary mapping needs**
  - Route of Administration
  - Body Site
  - Manufacturer
  - Allergy Reaction

# Unverified Items

- **The good**
  - Does not require time to map
  - Allows users to build a patient's chart history on the fly for ambiguous items
- **The bad**
  - Items are not functional within Touchworks
  - Items do not participate in DUR (Drug Utilization Review) checking
  - Items do not auto-cite into a note
  - Cannot assess and charge for unverified problems
  - Immunizations display under the Orders Component
- **Make sure users know the Verify and Add workflow**

# Validation

- **Methods of Validation**

- Unit testing
  - Test a few examples of each data type
- Small Scale
  - File data for a small number of patients
- Large Scale
  - Convert data for a large number of patients
  - Validate build and mapping
- Full Scale
  - Convert entire data set to target system

# Create Valuable Conversion Team

- **Need to include clinical resources**
- **Helpful if analysts have experience with both target and legacy system**
- **Testing team**
  - Experience with testing workflows for converted items
- **Have technical/server resource available**
- **Resources required for mapping**
  - Can be very resource intensive
  - Needed to sign off

# Technical Considerations



# Types of Conversions

- **Non-Discrete Conversion**
  - Chart Summary of Data
    - Less work
    - Won't duplicate data
    - Not Reportable
- **Discrete Conversion – Stored Procedures**
  - Inserting data directly into the database
    - Reportable
    - Users can use items in workflow
    - More work
    - Can duplicate data if users are already live on system

# Types of Conversions (cont.)

- **CCD – Continuity of Care Document**
  - Active problems, medications, and allergies
  - Semi-discrete
    - Epic will attempt to match items on import
    - Users will need to manually reconcile the remaining items
  - Imported via separate utility (Document Assimilator)
  - Other data can be viewed via a report
- **Discrete Conversion – HL7 Messages**
  - Imported via Interface (Bridges for Epic)
    - Reportable
    - Data is filed directly to the patient's chart
    - Needs to be mapped

# Patient Matching

- **Different options for matching**
  - Standard matching vs. Extended matching criteria
- **When would patient matching fail?**
  - Name misspelled
  - Name change
  - Info lacking in legacy system
  - Patients don't exist
- **Other Considerations**
  - Multi-org environment
    - Use of Internal Organization number in Patient table
    - eMPI Enterprise Master Patient Index
  - Merged and Deactivated Patients

# Patient Matching (cont.)

- **Epic**
  - Matched by Identity ID and ID type
  - Some interfaces can create patients
  - Identity Duplicate Configuration (IDC)
    - Weights
    - “Sounds Like”
- **Meditech**
  - MRN needed prior to clinical data import for matching

# Getting Access to the Data

- **Ways to Access Data:**

- Direct network access
- Access to legacy system
  - Galen Securelink
- Linked server
  - Copy of legacy system to test database of new system

- **Scanned Images**

- Options:
  - Direct network access
  - Removable device
  - FTP

# Conversion Server

- **Windows Server 2008 R2**
- **SQL Server 2008 R2**
- **4 Server Class CPU cores**
- **8 GB RAM**
- **1 TB Free Disk Space**
- **Virtual or Physical**

# Space Needed for Conversion

- **Space needed in Works for discrete item conversion**
  - No easy way to estimate this:
    - Test with % of patients and extrapolate
  - Also take into account scanned images
- **Space needed in Scan warehouse for image conversion**
  - PDFs loaded into scan warehouse
  - 900KB per Chart Summary

# Lessons Learned

- **Immunizations**

- Depending on target system, may require an administered date that is not in legacy data

- **Renamed Clinical Items**

- Not convert
- Map to the renamed item or original item?

- **Vitals**

- How to handle out of bound values
  - Ex. 72 ft. instead of inches
- Vital sign readings taken at the same time

# Lessons Learned (cont.)

- **Rolling Conversions/Gap Loads**
  - Important to define updated vs. new data
  - What if data gets deleted in the legacy system?
  
- **Patient Lists**
  - Determine queue of import, or whether to import at all
    - By appointment
    - By last date seen

# Some of the Systems We Have Worked With

- Allscripts TouchWorks
- Epic
- Meditech
- McKesson
- Allscripts Professional
- Greenway Primesuite
- Vitera Intergy
- E-MDs
- eClinicalWorks
- NextGen
- Touchchart
- Allscripts MyWay
- Medical Practice Solutions (MPS)
- ClinixMD

# Questions?

**Success stories: <http://blog.galenhealthcare.com>**

Thank you for joining us today, for additional assistance....

You can contact us through our website at  
[www.galenhealthcare.com](http://www.galenhealthcare.com)

