Database Merge

Transformation to a multi-specialty shared chart model

Paul Clark, MD
Dan Venecek, MPH
Goals of this presentation

- Background and decision making process
  - Multiple stakeholders/Difficult decisions

- Expectations for the merge
  - What do you need to do before the merge
  - What happens the day of the merge
  - What to expect with a merged chart

- Discuss post merge opportunities
  - A shared chart requires adherence to some agreed upon rules
  - New opportunities for sharing information
  - *Meaningful use*
Key Elements

- Driving force (CHMG)
- Technical background
- Planning Phase
- Cultural changes
Driving Force
## CH Mission Statement
Concord Hospital is a charitable organization which exists to meet the health needs of individuals within the Community.

## CH Vision
We exist only to serve patients and their families

### PATIENT CARE
- Patients are our primary focus
- CHMG is dedicated to patient centered care in a welcoming, caring, safe environment using proven, innovative strategies in a cooperative and effective network
- We demonstrate consistently high patient satisfaction
- We provide coordinated comprehensive care with a focus on the whole patient, respecting their values and beliefs without discrimination

### COMMUNICATION & EFFICIENCY
- Patients experience a streamlined registration/appointment process throughout our system
- Patients have web-based access to the registration and scheduling process
- EMR contains an integrated, templated Plan of Care to include documented problem list and delineation of provider responsibilities in total patient care
- Seamless coordinated patient care is achieved through timely and on-going multi provider communication

#### High Leverage Actions/Initiatives
- Define more effective workflows through time flow studies for providers. Evaluate provider in roles and eliminate from their work the items which can be better accomplished through delegations, those which providers need to do, re: care coordination, data entry, etc.
- **Create a single EMR for Concord Hospital owned/affiliated practices/entities**
- Maintain an expectation that the EMR will be user-friendly, efficient and effective. The EMR will minimize the impact on provider time and be flexible to specialty needs with consideration, including modification/adaptation for specialists
- Retool registration, scheduling and billing systems and/or processes for ease, efficiency and access for patients, practice and providers
- Implement single streamlined “Patient Plan of Care”

### LEADERSHIP, GOVERNANCE & ENGAGEMENT
- We adhere and contribute to the Mission, Vision & Values
- Leadership is the responsibility of every provider and is demonstrated through daily actions
- Everyone is accountable for our success, participates in financial decision-making and has a sense of ownership in their local work environment and the overall organization
- Decision-making is a shared process that inspires practice leaders to meet greater community needs and encourages an effective interplay of innovation and standardization
- Provider time is valued as a resource
- Create an environment that nurtures professional fulfillment

#### High Leverage Actions/Initiatives
- Develop new physician leaders and encourage all physicians to develop leadership skills
- Recruit for fit as well as technical and clinical skills
- Retention of providers will be a priority
- Ensure open, effective governance that has an effective communication with the group at large
- Active participation in meetings is an expectation
- Recognize/compensate clinicians for non-clinical activities
- Develop multi-disciplinary committee structures that create integration among different multi-speciality and other non-clinical areas
- Enhance the GME Program’s role for professional
Baseline Situation

- Multiple servers...complicates support and training
- Incomplete patient records...Data flows to different servers
- Redundant work...Every new consult starts with blank chart
- Separate servers would make meaningful use very difficult
Six Centricity Servers
(24 Locations of Care)

1. PCLogician
   - Concord Family Medicine
   - Family Physicians of Pembroke
   - Penacook Family Physicians

2. PGLogician
   - Internal Medicine
   - Community Medical Associates
   - Family Tree Healthcare – Hopkinton
   - Family Tree Healthcare – Concord
   - Family Tree Healthcare – Warner

3. FHCLogician
   - Family Health Center - Concord
   - Family Health Center – Hillsboro/Deering

4. PSFLLogician
   - Pleasant Street Family Medicine

5. FCCLogician
   - Family Care of Concord
   - Diabetes Education
   - Nutrition
   - HealthFast
   - Cardiac Rehab
   - Pulmonary Rehab
   - Speech Therapy

6. SPLogician
   - Breast Care Center
   - Cholesterol Treatment Center
   - CH Neurology
   - Centers for Urologic Care
   - CH Pulmonary
   - Wound Healing Center

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Why we are doing this

- Create multispecialty Group Practice
- Better for patients
- Better for providers
- Positions us for future
- Timing for Meaningful Use is Ideal
  - Unplanned benefit
Project Goals

- 1 Patient...1 Chart
- Facilitate communication
- Reduce duplicative work
- Achieve meaningful use
Groups* involved in the DB Merge

- Governance (18)
- Informatics (26)
- CDS (25)
- Chart organization (19)
- Practice ops (18)

- Medical Home (19)
- DB Planning Committee (25)
  - Subcommittees: Letters, forms, flow-sheets, handouts, document types, protocols, etc.

*Membership includes administration, providers and IT
Benefits of Single Chart

Better for patients
- Improves potential for accurate medication reconciliation (maintaining 1 active medication list instead of multiple)
- More comprehensive primary and specialty care medical record
- Patients think we have this anyway!

Better for providers
- More timely access to colleague’s documentation
- Standardization for clinical decision support at the point of care
- Easier communication

Positions us for future
- Medical Home
- Meaningful Use
- ACO
- Ability to centralize key functions (i.e. ROI, coding/compliance auditing, etc.)
Resource commitment

- New Hardware with redundancy
  - Unix platform with mirror server

- New positions
  - Nurse Informaticist
  - EMR Trainer
  - New Application Analyst
  - Transfer position from FHC

- Chart Merge Resources
  - “the Dooley Plan”
Technical Background
Hardware requirements

- Informatics discussed tolerable downtime
- 30 minute window felt reasonable
  - Provider input informed system design
- Downtime plan then adopted by PHIS
  - Includes catastrophic failure
One Centricity Server

PCLogician
PSFLogician
FHCLogician
SPLogician

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Redundant Centricity Servers

Primary

Live Database

Secondary

Live Database Failover
Test Merge Database
Development Database
Redundant Centricity Storage
Informatics discussed tolerable downtime
30 minute window felt reasonable
Downtime plan then adopted by PHIS
Planned Computer Downtime

Friday, February 12th at 5 pm until Monday, February 15th at 7 am

**What:** Centricity PC / PG servers will both be unavailable for documentation. A “Read Only” view for both servers will be available but no documentation can occur during the downtime.

**Why:** PC / PG are the first two servers of our Centricity Data Base Merge project that will become one combined server.

**Contact:** ITS HELP Desk x7777

**PLAN**

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<tr>
<th></th>
<th>Pre Downtime</th>
<th>During Downtime</th>
<th>Post Downtime</th>
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<tbody>
<tr>
<td><strong>SCHEDULING</strong></td>
<td>Print schedules and fee slips for weekend and Monday’s scheduled patients and print blank ones using a test patient for add-on’s patients</td>
<td>Read-only access available to view schedules Utilize a callback list for scheduling appointments</td>
<td>Enter appointments made during the downtime into EMR—refer to callback list</td>
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<td><strong>REGISTRATION</strong></td>
<td><em>STAR IS STILL AVAILABLE</em></td>
<td><em>STAR IS STILL AVAILABLE</em></td>
<td><em>STAR IS STILL AVAILABLE</em></td>
</tr>
<tr>
<td><strong>BILLING</strong></td>
<td>Print schedules and fee slips for scheduled patients and print blank ones using a test patient for add-on’s Print Chart Summaries for scheduled patients</td>
<td>PC/PG practices to use fee slips and/or printed chart summaries to record charges</td>
<td>Based on office’s direction, billing info can be entered directly in Star by office staff or provider can bill on Monday via Centricity</td>
</tr>
<tr>
<td><strong>CHART SUMMARY</strong></td>
<td>Print chart summaries for weekend and Monday’s scheduled patients</td>
<td>All Chart Summaries will be available via Read-only in the EMR.</td>
<td>Chart Summaries will be available post-downtime but not current until all post-downtime documentation is available</td>
</tr>
</tbody>
</table>
Centricity Database Merge Project Timeline

- **EMR 6.1.1 Service Pack Upgrades**
  - April 10, 2010

- **FHC Upgrade to Centricity EMR 2005**
  - March 27, 2010

- **Prepare for FHC Merge**

- **PSF Upgrade to Centricity EMR 2005**
  - May 8, 2010

- **Prepare for PSF Merge**

- **FHC-CHMG Database Merge**
  - May 21-23, 2010

- **Prepare for FCC Merge**

- **PSF-CHMG Database Merge**
  - August 20-22, 2010

- **SP-CHMG Database Merge**
  - November 5-7, 2010

- **FCC-CHMG Database Merge**
  - January 28-30, 2011

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Planning Phase
What does “Merge” Really Mean?

- Consolidation of 2 databases
  - System configuration
  - Setup parameters
  - Data transfer
  - Data cleanup

- The actual merging of the patient charts is a manual process.
  - (Estimate of approximately 35,000 unique chart merges)
<table>
<thead>
<tr>
<th>Responsible party</th>
<th>Questions or issues to consider</th>
<th>Action/responsible party</th>
<th>Date made</th>
</tr>
</thead>
<tbody>
<tr>
<td>Merge Team</td>
<td><strong>Workflow, staff, and process re-engineering:</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Enterprise</td>
<td>✓ What are your merge project goals?</td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>✓ Do recommendations exist for standardizing workflows and process re-engineering as a result of the merge?</td>
<td></td>
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<td></td>
<td>✓ Is staff shared between clinic sites? If so, should workflow be standardized? Can clinics maintain their own workflows?</td>
<td></td>
<td></td>
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<td></td>
<td>✓ Will staff roles change or will some jobs be eliminated as a result of the merge?</td>
<td></td>
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<tr>
<td>Merge Team</td>
<td><strong>Locations of care:</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Enterprise</td>
<td>✓ When merging two clinic databases into one EMR server, how will they share patient information?</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>✓ Will you have a single chart-per-patient shared by some or all clinics in the database?</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>✓ Will you have multiple charts per patient that result in each clinic having its own set of charts that are not shared with other clinics?</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>✓ Do providers work at one location or multiple locations?</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>✓ Do you need to create specialty views of a single chart?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Merge Team</td>
<td><strong>Selection criteria for identifying merge site(s):</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Enterprise</td>
<td>✓ Which sites will be merged initially?</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>✓ Which sites will be merged after the first merge?</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>✓ How will you configure servers to support the plan?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Merge Team</td>
<td><strong>Merge implementation plan:</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Enterprise</td>
<td>✓ Who is responsible for creating the merge implementation plan?</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>✓ How does it get reviewed and approved?</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>✓ How are changes and delays factored into the plan?</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>✓ How do changes to the plan get reviewed?</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>✓ How are the merge plan and any changes to the plan communicated to the clinics</td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>
Chart Etiquette

Committee Members:
- Paul Clark, MD
- Jim Noble, MD
- Bill Dooley
- Joanne Bousquet
- Pam Abbott
- Geny Laroche
- Sue Williams

Registration Notes / Pop-ups
Patient Banner
Flags as communication
Desktop Management
Inactivating Patients
CHMG Document Types
Chart Merging

Committee Members:

- Joel Berman, MD
- Julie Plante, MD
- Bill Dooley
- Kris Green, RN
- Darin Zabielski
- Denise Scardina
- Josie Bendiks
- Garvin Eastman
- Megan Rheinhardt, RN
Internal Communication

Committee Members:

• Wendy Angelo, MD
• Paul Snyder, MD
• Karen Wilber
• Tarra Fifield, MA
• Susan Fabiano
• Kellie Booth
• Jodi Panzino
• Dan Venecek
• Cathy Burmeister

Naming / Routing of Consults
Communication
Referral Tracking
Release of Information
Education

Committee Members:

• Wendy Angelo, MD
• Brett Lund
• Donna Trumble
• Joe Zelazny
• Christine Falkenham

New History Form

Problem and Medication organization

Viewing a merged chart

Signing of Clinical Lists

Communication to organization
Managing the Risks

Or...

What Could Possibly Go Wrong?...
<table>
<thead>
<tr>
<th>Risk Area</th>
<th>Risk Severity</th>
<th>Risk Management Plan</th>
</tr>
</thead>
<tbody>
<tr>
<td>Project Prioritization – the number of resources needed for merge project could delay completion of other projects</td>
<td>High</td>
<td>Acquire additional resources to complete merge and other priority projects</td>
</tr>
<tr>
<td>Problem list clutter (inclusion of outdated problems, disorganization of problems, inclusion of PMH/PSH, redundant diagnoses, uncoded problems, outdated ICD-9 codes)</td>
<td>High</td>
<td>Clearly identify who/how problem lists should be maintained, specifically addressing problem end dates. Standardize appropriate use. Cultivate a culture of shared ownership. Define audit mechanism. Annual HIMS cleanup.</td>
</tr>
<tr>
<td>Resistance to change</td>
<td>High</td>
<td>Identify and communicate the compelling reasons why we are doing this – improved safety and quality of care. Look to Informatics Committee for communication and leadership. Add merge project as standing item on Practice Manager meeting. Draw on administrative sponsorship and support. Anticipate education needs.</td>
</tr>
<tr>
<td>Medication list</td>
<td>High</td>
<td>Create expectation for</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Create standards.</td>
</tr>
<tr>
<td>Issue</td>
<td>Impact 1</td>
<td>Impact 2</td>
</tr>
<tr>
<td>----------------------------------------------------------------------</td>
<td>----------</td>
<td>----------</td>
</tr>
<tr>
<td>Information overload</td>
<td>High</td>
<td>High</td>
</tr>
<tr>
<td>Flag abuse: Issues include inappropriate consultations using flags, increased workload to providers, non-captured information and too many flags.</td>
<td>High</td>
<td>Med</td>
</tr>
<tr>
<td>Results management - Patient specific results need to be routed to the appropriate provider; risk of inappropriate signing before the result is processed.</td>
<td>High</td>
<td>High</td>
</tr>
<tr>
<td>Inconsistent processing of incoming documents/scanning</td>
<td>Med</td>
<td>Med</td>
</tr>
<tr>
<td>Issue</td>
<td>Impact</td>
<td>Resolution</td>
</tr>
<tr>
<td>----------------------------------------------------------------------</td>
<td>--------</td>
<td>-----------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Inadequate training of staff/providers</td>
<td>Med</td>
<td>Offer adequate training for new standards program for all providers including defining need for ongoing training. Develop a training standard and dedicated resource(s). Seek ongoing feedback from staff/providers on training needs and options.</td>
</tr>
<tr>
<td>Merged charts will take longer to load/open</td>
<td>Low</td>
<td>High-end Unix-based system &amp; testing. Improve chart load time issues by adjusting document display settings and archiving observation term settings.</td>
</tr>
<tr>
<td>New ITS skill sets will be needed to support environment.</td>
<td>High</td>
<td>Involve Unix Engineers and Oracle DBA’s in planning process.</td>
</tr>
<tr>
<td>Ancillary applications may not integrate successfully (Faxpress, Docutrack, e-Rx, Secure Messaging, Brentwood EKG, Spirometry, Acrobat Viewer, etc).</td>
<td>Low</td>
<td>Test all applications thoroughly in test environment and reconfigure as needed. Work with vendor and internal resources to resolve any issues.</td>
</tr>
<tr>
<td>Interfaces will require changes and re-design.</td>
<td>High</td>
<td>Develop a test plan for all interfaces to include testing in post-merge environment. Work with interface resources to make any necessary changes.</td>
</tr>
<tr>
<td>Custom reports won’t run on Unix and may require extensive re-design.</td>
<td>Med</td>
<td>Discuss w/ GE early for guidance to prepare for re-write time. Develop a test plan for all reports to include testing in post-merge environment. Work with report resources to make any necessary changes.</td>
</tr>
<tr>
<td>Issue</td>
<td>Priority</td>
<td>Risk</td>
</tr>
<tr>
<td>----------------------------------------------------------------------</td>
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<tr>
<td>Custom reports won’t run on Unix and may require extensive re-design.</td>
<td>Med</td>
<td>High</td>
</tr>
<tr>
<td>Conflicting use of observation terms will complicate data merge.</td>
<td>High</td>
<td>High</td>
</tr>
<tr>
<td>Standardizing office workflow may generate confusion, ie. scheduling, forms, orders, others?</td>
<td>Med</td>
<td>Med</td>
</tr>
<tr>
<td>Unplanned Downtime will affect all practices.</td>
<td>Low</td>
<td>High</td>
</tr>
<tr>
<td>Planned Downtime affects all practices.</td>
<td>High</td>
<td>Med</td>
</tr>
<tr>
<td>Training and support will need to be done on a much larger scale when the application is upgraded.</td>
<td>High</td>
<td>Med</td>
</tr>
</tbody>
</table>
Comparing the content of the servers to be merged

**EVERY** test & production merge required that we compare the SOURCE database to the DESTINATION database & reconcile “cleanup” **ALL** items such as:

- flowsheets
- protocols
- appointments
- user ID’s
- orders
- service providers
- locations of care
- encounter forms
- etc...

there could not be **ONE** single duplicate in order for the merge to begin.
Comparing Databases for Cleanup
(aka “Not Another Precompare!”)

EVERY test & production merge required that we compare the SOURCE database to the DESTINATION database & cleanup ALL items in order to proceed.

BEFORE CLEANUP

Just one category of the report 2403 items. Total on this report 6600 items!

2000 of 2403 Items
All categories must be at ‘ZERO’ in order to kick off the merge.
What needs to happen for a successful merge?

- **All unsigned documents must be signed!!!!**

<table>
<thead>
<tr>
<th>Time</th>
<th>FIRST MERGE</th>
<th>SECOND MERGE</th>
<th>THIRD MERGE</th>
<th>FOURTH MERGE</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>PC / PG</td>
<td>PC / PG</td>
<td>PC / PG</td>
<td>PC / PG</td>
</tr>
<tr>
<td>FRI AM</td>
<td>528</td>
<td>1314</td>
<td>1481</td>
<td>2014</td>
</tr>
<tr>
<td>NOON</td>
<td>460</td>
<td>990</td>
<td>1388</td>
<td>1697</td>
</tr>
<tr>
<td>2:00 PM</td>
<td>192</td>
<td>561</td>
<td>911</td>
<td>1081</td>
</tr>
<tr>
<td>4:00 PM</td>
<td>36</td>
<td>382</td>
<td>381</td>
<td>346</td>
</tr>
<tr>
<td>5:00 PM</td>
<td>21</td>
<td>ZERO</td>
<td>37</td>
<td>15</td>
</tr>
</tbody>
</table>
# SP/CHMG - DB Merge - Weekend Plan

**Friday 11/12 – Monday 11/15**

<table>
<thead>
<tr>
<th>PHI$ Team</th>
<th>Practices</th>
<th>Tech Team</th>
<th>GE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dan, Garvin, Cathy, Joanna, Christine, Megan, Sarah, Joe, Pam, Joel, Wendy &amp; Paul</td>
<td>Bill, Karen</td>
<td>Leo, Tom, Frisland, Charles, Ray, Lincoln, Oak, Mark, Nancy</td>
<td>Brad Ballman</td>
</tr>
</tbody>
</table>

## FRIDAY - 11/12

<table>
<thead>
<tr>
<th>Time</th>
<th>Activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>9a-12p</td>
<td>Production Clean Up Assessment</td>
</tr>
<tr>
<td>12p-1p</td>
<td>Notify: - Lab (2 steps) - Rad (Pat Sousa &amp; Jay Macurwaki) - HIM (Dan Bigwood, Jodi Panning, Hillary Jenkins) to activate manual process (Megan)</td>
</tr>
<tr>
<td>2p-4p</td>
<td>Resolve all LinkLogic Errors Megan to update practices on unsigned document status</td>
</tr>
</tbody>
</table>

- **Production Clean Up Assessment**
  - Restore SP/LogicPlan to <CENTRICITYUPG> and restore CHMG to <Centint> (Lincoln) - Thurs. 11/11 data
  - Create SP View Only & CHMG View Only Icons - test with PHI$ team (Leo)
  - Test Printing!

- **Notify**
  - Providers sign any remaining unsigned documents.

- **Can to call Mark C. @ 12:30p - Stop FTP Results & Chartscript Mark Chaffee to take down all e-ways (ADTs, Labs, Pasts) Lincoln notifies Heather Page of Merge as this will affect HBI Reporting.
CAUTION!

MERGE AHEAD
COMMUNICATION!!!

Centricity Merge Update

Volume 2, Issue 4
September 7, 2010

Coming to a Location of Care Near You—
The Mother of All Merges

We're only two months away from the biggest Centricity merge of all—between SP and CHMG. With three successful merges under their belt, the merge team has the experience and expertise to address the technical challenges of the SP merge. What will be unique is the large volume of duplicate charts that must be merged after the two databases are combined—nearly 35,000, or 5 times the number in our second biggest merge of FHC and CHMG.

The magnitude of this task has forced the CHMG Informatics Committee to address some difficult questions: (1) Should we merge duplicate charts twice—first within SP and then within the merged SP-CHMG database?

If after reading this newsletter, you still have questions about the merge strategy, please contact your representative on the CHMG Informatics Committee (listed in the far-left column of this page.)

Given the challenges that this merge will impose on every member of the organization, it may be helpful to review why we’re doing this. The following real-life scenario appeared in the first Centricity Merge Update last September:

Why do we need a single database?

XXX is a 59 year old female who gets her primary care at Penacook Family Physicians. Through a combination of bad genes, bad luck, and bad habits, XXX develops heart disease.

…”
Friday, Feb 12th, 2010

5pm
- Practices close
- View only copies of PG and PC available
- Cold backups of PG and PC Centricity
- Pre-merge cleanup work
- Final documents signed

9pm – 2am
- Server and database prep - GE
Saturday, Feb 13th

11:30am
- Error in merge identified

3:00pm
- Merge irrecoverable damage
- Decision Point: Stop Merge or Continue

4:00pm - 7:00pm
- Restore PC and PG from Backup
- Complete Friday cleanup steps
- Reschedule Sunday activities

10:00pm
- Merge process starts (24-27 hours)
Sunday, Feb 14th

1:00pm
- Technical Call – plan for next 24 hours

2:00pm
- Practice Manager Call - plan for next 24 hours

11:30pm – Merge Successful!!!
Monday, Feb 15th

2:30am
- Post-merge steps begin
- Functional testing
- Chart merges

6:00am
- PMs at practices test connectivity

7:00am
- CHMG Centricity Available
Planned Computer Downtime

The PG-PC Merge took 62 hours to complete

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### Planned Computer Downtime

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**What:** Centricity PC / PG servers will both be unavailable for documentation. A "Read Only" view for both servers will be available but no documentation can occur during the downtime.

**Why:** PC / PG are the first two servers of our Centricity Data Base Merge project that will become one combined server.

**Contact:** ITS HELP Desk x7777

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</tr>
<tr>
<td>REGISTRATION</td>
<td>&quot;STAR IS STILL AVAILABLE&quot;</td>
<td>&quot;STAR IS STILL AVAILABLE&quot;</td>
</tr>
<tr>
<td>BILLING</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Print schedules and fee slips for scheduled patients and print blank ones using a test patient for add on's</td>
<td>- PC/PG practices to use fee slips and/or printed chart summaries to record charges</td>
<td>- Based on office's direction, billing info can be entered directly in Star by office staff or provider can bill on Monday via Centricity</td>
</tr>
<tr>
<td>CHART SUMMARY</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Print chart summaries for weekend and Monday's scheduled patients</td>
<td>- All Chart Summaries will be available via Read-only in the EMR.</td>
<td>- Chart Summaries will be available post-downtime but not current until all post-downtime documentation</td>
</tr>
</tbody>
</table>
Centricity Database Merge Project Timeline

- **FHC Upgrade to Centricity EMR 2005**
  - March 27, 2010
- **FHC-CHMG Database Merge**
  - May 21-23, 2010
- **Prepare for FHC Merge**
  - May 21-23, 2010
- **PSF Upgrade to Centricity EMR 2005**
  - April 10, 2010
- **Prepare for PSF Merge**
  - May 8, 2010
- **PSF-CHMG Database Merge**
  - August 20-22, 2010
- **Prepare for PSF Merge**
  - August 20-22, 2010
- **FCC-CHMG Database Merge**
  - January 28-30, 2011
- **Prepare for FCC Merge**
  - January 28-30, 2011

CHUG Presentation October 2011
DATABASE MERGE CLEANUP

FAST FACTS

- **16 TEST** merges completed
- Largest Pre-compare: FHC/CHMG = 6600
- Smallest Pre-compare: PSF/CHMG = 4500
- Total Pre-compare Items: 22,000
Keys to Merge Success

- Communication throughout process—PMs, provider leadership, administration, technical

- Document signoff process worked
  - < 100 unsigned documents at 5pm Friday

- Detailed downtime plan
  - Created with the practices and hospitalists

- Read Only Access to EMR during weekend

- Backup/Restore Process
  - Critical on Saturday of merge
Cultural Changes
Entropy & Evolution

- Systems move from order to disorder

- For a system to become more ordered, energy must be expended

- Organisms will select traits to adapt to environmental factors
So, how do we merge 35,000 charts?
The DB merge is just the beginning

- Duplicate chart merges (35,000!!!)
- Chaos will be prevented but chart merge process is not perfect
- Something for everyone to hate
- Huge benefit for meaningful use
Time demands

<table>
<thead>
<tr>
<th>Decision 3: Less slow vs. less dirty?</th>
<th>Merge charts with no list clean-up</th>
<th>Merge &amp; clean up med list only</th>
<th>Merge &amp; clean all clin lists</th>
</tr>
</thead>
<tbody>
<tr>
<td>Time per chart</td>
<td>3 minutes</td>
<td>7 minutes (range 5-10)</td>
<td>30 minutes (range 15-75)</td>
</tr>
<tr>
<td>Total time</td>
<td>1725 hrs = 43 work-weeks</td>
<td>4025 hrs = 100 work-weeks</td>
<td>17250 hrs = 8 work-years</td>
</tr>
<tr>
<td>Cost</td>
<td>Cost @ $20/hr = $34,500</td>
<td>Cost @ $20/hr = $80,500</td>
<td>Cost @ $25/hr = $430K</td>
</tr>
</tbody>
</table>

3 Years for “clean” vs 10-12 weeks with simplified rules
## Specialty server loc charts vs shared charts on PCP DB

### Decision 1: Merge charts twice vs. once?

<table>
<thead>
<tr>
<th>Options</th>
<th>SP→SP→CHMG</th>
<th>SP→CHMG</th>
</tr>
</thead>
<tbody>
<tr>
<td>Advantage: fewer patients with 3 or more charts to merge. Disadvantage: specialists go through merge process twice. Question: can we accomplish this before November 5th? Will require 2700 man-hours of work.</td>
<td>CLEAN AND MERGE ONE CHART AT A TIME (less dirty)</td>
<td>CLEAN AND MERGE ONE CHART AT A TIME (less dirty)</td>
</tr>
<tr>
<td>Advantage: all providers will go through process only once. Disadvantage: more patients with 3 or more charts.</td>
<td>MERGE, THEN CLEAN ON DEMAND OVER TIME (less slow)</td>
<td>MERGE, THEN CLEAN ON DEMAND OVER TIME (less slow). 69 40-hr. work weeks</td>
</tr>
</tbody>
</table>

| Interface Errors: Link Logic, STAR EMR | More | Fewer | More | Fewer |
| Number of Unsigned Documents | More | Fewer | More | Fewer |

| Potential Medication List Errors | Fewer | More | Fewer | More |

| Effect on other stakeholders: Hospitalists, ED, AMU, PST, ACC, hospital pharmacy | May choose incorrect chart from several choices. | Only 1 chart per patient, but many will have uncleaned merged lists. | May choose incorrect chart from several choices. | Only 1 chart per patient, but many will have uncleaned merged lists. |
There is no magic bullet

- It will take a lot of time (there is no “fast”)
- Providers will be impacted (there is no “clean”)
- Decision about process had to be made in order to keep the merge dates on track
Merge Process—“The Dooley Plan”

- Centralized team at 6LR
- 8 people M-F full time
- 8 people nights and weekends
- Priorities for merge are scheduled patients, hospital patients, then triage phone patients and add-on patients
Chart Merge Mania
How many charts have we actually merged?

PG - PC = 2,100
FHC - CHMG = 7,330
PSF - CHMG = 1,467
SP - CHMG = 42,125

For a GRAND TOTAL of 53,022
New Tools & Resources

- New Histories form
- Care Team and Reminders form
- Feedback Button
- EMR Trainer
- Nurse Informaticist
Captures all providers caring for a patient
Similar to the HEO complaint button

This web-based application allows you to submit requests directly to the PHIS group. It should not be used for urgent requests such as your printer not working. These requests should be sent to the help desk extension 7777 so that they can be prioritized as urgent. Use this form for making requests for new forms or letters, corrections or enhancements to existing forms or to request training.
<table>
<thead>
<tr>
<th>Objective</th>
</tr>
</thead>
<tbody>
<tr>
<td>On merged database, 42 out of 50 criteria will easily be met. 8 will require some work</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Objective</th>
</tr>
</thead>
<tbody>
<tr>
<td>Requires certified product</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Objective</th>
</tr>
</thead>
<tbody>
<tr>
<td>Record and chart changes in vital signs: height, weight, blood pressure, calculate and display BMI; plot and display growth charts for children 2-20 years, including BMI</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Objective</th>
</tr>
</thead>
<tbody>
<tr>
<td>Record smoking status for patients 13 years old or older</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Objective</th>
</tr>
</thead>
<tbody>
<tr>
<td>Implement one clinical decision support rule relevant to specialty or high clinical priority along with the ability to track compliance with that rule</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Objective</th>
</tr>
</thead>
<tbody>
<tr>
<td>Provide patients with an electronic copy of their health information (including diagnostic test results, problem list, medication lists, medication allergies) upon request</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Objective</th>
</tr>
</thead>
<tbody>
<tr>
<td>Provide clinical summaries for patient for each office visit</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Objective</th>
</tr>
</thead>
<tbody>
<tr>
<td>Implement Drug-formulary checks</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Objective</th>
</tr>
</thead>
<tbody>
<tr>
<td>Generate list of patients by specific conditions to use for quality improvement, reduction of disparities, research or outreach</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Objective</th>
</tr>
</thead>
<tbody>
<tr>
<td>Send reminders to patients per patient preference for preventive/follow up care</td>
</tr>
</tbody>
</table>
New! - Document Views

Pre-merge → Post-Merge
Work in Progress

- Medication reconciliation
  - Will it ever get better?
- Problem list cleanup
  - Entropy in action
- Ownership?
- Monitoring performance
Achievements

- Successful merge to single chart
- Specialist do not start with blank slate
- New meds always on med list!!
- More complete data
- Meaningful use attained for 92 providers
Keys to success

- Multi stakeholder involvement throughout process
- Clear message from leadership
- Provider engagement
- Communication
- Resources
Questions

?