DEDUCE
A Suite of Tools Available at Duke for Research

Stephanie Brinson, CBIP, Taxonomy Information Architect
Information Management, Duke Health Technology Solutions

• Duke Enterprise Data Unified Content Explorer
• Initially Developed in 2008 with support from Duke’s CTSA award (UL1RR024128)
• User friendly front end to enterprise data stores
• Enables cohort generation based on a wide variety of clinical parameters
• Can locate potential subjects for recruitment
• Tools for cohort generation and data collection

DEDUCE Data Scope

- Encounters
- Vitals
- Radiology Reports
- Culture Results
- Pathology Reports
- Radiation Oncology
- Geography
- Social History
- Allergies
- Nursing Documentation
DEDUCE Tools

- Cohort Manager (Guided Query has been retired)
- Text Reports
- DEDUCE Geo
- DISCERN Future Appointments Report
- On-line Chart Review
- Patient List Upload
- Export Manager
- Project Administration

DEDUCE Methodology

- Who is in my cohort?
  - Cohort Manager
  - Patient List Upload
  - Text Reports
  - On-line Chart Review
- What do I want to know about them?
  - Export Manager
  - DEDUCE Geo
  - DISCERN Future Appointments Report

DEDUCE Access and Security

- DSR RESEARCH PORTAL
Project Administration

- All work within a project
- Project tied to the way you logged in
- Multiple users can be project members
  - Various rights (view, update, admin)
- Projects persist until deleted
- Undelete functionality

Patient List Upload

Start Cohort Manager
work with
All Patients in database
or your own list of
patients
Want severe allergies for female patients giving birth by C-section in first three months of 2013 and allergic to latex.

Example Export in Excel

<table>
<thead>
<tr>
<th>Patient Identifier</th>
<th>Active Allergy Record Indicator</th>
<th>Allergen Name</th>
<th>Allergen Type</th>
<th>Reactions to Allergen</th>
<th>Severity of Allergic Reaction</th>
<th>Type of Allergy</th>
</tr>
</thead>
<tbody>
<tr>
<td>3161783</td>
<td>Y</td>
<td>LATEX</td>
<td>Drug Ingredient</td>
<td>Rash</td>
<td>High</td>
<td>Allergy</td>
</tr>
<tr>
<td>4421846</td>
<td>Y</td>
<td>LATEX</td>
<td>Drug Ingredient</td>
<td>Rash</td>
<td>High</td>
<td>Unspecified</td>
</tr>
<tr>
<td>4525334</td>
<td>Y</td>
<td>PENICILLIN</td>
<td>Drug Class</td>
<td>Rash</td>
<td>High</td>
<td>Adverse Reaction</td>
</tr>
<tr>
<td>4553339</td>
<td>Y</td>
<td>PENICILLIN</td>
<td>Drug Class</td>
<td>Rash</td>
<td>High</td>
<td>Allergy</td>
</tr>
</tbody>
</table>
Export Manager

- Export Tools
  - Download
  - Export, to tweak the extract
  - Red Cross Export, to use this extract as a template for other cohorts
- Search capability

Tools in Cohort Manager

- Export
- Detail = On-line Chart Review
- DISCERN Future Appointments Report
- Text Reports
- Map It = DEDUCE Geo
On-line Chart Review in action

DISCERN Future Appts Report

Text Reports

Two ways to navigate to Text Reports
Separate training
Smaller cohorts work better
Firefox better than Internet Explorer

[DSR now contains Census 2010 socio-economic features for NC blockgroups]
Thematic Map

Advanced Techniques

Latest Data Updates

- Maestro Care data in all enterprise-wide subject areas except Pharmacy Orders
- New MAESTRO Care only subject areas such as Problem Lists
- Legacy CareDoc (Nursing Documentation) now available
Latest Performance Update

The back end of DEDUCE has migrated from an Oracle database to a new Greenplum “Big Data” database appliance. The new platform is a grid of 9 computers, 8 of which house 6 database servers each. What this means for the user is that we have finally met one of our original requirements for DEDUCE:

“and it must be screaming fast”

DEDUCE Account Request

dsrequest.duhs.duke.edu/DHTSIM/DHTSIM.aspx#/Home

Click on DEDUCE/Enterprise Reporting Account

Must have access to MAESTRO Care that includes viewing patient charts

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