Innovative Data Quality Control: How to Make it Better by Making it Easier

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Objectives

- Review Existing Data Quality Process
- Identify and Review New Audit Concept
- Review the Actions Taken
- Review the Audit Results
- Review other CRGC Process Improvement Activities
Background Information

- The Cancer Registry of Greater California (CRGC):
  - Includes 48 of California’s 58 counties
  - Covers approximately 93% of the land area of California (148,832 square miles)
  - Has a population of nearly 20,000,000 residents (53% of California’s population)
  - Includes a diverse population - 66% White, 7% Asian, 5% African American, 1% Pacific Islander, 1% Native American and 20% have more than one race
    - Among all race groups, 30% also identify Hispanic as their ethnicity
  - Annually, approximately 83,000 new cancer patients are diagnosed and approximately 32,000 patients die from their disease in the area
Cancer Registry of Greater California (CRGC)
Regions & Counties
## Background Information

<table>
<thead>
<tr>
<th>Region</th>
<th>Name</th>
<th># of Reporting Facilities</th>
<th># of New Cases Annually</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>Cancer Registry of Central California</td>
<td>45</td>
<td>11,560</td>
</tr>
<tr>
<td>3</td>
<td>Sacramento Sierra Cancer Registry</td>
<td>57</td>
<td>15,860</td>
</tr>
<tr>
<td>4</td>
<td>Central Coast Cancer Registry</td>
<td>21</td>
<td>6,630</td>
</tr>
<tr>
<td>5</td>
<td>Desert Sierra Cancer Surveillance Program</td>
<td>52</td>
<td>15,202</td>
</tr>
<tr>
<td>6</td>
<td>Cancer Registry of Northern California</td>
<td>45</td>
<td>8,490</td>
</tr>
<tr>
<td>7/10</td>
<td>Cancer Registry of San Diego and Imperial Counties/Orange County</td>
<td>56</td>
<td>24,865</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td><strong>276</strong></td>
<td><strong>82,607</strong></td>
</tr>
</tbody>
</table>
Casefinding Audits

- Conducted Annually to Assess Reporting Facility Data Completeness
- Request the Medical Record Disease Indices (MRDI) for specific months based on cancer caseload at the reporting facility
- MRDI is based on the ICD-9-CM codes deemed reportable by SEER and the State of California
- Request the following data items in the MRDI list or file:
  - Patient’s Full Name (first, middle and last)
  - Address at Admission or Encounter
  - Date of birth
  - Medical record number
  - Social security number
  - Date of admission
  - Tumor site (if available)
### 2013 Casefinding Audits of 2011 Admissions

<table>
<thead>
<tr>
<th>Region</th>
<th>Annual Caseload</th>
<th>MRDI Months Reviewed</th>
<th>Cases Reviewed</th>
<th>Cases Matched</th>
<th>Cases Unmatched</th>
<th>Non-Reportable Cases</th>
<th>Missed Cases</th>
<th>Number of Retransmitted Cases</th>
<th>Number of Reportable Cases</th>
<th>Completeness Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>200</td>
<td>February, March, April and May</td>
<td>103</td>
<td>86</td>
<td>17</td>
<td>17</td>
<td>0</td>
<td>0</td>
<td>86</td>
<td>100%</td>
</tr>
<tr>
<td>2</td>
<td>750</td>
<td>March, June, September</td>
<td>190</td>
<td>178</td>
<td>12</td>
<td>5</td>
<td>0</td>
<td>7</td>
<td>185</td>
<td>100%</td>
</tr>
<tr>
<td>3</td>
<td>600</td>
<td>March, June, September</td>
<td>2122</td>
<td>1877</td>
<td>245</td>
<td>56</td>
<td>189*</td>
<td>0</td>
<td>2068</td>
<td>90.90%</td>
</tr>
<tr>
<td>4</td>
<td>1200</td>
<td>February and August</td>
<td>822</td>
<td>631</td>
<td>191</td>
<td>176</td>
<td>15</td>
<td>0</td>
<td>646</td>
<td>97.70%</td>
</tr>
<tr>
<td>4</td>
<td>190</td>
<td>February, March, April and May</td>
<td>297</td>
<td>289</td>
<td>8</td>
<td>5</td>
<td>3</td>
<td>0</td>
<td>292</td>
<td>99%</td>
</tr>
<tr>
<td>5</td>
<td>500</td>
<td>March, June, September</td>
<td>681</td>
<td>435</td>
<td>246</td>
<td>199</td>
<td>46</td>
<td>1</td>
<td>481</td>
<td>90.40%</td>
</tr>
<tr>
<td>6</td>
<td>600</td>
<td>March, June, September</td>
<td>1064</td>
<td>947</td>
<td>117</td>
<td>98</td>
<td>19</td>
<td>0</td>
<td>966</td>
<td>98.00%</td>
</tr>
<tr>
<td>710</td>
<td>725</td>
<td>March, June, September</td>
<td>636</td>
<td>530</td>
<td>106</td>
<td>90</td>
<td>15</td>
<td>1</td>
<td>545</td>
<td>97.20%</td>
</tr>
<tr>
<td><strong>Totals:</strong></td>
<td></td>
<td></td>
<td><strong>5915</strong></td>
<td><strong>4973</strong></td>
<td><strong>942</strong></td>
<td><strong>646</strong></td>
<td><strong>98</strong></td>
<td><strong>9</strong></td>
<td><strong>5269</strong></td>
<td></td>
</tr>
</tbody>
</table>
Case Transmit Audit Pilot Objective

Identify cases written to a transmit file but not loaded into the central Database Management System.
Transmit Work Flow
and areas where problems occur...

- Hospital generates encrypted transmit file
  - Forgets to send the file
  - Uses a different password
- Hospital sends transmit file to central registry via messaging system
  - Forget to attach file
- Central registry picks up file from messaging system
  - Fails to download transmit file
- Central registry unencrypts file
  - Fails to notify hospital of problem
  - If notified, hospital fails to responds or forgets different password
- Central registry uploads file to Database Management System
  - Misses uploading a file
  - Central registry software encounters problem loading records
Vital Last Step in Transmit Process

Send reporting facility a monthly *Transmit File Summary Report*, which only lists New Case files, and asks 2 questions:

1. Are there any *missing files*?
2. Of the files listed, are the *record counts* correct?

![Image of Transmit File Summary Report]
Audit Process

- Obtain a copy of the reporting facility data base file
- Create a file of hospital cases from the central database
- Load both files into an Access database
- Run routines to standardize the data for linkage routines
- Run linkage routines to identify any cases not found in the central database
- Flag missed cases in reporting facility database
- Fix older cases to pass current edits
- Upload all missed cases into the central database
- Report the findings back to the reporting facility
### Audit Results - Reporting Facility A

<table>
<thead>
<tr>
<th>Transmit Date</th>
<th>Cases Transmitted</th>
<th>Missed Cases</th>
</tr>
</thead>
<tbody>
<tr>
<td>10/11/2001</td>
<td>8</td>
<td>1</td>
</tr>
<tr>
<td>3/13/2005</td>
<td>14</td>
<td>13</td>
</tr>
<tr>
<td>10/13/2008</td>
<td>22</td>
<td>22</td>
</tr>
<tr>
<td>10/14/2008</td>
<td>8</td>
<td>8</td>
</tr>
</tbody>
</table>

#### Total Missed Cases:

44
### Audit Results - Reporting Facility B

<table>
<thead>
<tr>
<th>Transmit Date</th>
<th>Cases Transmitted</th>
<th>Missed Cases</th>
</tr>
</thead>
<tbody>
<tr>
<td>9/29/2009</td>
<td>72</td>
<td>5</td>
</tr>
<tr>
<td>12/22/2009</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>4/23/2011</td>
<td>27</td>
<td>27</td>
</tr>
<tr>
<td>06/31/2011</td>
<td>34</td>
<td>33</td>
</tr>
<tr>
<td>07/31/2011</td>
<td>7</td>
<td>7</td>
</tr>
</tbody>
</table>

**Total Missed Cases:** 73
Audit Results - Reporting Facility C

- Dates: 1990 - 2012
- Total Missed Cases: 87
Future Plans

- Utilize the same linkage program to automate and improve Casefinding Audit speed and efficiency
  - Challenge: Obtain MRDI patient information in a standardized electronic format
- Expand Case Transmit Audit for Any Vendor Software
  - Challenge: Creating file specifications that other vendors can use to create a viable comparison file
- Develop mechanisms to monitor facilities with a less than acceptable audit outcomes
Transmit Audit Summary Benefits

- Ensures that the central registry has received all the case files transmitted by the reporting facility
- Consider suspending timeliness requirements for missed cases found
- Reinforces the benefits of reviewing the Case Transmit Reports as a best practice for reporting facilities
- Provides another tool in the arsenal for central registries to ensure case completeness
Other Process Improvements
To Make it Easier!
Network Reporting Systems

- Encouraging Single Abstract Reporting by Network Reporting Facilities
- Benefits:
  - Produce a consolidated case from the reporting network system
  - Reduce the work effort for the reporting facility abstractors
  - Reduce the work effort for the regional registry staff - no case consolidation from facilities within the Reporting Network and the case will be visually edited once
Client Relationship Management

- Developing a database to manage:
  - Reporting Facilities
  - Pathology Labs
  - Abstractors
Client Relationship Management

» Current Challenges:
  » Multiple sources using various formats
  » Oral history
  » Isolation
Sugar CRM software provides:
- Central repository for all client data
- Increased internal collaboration
- Real Time Pipeline Management
- Email, calendar and file management
- Work flow and approvals
- Analytics
Summary

- Assess existing data quality control activities for process improvement opportunities
- Maximize the resources available to improve data quality
- Evaluate efficiencies while improving data quality
- Make your data better by making the process easier!
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Contact Information

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Thank You!