A New Era of Quality Assurance and Process Improvement

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Cancer Registry of Greater California

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Objectives

- Review of the old and the new approach to data quality assurance and process improvement
- Review of examples of data quality improvement activities
- Results and subsequent process improvements
- Summary and conclusion
Elements of the Old Data Quality Assurance Model

- Single dimension process
- Set activities
- Random selection criteria
- Confined to a single unit/department
Elements in the New Data Quality Assurance Model

- Global, multidisciplinary, comprehensive team approach
- Automation influences and opportunities
- Focused activities
- Agile and sustainable
- Proactive implications
- Process improvement opportunities
- Seek and share
New Quality Assurance Model Summary

• Global perspective of data capture process
• Identify source of the data quality issue
• Fix and prevent approach
• Address and resolve issues with a team of experts
• AKA: It takes a village!
Step 1: Identify the problem and source; team discussion

Step 2: Fix existing data

Step 3: Develop and implement tools or processes to minimize future errors

Process is simple and comprehensive!
Examples of Recent Quality Assurance Activities
Unknown Race Issue

• NAACCR standard cases with an unknown Race ≤ 3%
• Training issue: Importance of obtaining Race data
  • Staff - implemented a streamlined process
  • Physicians – developed a letter from the PI
• Propose to automate replacing Unknown Race with Known Race from Death Certificates in the central data management system
Dear Doctor:

As you are aware, health care practices have changed dramatically over the past 10 years. Where previously most cancers were diagnosed and treated in an acute care facility, many cancers are now being diagnosed and treated exclusively in physician office settings. To assure completeness in cancer surveillance, we rely on physician reporting of these cancers. Data you provide are essential for accurately assessing the cancer burden within our state. We have streamlined the data elements we ask you to complete to those that are the most important for surveillance, public health policy development, and research.

The following publications document how our data are being used by state and federal agencies and why this information is important:

As we assess the cancer burden, not only do we need to identify all cancer cases, we need to have complete and accurate information. Since there are distinct differences in cancer morbidity and mortality in different racial groups, race is one data item that is extremely important to have as complete and accurate as possible. As seen by the graph below, race is important and without your data, underserved populations in our area are not accurately represented.

**Prostate Cancer Incidence Rates by Race**

CRGC Regions 2003-2012

- Rates are per 100,000 and age-adjusted to the 2000 US Standard Population (19 age groups - Census P25-1126)
  - Non-Hispanic blacks had the highest incidence of prostate cancer among all race groups (97.1 per 100,000) in CRGC regions during 2005-2012.
  - Asian/Pacific Islanders had the lowest incidence of prostate cancer among all race groups (31.4 per 100,000) in CRGC regions during 2003-2012.
Hiring a Cancer Reporting Contractor

• Identified issues with role responsibilities between cancer reporting contactors and reporting facilities
• Developed a Checklist for Hiring Cancer Reporting Contractors
• Distributed and posted to the CRGC web site
Coding Prostate PSA Values

• Concern from SEER regarding prostate PSA value coding
• Review of 2013 prostate cases (8200+ cases) from CRGC (6.3% error rate thus far)
• Developed a Prostate PSA coding guideline document
**Prostate - CS Site Factor 1 - PSA Lab Value Coding Guideline**

**implied decimal point between 2nd and 3rd digits**

1. One or two digit number—no decimal or decimal at the far right/end

<table>
<thead>
<tr>
<th>PSA Value Recorded</th>
<th>SSF1 Code</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>15</td>
<td>150</td>
<td>Add zero to far right/end</td>
</tr>
<tr>
<td>23</td>
<td>220</td>
<td>Add zero to far right/end</td>
</tr>
<tr>
<td>6</td>
<td>060</td>
<td>Add zero before and after number</td>
</tr>
</tbody>
</table>

2. Two digit number—decimal in between the 2 numbers

<table>
<thead>
<tr>
<th>PSA Value Recorded</th>
<th>SSF1 Code</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>5.6</td>
<td>056</td>
<td>Add zero to far left/front of number</td>
</tr>
<tr>
<td>4.4</td>
<td>044</td>
<td>Add zero to far left/front of number</td>
</tr>
</tbody>
</table>

3. Three digit number—decimal between the 2nd and 3rd digit

<table>
<thead>
<tr>
<th>PSA Value Recorded</th>
<th>SSF1 Code</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>13.5</td>
<td>115</td>
<td>Record as is without decimal</td>
</tr>
<tr>
<td>04.3</td>
<td>063</td>
<td>Record as is without decimal</td>
</tr>
</tbody>
</table>

4. Three digit number—decimal between the 1st and 2nd digit

<table>
<thead>
<tr>
<th>PSA Value Recorded</th>
<th>SSF1 Code</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>7.10</td>
<td>071</td>
<td>Add zero to far left/front of number. Drop the 3rd digit and use it to determine if the 2nd digit is rounded up or stays the same. Since the 3rd digit is less than 5 it does not affect the 2nd digit and it remains a 1.</td>
</tr>
<tr>
<td>7.15</td>
<td>072</td>
<td>Add zero to far left/front of number. Drop the 3rd digit and use it to determine if the 2nd digit is rounded up or stays the same. Since the 3rd digit is equal to or more than 5, then round up the .15 to 2.</td>
</tr>
</tbody>
</table>

5. Four digits—decimal in the middle

<table>
<thead>
<tr>
<th>PSA Value Recorded</th>
<th>SSF1 Code</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>26.63</td>
<td>266</td>
<td>Drop the 4th digit and use it to determine if the 3rd digit stays the same or is rounded up. Since the 4th digit is a 3 and that is less than 5, the 3rd digit remains a 6.</td>
</tr>
<tr>
<td>26.67</td>
<td>267</td>
<td>Drop the 4th digit and use it to determine if the 3rd digit stays the same or is rounded up. Since the 4th digit is a 7 and that is greater than 5, then round up the .67 to 7.</td>
</tr>
</tbody>
</table>

6. The actual value of 98.0 or any value over 98.0

<table>
<thead>
<tr>
<th>PSA Value Recorded</th>
<th>SSF1 Code</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>98.0</td>
<td>980</td>
<td>Record actual value</td>
</tr>
<tr>
<td>98.1</td>
<td>980</td>
<td>Use code 980 if the actual value of the test exceeds 98.0</td>
</tr>
<tr>
<td>98.0</td>
<td>980</td>
<td>Use code 980 if the actual value of the test exceeds 98.0</td>
</tr>
</tbody>
</table>

7. Text mentions a statement about PSA but no exact PSA value—997 (do not code 999)

<table>
<thead>
<tr>
<th>PSA Statement Recorded</th>
<th>SSF1 Code</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>PSA elevated</td>
<td>997</td>
<td>PSA elevated means it was known that the test was done, but exact numerical results are not in the chart</td>
</tr>
<tr>
<td>PSA abnormal/normal, equivocal/logistic</td>
<td>997</td>
<td>Any generic PSA interpretation indicates the test was done, but an exact numerical value may not be available to you.</td>
</tr>
</tbody>
</table>

Cancer Registry of Greater California 4/28/2015
Male Breast Cases – Are they really males?

• Inspired by an article in a peer review journal and NAACCR blog regarding misclassification of gender in central cancer registries

• Reviewed CRGC cases of male breast cancer, 2013 and 2014
## Review of CRGC Male Breast Cases, 2013-2014

<table>
<thead>
<tr>
<th>Diagnosis Year</th>
<th>Number of Male Breast Cases Reviewed</th>
<th>Number of Gender Coding Errors</th>
</tr>
</thead>
<tbody>
<tr>
<td>2013</td>
<td>125 tumor level (151 admissions)</td>
<td>14 (11.2%)</td>
</tr>
<tr>
<td>2014</td>
<td>90 tumor level (113 admissions)</td>
<td>12 (13.3%)</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>215</strong></td>
<td><strong>26</strong></td>
</tr>
</tbody>
</table>
Male Breast Cases – Next Steps

• Identify mechanisms to minimize the risk of these gender errors in the future

• Monitor efforts to implement an edit via NAACCR based on first name and gender (using the Social Security Administration names by gender list)

• Consider suggestion for the California abstracting standards document to document the patient gender for all male breast cases
Lung CS Extension Coding Guideline

• Identified inconsistencies in the use of specific CS Lung Extension codes 100, 300 and 999 through a statewide lung recoding audit
• Created and posted a brief 15 minute webinar recording - Abstracting and Coding Talk (ACT)
• Developed a Lung CS Extension Guideline
LUNG

CS Extension

The following guidelines are the minimal criteria for using Lung CS Extension codes 100, 300, and 999:

Code 100
- Tumor size and sub-site are documented in a chest x-ray, CT or PET scan report, or scope findings and extension criteria in codes 110 through 250 have been ruled out.
- There is no mention or documented involvement of any of the following:
  - The main stem bronchus in scans or by physician (Code 210)
  - Tumor confined to the hilus (Code 210)
  - Tumor confined to the carina (Code 210)
  - Direct tumor invasion into an adjacent ipsilateral lobe (Code 220)
  - Atelectasis/obstructive pneumonitis/lung collapse (Code 400)
- Stage documentation has priority over a T category designation by an MD
- Use CS Extension codes 115, 120 or 125 only if there is no other involvement documented, except a T1, T1a, or T1b code designation by an MD.

Code 300
- Description of the tumor is not specific as to tumor size and sub-site
  - Chest x-ray, CT, or PET document location but not size
  - No mention of tumor invasion of adjacent ipsilateral lobe (code 220)
- CS Extension codes 110-250 have not been ruled out, but tumor appears confined to one lung.
  - See criteria under Code 100
  - No statement indicating localization to the lung, no statement regarding involvement of the pleura or mediastinum but tumor appears clinically confined to one lung.

Code 999
- No chest x-ray, CT, PET, or scope documentation
- No physician statement of stage
- Multiple bilateral nodules, primary tumor has not been determined and there is no information on extension
- Chest x-ray, CT, or PET scan are available, however there is not enough documentation to assign CS Extension and there is no physician statement of any T code designation.

Reminder: According to the AJCC, "pleural based" means location, not involvement. If that is the only extension information in the medical record, do not code CS Ext 430, involvement of the pleura (IA Forum). Pleural thickening does not equate to pleural involvement. Use the criteria in Lung CS Extension codes 100/300.

March 25, 2015
CRGC ACT: Lung CS Extension
Case Transmit Audits

- Identify cases written to a transmit file but never loaded into the central registry database management system
- Request a copy of the reporting facility cancer database
- Run a linkage program to identify reporting facility cases not found in the central database
- Flag missed cases in the reporting facility database
- Resolve any edit issues
- Upload missed cases into the central database
- Report findings to the reporting facility
## Case Transmit Audits - Results

<table>
<thead>
<tr>
<th>Facility</th>
<th>Number of Missed Cases</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>43</td>
</tr>
<tr>
<td>B</td>
<td>72</td>
</tr>
<tr>
<td>C</td>
<td>80</td>
</tr>
<tr>
<td>D</td>
<td>196 (103 cases diagnosed in 2013)</td>
</tr>
<tr>
<td>E</td>
<td>9</td>
</tr>
<tr>
<td>F</td>
<td>35</td>
</tr>
<tr>
<td>G</td>
<td>24</td>
</tr>
<tr>
<td>H</td>
<td>121</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>580</strong></td>
</tr>
</tbody>
</table>
Casefinding Audit Enhancement

• Request an Medical Record Disease Indices (MRDI) listing of reportable ICD-9-CM codes from the reporting facility for specific months
• Develop a linkage routine to match facility cases against the cases from that facility in the central database
• Expedite the process and decreases the number of manual case inquiry and reviews conducted by the auditor
• Enable auditor to perform more casefinding audits annually
• See NAACCR poster presentation by Scott Riddle and Nankee Singh, “Partially Automating the Casefinding Audit Process”
Current Projects Underway

• Develop a Melanoma CS Site Specific Factor 1 – Breslow’s Depth Coding Guideline for registrars
• Review of breast cases involved with the Oncotype Dx linkage
• Revise the Visual Editing Guideline document revision for 2015
Communicate, Communicate!

- Convene bi-weekly Visual Editing Huddles
- Convene monthly CRGC Data Quality Team meetings
- Review and distribute the monthly SEER Data Quality Profile Indicators report
- Issue quarterly newsletter for registrars
- Issue News Broadcasts – new SEER SINQ postings
- Issue Reporting Advisories – abstracting clarifications
Summary

- Develop a diverse and robust data quality assurance plan
- Take a multidisciplinary approach to resolving issues
- Seek data quality ideas and inspiration from various sources
- Be timely and agile to respond to data concerns
- Seek operational process improvement efficiencies as part of any data quality activity
- Share findings and improvement suggestions
Conclusion

Make your village (aka registry) shine through, diverse, comprehensive, targeted, impactful quality assurance activities to improve data quality and promote efficiencies!
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  • Stephanie Phipps, CTR, Data Management/Data Collection
  • Crickett Dyke, CTR, Desert Sierra Cancer Surveillance Program
  • Nai Fernandez, CTR, Desert Sierra Cancer Surveillance Program
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Thank You!