When Policy Affects Data

The Effect of CoC's Shift in Staging Requirements

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Brief History of CoC’s Staging Requirements

• < 1990 – Gradual phase-in of AJCC staging
• 2004 – Managing physician must stage
• 2004 – CS implemented
  – FORDS: Registrars must copy physician stage
• 2008 – Major change in CoC requirements
  – CS serves function similar to pathologic staging
  – Programs monitor use of physician staging in treatment planning; dropped “copy” requirement
  – Clinical stage must be coded in abstract, staged by the registrar if not available from physician
2004 diagnoses: AJCC and CS compared

- Unknown stage vs. known; General stage group vs. substage
- More unknown in the following situations:
  - Physicians AJCC: cases for which staging would not affect treatment (0 and IV)
  - Physicians AJCC: information required beyond the pathology report (thyroid uses age, histology)
  - Registrars CS: instructions use terminology that registrars are not taught to interpret
  - Registrars CS: Information not in hospital record
- Not many outright disagreements

Shifting from AJCC to CS in reports

- Which data items to display?
  - CS Derived stage
  - pStage
  - cStage
  - Combined pStage and cStage
  - Combined stage supplemented with CS
- Evaluation of effect of CoC staging rules
  - Completeness of staging
  - Role of person who assigns stage
2009: Comparison among staging items

- Sites selected (2003 – 2007)
  - Breast
  - Pancreas
  - Prostate
  - Non-small cell lung carcinoma
  - Small cell lung carcinoma
  - Colon
  - Rectum
  - Ovary

- Evaluated
  - Completeness (percent unknown)
  - Distributions by selected registry items

Did CS implementation increase AJCC unknowns?

CS vs. AJCC - Percent Unknown - Pancreas

CS vs. AJCC - Percent Unknown - Colon and Rectum
How consistent are AJCC and CS stage groups?

**pStage:** Surgically treated patients, stage known, 2008

**cStage:** Non-surgical patients, stage known, 2008
### Effect of stage item choice on distribution of surgery

#### Type of Breast Cancer Primary Site Surgery, 2007: Percent of Stage Group

<table>
<thead>
<tr>
<th>Type of Surgery</th>
<th>Stage I</th>
<th>Stage II</th>
<th>Stage III</th>
<th>Stage IV</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>Comb CS</td>
<td>Comb CS</td>
<td>Comb CS</td>
<td>Comb CS</td>
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<tr>
<td>None</td>
<td>1.6</td>
<td>1.6</td>
<td>3.1</td>
<td>3.3</td>
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<td>Partial Mastectomy</td>
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<tr>
<td>Simple Mastectomy</td>
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<td>19.8</td>
<td>23.3</td>
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<tr>
<td>Mod Radical Mastectomy</td>
<td>8.5</td>
<td>8.4</td>
<td>23.2</td>
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<tr>
<td>Mastectomy, NOS</td>
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<td>0.2</td>
<td>0.5</td>
<td>0.4</td>
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<tr>
<td>Other Type of Surgery</td>
<td>0.8</td>
<td>0.8</td>
<td>1.1</td>
<td>1.2</td>
</tr>
<tr>
<td>Unknown if Primary Surgery</td>
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<td>0.2</td>
<td>0.2</td>
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</tbody>
</table>

### Effect of stage item choice on treatment modalities

#### Pancreas Treatment Modalities, 2007: Percent of Stage Group

<table>
<thead>
<tr>
<th>Treatment Modality</th>
<th>Stage I</th>
<th>Stage II</th>
<th>Stage III</th>
<th>Stage IV</th>
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<td>Comb CS</td>
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<td>Comb CS</td>
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<td>Surgery Only</td>
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<td>Surgery + Chemotherapy</td>
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<td>11.6</td>
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<td>Radiation + Chemotherapy</td>
<td>8.4</td>
<td>8.5</td>
<td>10.3</td>
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<td>Chemotherapy Only</td>
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<td>Surg + Rad + Chemo</td>
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<td>8.5</td>
<td>19.9</td>
<td>19.6</td>
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<tr>
<td>Other Combinations</td>
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<td>16.3</td>
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</tbody>
</table>
2011: What happened with rule change in 2008?

- Stageable cases from the 11 most frequent sites
  Diagnosis years 2006-2009
  - Thyroid
  - Colon
  - Exocrine Pancreas
  - Small Cell Lung Carcinoma
  - Melanoma of Skin
  - Breast
  - Corpus Uterus
  - Prostate
  - Kidney
  - Urinary Bladder
  - Non-Hodgkin Lymphoma of Lymph Nodes

Did pathologic AJCC staging decrease?

Percent Known pStage

- 2006
- 2007
- 2008
- 2009
Did clinical AJCC staging increase?

Are registrars assigning AJCC pathologic stage more often?
Are registrars assigning AJCC clinical stage more often?

Does it matter who stages the case (2009)?

Breast: pathologic
Does it matter who stages the case (2009)?

Colon: pathologic

Pancreas: pathologic
Does it matter who stages the case (2009)?

Thyroid: pathologic

Conclusions: The Data

- AJCC staging declined somewhat when CS implemented
  - but reversed thereafter until 2008
- Minimal discrepancies between CoC “combined” stage and CS; may yet be some site-specific differences
- AJCC staging declined substantially a year after CoC physician staging rules changed
  - Registrars providing more cStage than before
  - pStage infrequently staged by registrars, little change
- Controlling for surgery, little difference between pStage or cStage and CS
Conclusions: NCDB Action

• If Combined Stage retained
  – Total number staged decreases
  – Relative mix of clinical and pathologic stage shifts

• NCDB will use CS for its routinely posted tables (2004+)

• NCDB will provide all measures (All CS and AJCC items) for its Participant User Files