Estimating the Impact of the Transition to ICD-10 on Medicare Inpatient Hospital Payments

ICD-10 Coordination and Maintenance Committee
March 18, 2015
Objective

To estimate the impact on aggregate IPPS MS-DRG payments to hospitals due to the transition to ICD-10 on October 1, 2015.
Disclaimer

• MS-DRGv33 for FY2016 using ICD-10 is going through the rule-making process.

• These estimates are based on
  – MS-DRGv32
  – FY2015 weights
Terminology

• “Grouper”
  – The software that assigns a MS-DRG based on coded diagnoses, procedures, sex and discharge status.

• “DRG shift”
  – When the MS-DRG from a record coded in ICD-9 is different from the MS-DRG from the same record coded in ICD-10.

• “MCC” or “CC”
  – Secondary diagnosis designated (major)complication/co-morbidity.
Results
(Using about 10 million FY2013 MedPAR records)

- 0.41% had DRG shift to higher paying DRG
  $13 more per $10,000 (+0.13%)
- 0.66% had DRG shift to lower paying DRG
  $17 more per $10,000 (-0.17%)
- Net: 1.07% with a DRG shift
  $4 less per $10,000 (-0.04%)
- Statistically zero
More good news…

• Anecdotal evidence from some institutions which have dual coded ICD-9 and ICD-10, or have re-coded ICD-10 records with apparent MS-DRG shifts:
  – Coder coded records are less likely to change their MS-DRG from ICD-9 to ICD-10
  – Actual net reimbursement impact may be even less than that estimated here.
## Impact by hospital type

<table>
<thead>
<tr>
<th>Hospital type</th>
<th>Hospitals</th>
<th>Avg reimb</th>
<th>DRG shifts</th>
<th>Net reimb change</th>
</tr>
</thead>
<tbody>
<tr>
<td>All</td>
<td>3,205</td>
<td>10,678</td>
<td>1.07%</td>
<td>-0.04%</td>
</tr>
<tr>
<td><strong>Indirect Medical Education</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Top 10%</td>
<td>103</td>
<td>20,993</td>
<td>1.25%</td>
<td>-0.01%</td>
</tr>
<tr>
<td>All others</td>
<td>3,102</td>
<td>9,993</td>
<td>1.06%</td>
<td>-0.05%</td>
</tr>
<tr>
<td><strong>Disproportionate Share Hospitals</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>To 20%</td>
<td>641</td>
<td>13,186</td>
<td>1.22%</td>
<td>-0.05%</td>
</tr>
<tr>
<td>Middle 60%</td>
<td>1,923</td>
<td>10,146</td>
<td>1.05%</td>
<td>-0.04%</td>
</tr>
<tr>
<td>Bottom 20%</td>
<td>641</td>
<td>9,716</td>
<td>0.98%</td>
<td>-0.02%</td>
</tr>
<tr>
<td><strong>Location</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Large Urban</td>
<td>1,340</td>
<td>11,908</td>
<td>1.13%</td>
<td>-0.04%</td>
</tr>
<tr>
<td>Other Urban</td>
<td>1,084</td>
<td>10,112</td>
<td>1.02%</td>
<td>-0.04%</td>
</tr>
<tr>
<td>Rural</td>
<td>781</td>
<td>7,081</td>
<td>1.00%</td>
<td>-0.06%</td>
</tr>
<tr>
<td><strong>Size</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Top 10%</td>
<td>320</td>
<td>12,757</td>
<td>1.08%</td>
<td>-0.02%</td>
</tr>
<tr>
<td>All others</td>
<td>2,885</td>
<td>9,676</td>
<td>1.07%</td>
<td>-0.05%</td>
</tr>
</tbody>
</table>
Estimated % change for top 25 MS-DRGs by expected reimbursement

-1.0% -0.5% 0.0% 0.5% 1.0% 1.5% 2.0%

- Major small & large bowel procedures w CC
- Renal failure w CC
- Major small & large bowel procedures w MCC
- Esophagitis, gastroent & mise digest disorders w/o MCC
- Renal failure w MCC
- ECMO or trach w MV 96+ hrs or POX exc face, mouth &...
- Infectious & parasitic diseases w O.R. procedure w MCC
- Septicemia or severe sepsis w/o MV 96+ hours w MCC
- Respiratory system diagnosis w ventilator support <96...
- Pulmonary edema & respiratory failure
- Heart failure & shock w MCC
- Respiratory system diagnosis w ventilator support 96+...
- Trach w MV 96+ hrs or POX exc face, mouth & neck w/o...
- Perc cardiovasc proc w drug-eluting stent w/o MCC
- Hip & femur procedures except major joint w CC

Your results will depend on case mix
Why can’t the ICD-10 grouper be made to behave exactly like the ICD-9 grouper?
Unavoidable differences

• Myth:
  – ICD-10 just adds detail to ICD-9

• Reality:
  – Distinctions no longer in common use have been removed from ICD-10.
  – Some areas (e.g. OB) use a different approach to classification.
  – ICD-10-PCS procedure codes have no diagnostic content.
  – Some coding guidelines have changed.
Replicating the MS-DRG grouper for ICD-10

• Distinctions made by ICD-10 not available in ICD-9?
  – No problem.
  – 130,000 out of 140,000 codes (93%)

• Distinctions made by ICD-9 (and used by grouper) no longer available in ICD-10?
  – Presents challenges that must be handled individually.
How shifts were minimized

• When an ICD-10 code contains conditions previously classified in different ICD-9 codes:
  – Treat the ICD-10 code like the more frequently occurring ICD-9 code
  – Cases coded with the less frequent ICD-9 code, when re-coded in ICD-10 may go into a different MS-DRG
Example – reconciling differences

• Two codes different in ICD-9
  – 311, Depressive disorder, NEC
    • Not a CC. About 50 per 1,000 records
  – 296.20, Major depression, unspecified
    • A CC. About 5 per 1,000 records

• Both translate to F32.9 in ICD-10
  – Must make F32.9 like 311 (a non-CC)
  – Records with 296.20 in ICD-9 but F32.9 in ICD-10 will shift to a lower paying MS-DRG.
Impact estimates are sensitive to the quality of the ICD-10 coding
How our estimates were made

1. Start with 10 million FY2013 MedPAR records coded in ICD-9
2. Group them using ICD-9 MS-DRGv32
3. Mechanically convert the records to ICD-10
4. Group those using ICD-10 MS-DRGv32 grouper
5. Compare results using FY2015 weights
How our estimates were made

10 Million MedPAR ICD-9

Translate to ICD-10

10 Million MedPAR ICD-10

MS-DRGv32 ICD-9 grouper

MS-DRGv32 ICD-10 grouper

Compare

Critical step
Mechanical translation

• Using only the information in the ICD-9 codes, correctly code the record in ICD-10

• Ask “What would the coder do?”

• Using the GEMs requires careful logic

• The next three slides provides some specific examples
Translating procedures

• Groups of ICD-9 procedure codes may translate into single ICD-10-PCS codes.
  – Example: PTCAs
    • Up to 5 codes in ICD-9, one code in ICD-10

• ICD-10 does not include procedure information in diagnoses
  – Example: Obstetrics codes
    • Imply delivery in ICD-9 but need explicit procedure in ICD-10
Using clusters

• One ICD-9 code sometimes translates into more than one ICD-10 code in order to convey the same meaning. Example:

• ICD-9:
  – 241.11, Secondary diabetes with ketoacidosis, uncontrolled

• ICD-10
  – E08.10 Diabetes … with ketoacidosis
  – E08.65 Diabetes …with hyperglycemia
Using the GEMs

• A careful interpretation of the flow of meaning between codes in the GEMs is required to use them effectively.
• Explanation of GEMs formation is provided on the CMS site where GEMs are found
• Much written about this elsewhere
When these techniques aren’t used...

<table>
<thead>
<tr>
<th>Translation technique</th>
<th>DRG shifts</th>
</tr>
</thead>
<tbody>
<tr>
<td>Translation as performed.</td>
<td>1.07%</td>
</tr>
<tr>
<td>Not using procedure translation logic</td>
<td>3.5%</td>
</tr>
<tr>
<td>Not using clusters</td>
<td>4.5%</td>
</tr>
<tr>
<td>Using I9-to-I10 GEM only</td>
<td>6.5%</td>
</tr>
<tr>
<td>- Eight DRGs disappear (100% shift)</td>
<td></td>
</tr>
<tr>
<td>- Forty DRGs have 50% or higher shift</td>
<td></td>
</tr>
</tbody>
</table>
Common MS-DRG shifts

• 40% of shifts to lower weight MS-DRGs come from losing a CC or MCC

• 75% of shifts to higher weight MS-DRGs come from gaining a CC or MCC
Dual coding study

A coder with access to the original medical record will create more accurate codes than mechanical translation

- Coders code in ICD-9
- Group the ICD-9 coded records
- Coders code the same records in ICD-10
- Group the ICD-10 coded records
- Compare
Cautionary example

• 100 cases (a pilot study)
• 20 of them appeared to have a DRG shift but further analysis showed:
  – In 9 of these the ICD-10 coder found clinical facts the ICD-9 coder missed
  – In 9 others the ICD-9 coder found clinical facts the ICD-10 coder missed
  – Only 2 cases out of the 100 actually had DRG shifts due to differences between ICD-9 and ICD-10
Coding issues can impact DRG reimbursement more than the differences between ICD-9 and ICD-10
First year documentation improvement

• Documentation improvement targeted only on new ICD-10 detail may be useful in the long run, but may not impact the first year MS-DRG reimbursement.

• Areas where ICD-10 no longer works like ICD-9:
  – Code procedures. Do not rely on diagnoses.
  – “Malignant” hypertension
  – “Unspecified” diagnoses accepted as CC/MCC
Summary

• For a typical case mix, expect
  – About 1% of the cases shift MS-DRG
  – Net impact statistically zero

• Coding issues can have a greater impact than the differences between ICD-9 and ICD-10

• If you do an analysis like this with your own data, pay close attention to the mechanism you use to translate from ICD-9 to ICD-10.
Article Describing Impact

- Estimating the Impact of the Transition to ICD-10 on Medicare Inpatient Hospital Payments
- [http://www.cms.gov/Medicare/Coding/ICD-10/ICD-10-MS-DRG-Conversion-Project.html](http://www.cms.gov/Medicare/Coding/ICD-10/ICD-10-MS-DRG-Conversion-Project.html) (First zipped documents under Downloads)
Questions

10 Million MedPAR ICD-9

Translate to ICD-10

10 Million MedPAR ICD-10

MS-DRGv32 ICD-9 grouper

Compare

MS-DRGv32 ICD-10 grouper

Translate to ICD-10