A Novel Approach to Calculating Medicare Hospital 30-Day Readmissions for the SAS® Novice

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This E-poster showcases:

• Updated ICD-10 (International Classification of Diseases) coding of:
• Acute Myocardial Infarction, Congenital Heart Failure and Pneumonia

• Using the SAS DATA Step as well as PROC SQL to:
  1) De-identify patient data,
  2) Calculate sequential admissions, and
  3) Subset criteria required

Introduction:

• Medicare: $17 B in annual expenditures related to readmissions
• Exposes gaps in the Inpatient Prospective Payment System
• Quality of life issues – caregiver and patient
• KPI used by healthcare facilities to measure success
METHODS

Two comparative data sets:
1. June 2015 and
2. January 2016

Minimum necessary data elements:
• Discharge date
• Discharge disposition
• Medical record number (MRN)
• Payer upon admission
• Primary disease state
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RESULTS

Getting to the results with two different options:

- DATA Step
  
  **Sub-steps:**
  1. De-identify MRN
  2. Sequence readmits & categorize the disease states
  3. Determine gaps between sequential readmits
  4. Calculate LOS

- PROC SQL
  
  **Sub steps:**
  1. Combining several DATA steps into one block of code to produce steps 1 – 4 from the DATA Step
  2. Use of an inner join

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<th>Patient ID</th>
<th>SeqNo</th>
<th>Readmissions</th>
<th>ICD9/10 Primary Diagnosis</th>
<th>ICD9/10 Grouping</th>
<th>Gap to Readmission (d)</th>
<th>Length of Stay (d)</th>
<th>Index Date</th>
<th>Index Reference Date</th>
<th>Discharge Date</th>
<th>Discharge Disposition</th>
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CONCLUSIONS

• Medicare data supports improved outcomes
• Reproducible “use case” with ICD-10
• Lends itself to adding many other variables
• Build predictive model for those most “at risk”
• Provide proactive clinical interventions

Lessons Learned:
• Many ways in SAS® to achieve desired result
• Less hard-coding, more “elegant” coding
• Future steps: Automate, automate, automate!
KEY REFERENCES


