Carotid Doppler Ultrasound - Report Standardization to Improve PQRS Measure Outcome

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Disclosures

- Travis Browning, MD
  - Physician Advisory Council – Hewlett-Packard through VisionIT
  - Clinical Advisor – McKesson Enterprise Medical Imaging Group
- Kristen Bishop, MD
  - None
- Richard Batz, MD
  - None
- Julie Champine, MD
  - Physician Advisory Council – peerVue (McKesson Enterprise Medical Imaging Group)
Objectives

- To evaluate and improve successful application of PQRS measure #195 for carotid Doppler ultrasound imaging
  - PQRS – Centers for Medicare & Medicaid Services (CMS) Physician Quality Reporting System
- To standardize the practice’s reporting format and process including across
  - Different divisions
  - Different hospital systems

PQRS Measure #195 (NQF 0507)

- Physician Quality Reporting Measure
- Stenosis measurement in carotid imaging reports
  - Percentage of final reports that include direct or indirect reference to measurements of distal internal carotid diameter as the denominator for stenosis
  - Applied via CPT 3100F
  - Applicable for Medicare populations only
The System

- Locations – 2 hospital systems
  - Academic practice
  - County hospital system
- Radiologists
  - 3 reporting divisions
    - Abdominal, VIR, General Radiology
  - 33 faculty radiologists
  - 6 radiology fellows
  - 53 radiology residents
- Radiology reporting application
  - Nuance PowerScribe 5.0
  - Nuance PowerScribe 360
- Automated billing coding system
  - 3M CodeRyte CodeAssist

Building the Team

- Organized under the hospital practice medical directors
- Included
  - Abdominal, VIR, and General Radiology representatives
  - Informaticist and structured reporting champion
  - Administrative revenue cycle manager
- Utilized MOC (Maintenance of Certification) Quality Project as project basis and incentive for participation
  - PDSA cycle (Plan-Do-Study-Act) as quality improvement project framework
Evaluation

- Radiology practice had previous consensus to use stenosis assessment standards
  - Based on Society of Radiologists in Ultrasound Consensus Conference from 2003
- Inconsistent reporting of this standard
  - Mix use of personal and system templates
  - System template did not reference the standard
- Reviewed ACR for best practice in reporting
- Pre-change application of PQRS CPT code was not 100%
  - Target was 100% success of application

Reporting Template

- System key changes
  - Technique section discrete language regarding use of reporting standard for measurements
  - Structured formatting of the report to include all pertinent Doppler measurements
    - Template usability testing by project team member
    - Deletion of conflicting system templates
  - Use reinforced by medical directors and division leaders
**Improved system template**

**Data**

- Used billing data as source of information
  - Coding system applied both imaging exam and PQRS CPT codes
  - Date Range 1/1/2013 to 9/25/2014
    - Initial change date 9/16/2013
- Data reviewed for successful application of the PQRS CPT code
- Reports where PQRS CPT code failed to be applied were reviewed for system template usage
PDSA Cycles

- **Pre-change**
  - Initial review of data – successful application of PQRS code 63% of the time
    - Initial review data later altered by subsequently identified issues with billing data
  - Reporting system template change
    - After hours 9/16/2013

PDSA Cycles

- **Data evaluation 12/19/2013**
  - Review: Identified exams where PQRS code was not applied
    - System template was always used
    - Coding system should have applied code
  - Vendor response: PQRS only applied to Medicare patients and “failures” were not Medicare patients
  - Change: Review to refocus on Medicare patients
    - Initial provided billing data report had been auto-filtered for Medicare patients
    - Change: Report to include and indicate all Payors, data then manually filtered for Medicare by project team
PDSA Cycles

- Data evaluation 1/8/2014
  - Review: Identified Medicare exams where PQRS code was not applied
    - System template was always used
    - Coding system should have applied code
  - Vendor: Based on original and current Payor status changing Medicare status, the PQRS code was not being applied
  - Change: Data report amended to include original and current Payor

Removing Duplicates

- Addition of original and current Payor element
  - Highlighted apparent duplication of data
    - Each Payor change created a new billing item and a retraction of billing item
  - 1713 carotid Doppler ultrasound exams in data range
    - 1637 individual patients
  - 463 instances of rebilling due to Payor changes
    - Affected 360 patients
    - Most with 1 instance per patient
    - As many as 13 instances per patient
  - Future data reports designed to filter this out
  - "Payor and changing Payor issues altered the initial review data"
PDSA Cycles

Data evaluation 3/27/2014

- Review: Identified Medicare exams where PQRS code not applied (both original and current Payor examples)
  - System template was always used
  - Coding system should have applied code
- Vendor response: Payor changing status continues to affect the process
- Change: Requested vendor to apply PQRS regardless of Payor

PDSA Cycles

Data evaluation 6/24/2014

- Review: Continued to identify failures in applying PQRS code
  - System template was always used
  - Coding system should have applied code
- Vendor response: Requested change had not been made
- Change: Vendor change made and confirmed on 6/27/2014
  - Final evaluation 10/1/2014 with successful application of PQRS code 100% of the time
PQRS Measure #195 – Medicare Original Payor

<table>
<thead>
<tr>
<th>Prechange</th>
<th>Post Template</th>
<th>Post Coding System Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>PQRS Success</td>
<td>289</td>
<td>351</td>
</tr>
<tr>
<td>PQRS Failure</td>
<td>37</td>
<td>23</td>
</tr>
<tr>
<td>% PQRS Success</td>
<td>48.6%</td>
<td>93.85%</td>
</tr>
<tr>
<td>% PQRS Failure</td>
<td>11.33%</td>
<td>6.15%</td>
</tr>
</tbody>
</table>

Number of Imaging Exams

PQRS Measure #195 – Medicare Adjusted Payor

<table>
<thead>
<tr>
<th>Prechange</th>
<th>Post Template</th>
<th>Post Coding System Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>PQRS Success</td>
<td>277</td>
<td>328</td>
</tr>
<tr>
<td>PQRS Failure</td>
<td>36</td>
<td>21</td>
</tr>
<tr>
<td>% PQRS Success</td>
<td>48.5%</td>
<td>93.98%</td>
</tr>
<tr>
<td>% PQRS Failure</td>
<td>11.5%</td>
<td>6.15%</td>
</tr>
</tbody>
</table>

Number of Imaging Exams
PQRS Measure #195 – All Payors

<table>
<thead>
<tr>
<th></th>
<th>Prechange</th>
<th>Post Template CPT Code with System Change</th>
<th>Post Template CPT Code without System Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>PQRS Success</td>
<td>302</td>
<td>366</td>
<td>221</td>
</tr>
<tr>
<td>PQRS Failure</td>
<td>305</td>
<td>399</td>
<td>0</td>
</tr>
<tr>
<td>% PQRS Success</td>
<td>43.33%</td>
<td>49.81%</td>
<td>100.00%</td>
</tr>
<tr>
<td>% PQRS Failure</td>
<td>56.67%</td>
<td>50.19%</td>
<td>0.00%</td>
</tr>
</tbody>
</table>

Project Outcomes

- 100% successful application of PQRS CPT code for measure #195 (NQF 0507) when using the system template
- No identified instances of radiologist failure to use the appropriate template as the cause for non-application of the PQRS CPT code
- Improved understanding of the billing processes
  - As well as the abilities and limitations of the automated billing coding system
- Interest from other divisions to replicate this project for carotid MRA and CTA imaging
Lessons Learned

- Billing data is not as clean as might be anticipated
  - Changes in Payors complicates the process
  - Data is often centric around billing date rather than exam date
  - Requires time to pass prior to assessing change effect (related to billing cycle length)
  - Rebilling can cause data duplication if you are unaware of the process
- Physician practice pattern can be effectively directed through use of system templates
  - In fact, no radiologist was ever the point of process failure in this project
- Utilizing automated tools requires in depth understanding and testing of workflows to assess impact of changes
  - Vendor relationship management is important to such projects