Radiologists' preferences in peer-learning and peer-review

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Introduction/Purpose

- Traditional score-based (SB) peer-review systems in radiology involve studies chosen at random and are often anxiety-inducing and associated with punitive learning.
- Radiology departments are increasingly transitioning from an environment of retrospective peer-review to one that promotes active, nonpunitive peer-learning.
- Learning opportunities frequently encountered during the daily workflow will become missed opportunities for learning and improvement unless collected and shared.
- Active identification allows section leaders to review areas that need the most attention and include cases with the most educational benefit in peer-learning initiatives.
- These voluntary case submissions encourage continuous practice improvements among radiologists and improved service to patients and referring providers.
Methods

- We developed a voluntary peer-learning (PL) case submission module called Peer-to-Peer Education (P2PE) for interesting cases encountered during daily workflow.
- PL case submissions provide opportunities for improvement in interpretation and reporting, patient care, and results communication and include “great call” cases to be shared in PL conferences organized by section chiefs.
- A 22-question survey was distributed 3 years after implementation of P2PE to score-based peer-review system.
Results

PL case submissions and P2PE participation by radiologists increased over time.

- 588 actively identified peer-learning cases during the first 30 months of P2PE from January 2016 to June 2018
  - Peer-learning opportunities: 522 (89%)
  - Great calls: 65 (11%)
  - Receiving radiologists: 123
    - Average per radiologist: 4.7
    - Range: 1 to 30
  - Submitting radiologists: 63
    - Average per radiologist: 9.3
    - Range: 1 to 70

- Increased participation by radiologists:
  - 401 cases in the first 2 years after system implementation for an average of 17 cases per month
  - 182 cases in the most recent 6 months for an average of 30 cases per month
Results

PL identified common areas for targeted improvement by subspecialty and anatomy.

- 77% of cases were Body and Neuro
- Breast, Interventional Radiology, and Nuclear Medicine were the least received
- Abdomen/Pelvis (31.7%), Chest (24.9%), and Musculoskeletal (14.9%) had the most identified cases for peer learning
Results

Survey results were collected from 66 radiologists of various backgrounds.

<table>
<thead>
<tr>
<th>Primary Section</th>
<th>Percent</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Body</td>
<td>15%</td>
<td>10</td>
</tr>
<tr>
<td>CVT</td>
<td>1.5%</td>
<td>1</td>
</tr>
<tr>
<td>General</td>
<td>15%</td>
<td>10</td>
</tr>
<tr>
<td>MSK</td>
<td>7.5%</td>
<td>5</td>
</tr>
<tr>
<td>Nuclear/PET</td>
<td>3%</td>
<td>2</td>
</tr>
<tr>
<td>Ultrasound</td>
<td>6%</td>
<td>4</td>
</tr>
<tr>
<td>Breast</td>
<td>10.5%</td>
<td>7</td>
</tr>
<tr>
<td>Emergency</td>
<td>16.5%</td>
<td>11</td>
</tr>
<tr>
<td>Interventional</td>
<td>10.5%</td>
<td>7</td>
</tr>
<tr>
<td>Neuro</td>
<td>9%</td>
<td>6</td>
</tr>
<tr>
<td>Pediatric</td>
<td>4.5%</td>
<td>3</td>
</tr>
</tbody>
</table>

- Survey distributed after 3 years of experience
- Surveyed radiologists’ opinions on the value of randomized SB peer-review compared to PL

<table>
<thead>
<tr>
<th>Years in Practice</th>
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<tbody>
<tr>
<td>Less than 5 years</td>
<td>17%</td>
<td>11</td>
</tr>
<tr>
<td>5 – 10 years</td>
<td>15%</td>
<td>10</td>
</tr>
<tr>
<td>10 – 20 years</td>
<td>21%</td>
<td>14</td>
</tr>
<tr>
<td>More than 20 years</td>
<td>47%</td>
<td>31</td>
</tr>
</tbody>
</table>
Survey Results

Most radiologists regarded PL more favorably than the traditional SB peer-review.

<table>
<thead>
<tr>
<th>Primary Section</th>
<th>Randomized Peer Review</th>
<th>Peer Learning</th>
</tr>
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</table>
| Time spent per month on required randomized SB peer-review versus sending optional peer-learning cases | • <30 minutes – 6 (9%)  
• 30 minutes to 1 hour – 45 (68%)  
• 1 to 2 hours – 15 (23%)                                                      | • <30 minutes – 62 (94%)  
• 30 minutes to 1 hour – 4 (6%)  
• 1 to 2 hours – 0 (0%)                                                        |
| Improves knowledge sharing and learning among radiologists                      | • Yes – 21 (32%)  
• No – 23 (35%)  
• Unsure – 22 (33%)                                                          | • Yes – 41 (62%)  
• No – 5 (8%)  
• Unsure – 20 (30%)                                                          |
| Improves provisions of patient care                                             | • Yes – 24 (36%)  
• No – 24 (36%)  
• Unsure – 18 (27%)                                                          | • Yes – 44 (67%)  
• No – 4 (6%)  
• Unsure – 18 (27%)                                                          |
| Focuses on improving my practice rather than on placing blame                    | • Yes – 30 (45.5%)  
• No – 16 (24%)  
• Unsure – 20 (30%)                                                          | • Yes – 42 (63.5%)  
• No – 5 (7.5%)  
• Unsure – 19 (29%)                                                          |
Peer-Learning Survey Results

Most radiologists regarded PL more favorably than traditional SB peer-review.

- 63.5% believe the addition of PL to traditional SB peer-review is an improvement
- 56% agreed additional time needed for PL is worthwhile
- 32% believe addition of PL to traditional SB peer-review increased the number of cases reported
  - 41% responded “No”
  - 27% responded the “Same”
- 67% believe PL contributes more important learning material than the random auditing of cases
- 29% felt more comfortable pointing out errors via PL compared to traditional SB peer-review
  - 15% responded “No more comfortable”
  - 56% responded the “Same comfort level”
- 48% prefer PL be anonymized
Discussion

- The new Peer-to-Peer Education (P2PE) system for peer-learning has been widely used since implementation and resulted in increased motivation and participation by radiologists evidenced by increased number of PL case reviews as the program progressed.

- P2PE identified areas of needed improvement and provided section leaders with cases of the most educational benefit for our corporation.

- P2PE may help eliminate punitive peer-evaluation by creating an environment of peer-learning with the end goal of improving patient care and service.

- Most participating radiologists believe that PL is worthwhile and promoted education and patient safety more so than traditional SB peer-review.
References

- The Royal College of Radiologist (2017). Lifelong learning and building teams using peer feedback. *The Royal College of Radiologists*


