VALUE-ADDED IMAGING: BEYOND THE PLATITUDES

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radiology partners

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platitude
/ˈplædə(t)(y)əd/
noun
a remark or statement, especially one with a moral content, that has been used too often to be interesting or thoughtful.
"she began uttering liberal platitudes"
synonyms: cliché, truism, commonplace, banality, old chestnut, bromide, inanity, banal/trite/hackneyed/stock phrase
"boring us with his platitudes"

banal/trite/hackneyed/stock phrase
"boring us with his platitudes"
Overview: 3 Parts

I: Value-Added Imaging & Quality

II: Total Value- interpretive & non-interpretive

III: Why is this meaningful?

- Population health & value based payment matter
- They are relevant to pediatric radiology
- How we can be impactful
Quality
Quality: Art
<table>
<thead>
<tr>
<th>History: Fall onto right leg today jumping off a slide</th>
</tr>
</thead>
<tbody>
<tr>
<td>Comparison: None</td>
</tr>
<tr>
<td>Findings: Frontal and lateral radiographs of the right femur were obtained. There is an acute, obliquely-oriented fracture in the mid diaphysis of the femur. The distal fracture component is minimally displaced in a postero-medial direction relative to the proximal component. The bone appears normally mineralized and no additional fractures are seen. The hip and knee appear grossly unremarkable.</td>
</tr>
<tr>
<td>Impression: Acute right femur fracture</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>History: Trauma</th>
</tr>
</thead>
<tbody>
<tr>
<td>Findings/Impression: There is a fracture of the right femur.</td>
</tr>
</tbody>
</table>
Holistic Look at Radiology

- The Total Value Equation:

- A framework to help understand value creation

- Two parts: Interpretive and Non-Interpretive Value
TVE: The Equation

Total Value = Interpretive + Non-Interpretive

- Total Value = $V_T$
- Interpretive = $V_I$
- Non-Interpretive = $V_{NI}$

In its most simple form:

$$V_T = V_I + V_{NI}$$
Interpretive Value

- How well do we perform and interpret exams?
  - How fast do we do them
  - How well do we do them
  - How well do we report them
Report Accuracy

- How do we know if we’re doing a good job catching errors?
  - Peer review
  - ACR RadPeer

The ACR’s RADPEER™ program began in 2002; the electronic version, e-RADPEER™, was offered in 2005. To date, more than 10,000 radiologists and more than 800 groups are participating in the program. Since the inception of RADPEER, there have been continuing discussions regarding a number of issues, including the scoring system, the subspecialty-specific subcategorization of data collected for each imaging modality, and the validation of interfacility scoring consistency. This white paper reviews the task force discussions, the literature review, and the new recommended scoring process and lexicon for RADPEER.

Key Words: Peer review, medical errors, harm score, undercalls, overcalls, misinterpretations, disagreement rates

RadPeer Scoring

Table 1. Current RADPEER scoring system

<table>
<thead>
<tr>
<th>Score</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Concur with interpretation</td>
</tr>
<tr>
<td>2</td>
<td>Difficult diagnosis, not ordinarily expected to be made</td>
</tr>
<tr>
<td>3</td>
<td>Diagnosis should be made most of the time</td>
</tr>
<tr>
<td>4</td>
<td>Diagnosis should be made almost every time—misinterpretation of findings</td>
</tr>
</tbody>
</table>

Table 2. Summary of RADPEER scores

<table>
<thead>
<tr>
<th>Score</th>
<th>Percentage of Total Scored Cases</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>97.11</td>
</tr>
<tr>
<td>2</td>
<td>2.51</td>
</tr>
<tr>
<td>3</td>
<td>0.32</td>
</tr>
<tr>
<td>4</td>
<td>0.07</td>
</tr>
</tbody>
</table>
What is a quality report?
- Are there any significant errors?
  - Either perceptual or cognitive types?
- Is the report clear and understandable?
- Does it answer the clinical question being addressed?
- Does it utilize societal recommendations?
- Were critical results communicated appropriately?
- Are there typographical errors?
The Non-Interpretive Component

- Teach residents and fellows
- Work on exam protocols
- Research
- Administrative work
- Conferences
- Speaking with families
- Clinician consultations
The Non-Interpretive Component

- The Value-Added Matrix
  - Based on paper by Dr. Patel*
  - Quantifies the role of value-added activities
  - Useful construct to document the value-added activities that may not always be readily apparent to outside observers

## TVE: The Value Added Matrix

### Radiology Value-added Matrix

<table>
<thead>
<tr>
<th>Quality</th>
<th>Service</th>
<th>Resource Management</th>
<th>Professional Development</th>
</tr>
</thead>
<tbody>
<tr>
<td>Accreditation Requirement</td>
<td>Committee</td>
<td>Outcomes Measurement</td>
<td>Executive Meeting</td>
</tr>
<tr>
<td>Adverse Event Analysis</td>
<td>Community Service</td>
<td>Radiologist Scheduling</td>
<td>Leadership</td>
</tr>
<tr>
<td>Conference</td>
<td>Critical Test Result Management</td>
<td>Revenue Cycle Management</td>
<td>Leadership CME</td>
</tr>
<tr>
<td>Peer Review</td>
<td>Customer Experience</td>
<td>Utilization Management</td>
<td>National/State Radiology</td>
</tr>
<tr>
<td>Physician Quality Reporting</td>
<td>Marketing</td>
<td>Utilization Review</td>
<td>Practice Improvement Project (MOC/A3)</td>
</tr>
<tr>
<td>Protocol Management</td>
<td>Patient Supervision &amp; Monitoring</td>
<td>Vendor Interaction</td>
<td>Presentation</td>
</tr>
<tr>
<td>Radiation Dose Management</td>
<td>Recruiting</td>
<td></td>
<td>Publication</td>
</tr>
<tr>
<td>Radiology-Pathology Correlation</td>
<td>Referring Provider Communication</td>
<td></td>
<td>Research</td>
</tr>
<tr>
<td>Structured Reporting</td>
<td>Subspecialization</td>
<td></td>
<td>Teaching</td>
</tr>
<tr>
<td>Technologist/Staff Feedback</td>
<td>Turnaround Time</td>
<td></td>
<td></td>
</tr>
</tbody>
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Patel, 2015
The Vancouver Workload Utilization Evaluation Study

- Observational study of 14 radiologists at 3 facilities; 20 consecutive days (dayshifts only)
- 1 facility is tertiary care academic, other 2 are community-based hospitals
- Personal time (meals, bathroom…) - 12.3%
- Productivity (interpretive & non) - 87.7%
- **Image Interpretation** - 36.4%
- Average number of interruptions: 6/hour
- 93% of interruptions caused “break-in-task”

Sample of my “clinical day”

- Work-related, non-interpretive value-adding activities:
  - 3 hours 55 minutes
  - Day length is 9 hours 30 minutes
  - ~41% of day

8AM-9AM: 15 min., admin.
9AM: 10 min., CT question
9:15AM: 1 hour, NICU rounds
9:45AM: 15 min., urology consult
10:25AM: 10 min., hem/onc consult
10:35AM: 45 min., Call with Mike Farrell and Dr. Belmonte
11:30AM: 10 min. getting flu shot
11:55AM: 5 min., surgery
12:30PM: 5 min., neuro CT questions
2:15PM: 10 min., outpatient consult
3PM: 10 min., inpatient imaging consult
3:25PM: 10 min., GI consult
3:50PM: 10 min., surgery consult
4PM: 5 min., US tech education
4:20PM: 5 min., call regarding outpatient
5PM: 10 min., call with Dr. Reddy
Value-Based Payment and Population health

This wasn’t the pay-for-performance model I had in mind.
Total health expenditures as percent of GDP, 1970 – 2012

US Health Care Reform

- The President, noting:
  - the rising costs of health care
  - the millions of Americans struggling to pay for care
  - the millions of uninsured Americans are often the ones who need it most
  - too often, the insurance people do have is inadequate
  - Few policies support preventive services

- Put forth a proposal:
  - Allow every American the opportunity to have insurance
  - No exclusions based on pre-existing conditions
  - Assistance with payments if you can’t afford insurance
And let us act now—in 1974—to assure all Americans financial access to high quality medical care.

RICHARD NIXON
The White House, February 6, 1974

US Health Care Reform

Better Care. Smarter Spending. Healthier People

In three words, our vision for improving health delivery is about **better, smarter, healthier**.

If we find better ways to pay providers, deliver care, and distribute information:

- We can receive better care.
- We can spend our health dollars more wisely.
- We can have healthier communities, a healthier economy, and a healthier country.

### Focus Areas

**Incentives**

- **Promote value-based payment systems**
  - Test new alternative payment models
  - Increase linkage of Medicaid, Medicare FFS, and other payments to value
- Bring proven payment models to scale

**Care Delivery**

- **Encourage the integration and coordination of clinical care services**
- Improve population health
- Promote patient engagement through shared decision making

**Information**

- **Create transparency on cost and quality information**
- Bring electronic health information to the point of care for meaningful use

Slide from CMS, Dr. Tefera, 2015
How is this relevant to pediatrics?

In the US, a large number of children covered by Medicaid

In Illinois:
- ~50% of ALL children are covered by Medicaid
- ~60% of ALL Medicaid patients in IL are children

Medicaid is large part of state budgets, therefore shift towards “Managed Medicaid”- 38 states + DC (~90% of Medicaid patients nationwide)

Managed care plans will use capitation and value-based care formulas to optimize delivery

http://www.chicagobusiness.com

https://www2.illinois.gov/hfs/agency/Documents/Medicaid101.pdf
So why is the transition in the US to a value-based payment system relevant to us in pediatrics globally?

- Much of medical care is managed care
  - Therefore useful to speak with clinicians about best test
- Don’t want to get left behind as the adult side evolves to meet the new guidelines
  - Pediatrics should continue to be a leader patient and family-centered care

The same principles of good care still apply
- Value based payment systems (ideally) encourage good behavior
Population Health and Pediatrics
We need to simultaneously improve the care of children AND limit costs.

How? This is the essence of Value-Added Imaging
Population Health and Pediatrics

1. Define what quality care looks like

2. Create metrics to quantify this

3. Measure and improve
Imaging adds value to patient outcomes in 3 ways

1) Directly contributing to improved patient outcomes
   - Ex. Correctly diagnosing neuroblastoma (vs Wilms tumor)

2) Decreasing all costs related to an episode of care
   - Ex. An accurate, cost-effective and timely diagnosis of acute appendicitis

3) Decreasing length of stay / length of episode of care
   - Ex. Providing reliable information on short term response to therapy (is the therapy working?)

Overall quality is impacted by both interpretive and non-interpretive services

The non-interpretive services are critical to improving quality and decreasing costs

Examples:

- Discussing a patient with clinicians is non-interpretive but can avoid unnecessary testing, saving time and expense
- Talking with families after an exam may lead to greater patient and referring physician satisfaction (satisfaction scores are a metric)
Value-Based Payment Systems & Population Health

- **Pediatrics uniquely positioned to be leader in value-based care**
  - Consultative role
    - We have close relationship with pediatric clinicians
  - “Less is More”
    - Less intensive imaging modalities (eg US) preferred
    - Emphasis on the least number of exams
  - General attitudes on nature of non-interpretive value
    - We routinely speak with families after studies
    - We are generally more hands-on (eg US)

CONCLUSION

- Value-Added Imaging refers to a holistic approach to radiology services, including both interpretive and non-interpretive activities
- Quality goes beyond: “Did we miss anything”
- Radiology can be helpful with population health, elevating the level of care while simultaneously limiting costs

*Pediatric radiology is uniquely positioned to be a leader in value-based care delivery*
THANK YOU