Peer Learning Through Multi-Institutional Case Conferences

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Disclosure

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Objectives

Quiz

Peer Learning

Multi-institutional Case Conference & Experience

Collective Intelligence

Cycle of Physician Behavior in Group Feedback
Quiz

Group judgement accuracy is _____ compared to individual diagnostician

A. ~25% higher
B. ~10% higher
C. Similar
D. ~10% worse
E. ~25% worse
Quiz

What is a necessary behavior to prompt physicians to reflect on errors?

A. React to data (skepticism, question)
B. Demonstrate change cues
C. Identify action plan
D. A notice from Peer Review coordinator
Move from Peer Review to Peer Learning

- Peer Learning (cultural shift to Quality improvement)
  - Group learning
  - Case-based
  - *Performance* improvement

- PL underpins the principles of *learning*:
  - Deliberate practice: focus on weaknesses
  - Coaching from peers: Group thinking > individual
    - Accuracy 62% solo vs 85% group (23% increase)
  - Regular intervals to reinforce long-term learning

Peer Learning through Multi-institutional Case Conference

- Open Multi-institutional Sub-speciality web-based case conference
  - Weekly:
    - MSK Intergalactic Bone Conference (>10 yrs)
    - Society of Thoracic Radiology (7 yrs)
  - Monthly: Abdominal Case Conference (~2 yrs)
- Multi-institutional, review 10-12 cases/session
- Participants contribute cases
- Screen share. Use Video-conference software
- Cardiothoracic & Abdominal - Recorded & Posted on YouTube

Perceived Value (and Challenges) from Participants

- Surveyed Bone, Chest, Abdominal multi-institutional survey
  - Response rate: 57/119 (47.8%)
  - MSK 50% | Abdominal 21% | Chest 28%
  - Most academics, age ~50s, across US (some international)
  - Responses (knowledge, attitudes, behavior):
    - Gained new knowledge: 100% reported yes
    - Perceived Educational Value: 79% rated 5/5
    - Attitudes: 88% valued the education | 68% valued networking
    - Behavior:
      - 96% became more open to group discussion
      - 67% changed search pattern
      - 98% would continue to participate
  - Limitations: lack of CME credit and protected time
Collective Intelligence

- A group of diagnosticians w/ similar accuracy levels, combining independent judgements improves decision accuracy vs the best diagnostician
- When accuracy levels are very disparate, combining independent judgements < best diagnosticians

When accuracy levels are very disparate, combining judgements worse than the best.

100 kids against 3 Pro Footballers ... who wins? [https://www.youtube.com/watch?v=s5f8hjzxmkA](https://www.youtube.com/watch?v=s5f8hjzxmkA)
Combing judgements of a **group of diagnosticians** with **similar accuracy** improves decision accuracy vs best diagnostician

- When radiologists come together to learn from each other → our collective intelligence increases
- Group / Social learning powers this learning dynamics (absent with peer review system)

The best soccer Match Barcelona 5- Madrid 0  [https://www.youtube.com/watch?v=rPEd-h8DdRI](https://www.youtube.com/watch?v=rPEd-h8DdRI)
Physician progressed through a complement of behaviors

1. **Reactions** (skepticism, limitations, surprise)
2. **Questioning & understanding**
3. **Reflection** (practice variations, clinical guidelines)
4. **Change cues** arose from reflection → followed by action plan


**Cycle of Physician Behavior in Audit & Group Feedback**

- Reactions to the data
- Change Cues & Change Talk
- Understanding and Questioning
- Reflecting, Sharing Practices, Discussing evidence for best practices
- Justifying, Contextualizing

PR stops here
Cycle of Physician Behavior in Group Feedback

- Ability to learn through observation & interaction w others → critical to efficient learning and adoption of new behaviors
  - Trinh et al - group PR ~1000 cases / month → 5 meaningful discrepancies / mo (1 learning opportunity per 200 cases)
  - Multi-I case conferences discuss 8-12 cases / hour w/ several learning points / case.
- Interaction btw group members lead to discuss evidence-based practices, raise change cues, and move to action planning.

## Enabling multi-institutional case conferences

- Working model for sub-speciality case conferences
  - Mostly academic rads participate - learning (& camaraderie)
- Scalable: Open, web-based driven model
- Enablers/Steps for wider adoption:
  - White paper - legitimize PL
  - Formal program (legal issues assuaged)
    - Protected dedicated time
    - Alternative if no local PL available
    - Possibly smaller practices
    - CME or PL credit
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Take Home Points

- Peer Learning powered by Group Learning
- Collective > Individual Intelligence (w/ similar accuracy)
- **Interactions** allow participants to gain and apply knowledge
- Reproducible **cycle of physician behavior** in group learning
  - Process → Question → **Reflect** → Change talk → Action
  - Lacking in Peer Review
- Multi-I case conferences scalable if needed
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