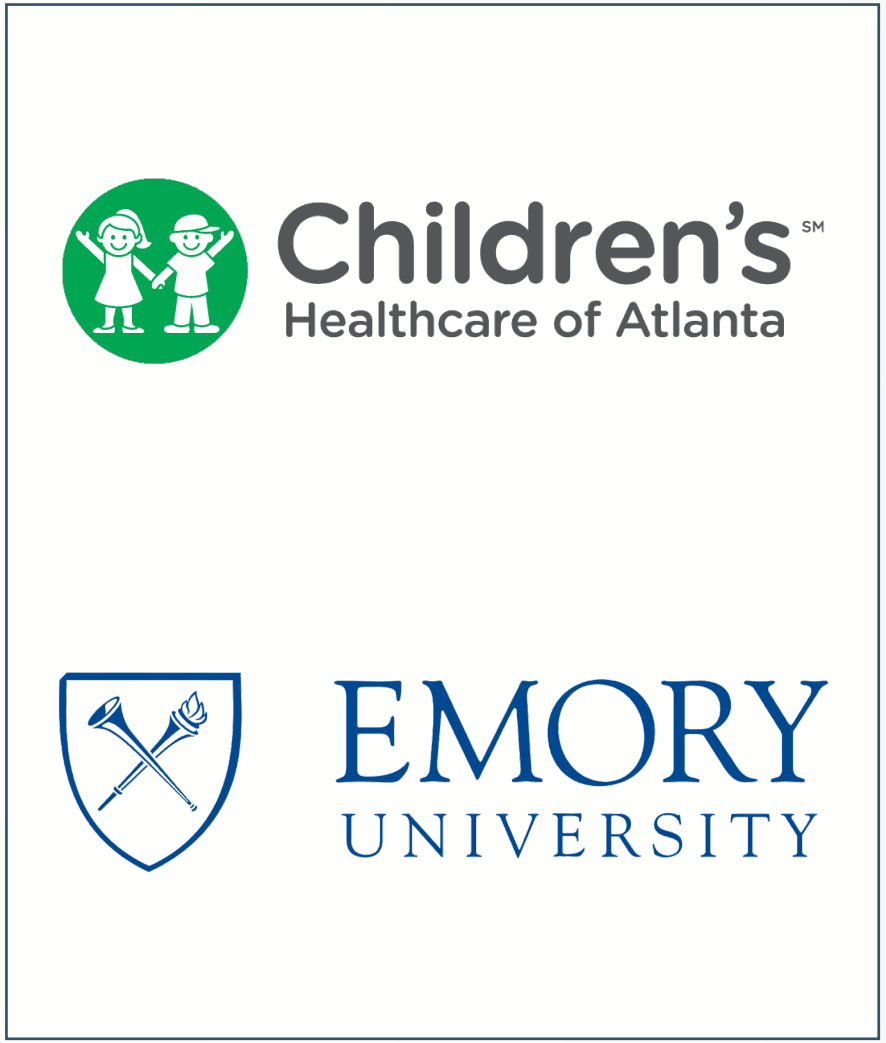
A New Peer Learning Tool - Concepts, Iterative Improvement, and Scaling Up

Presenter: Nadja Kadom, MD

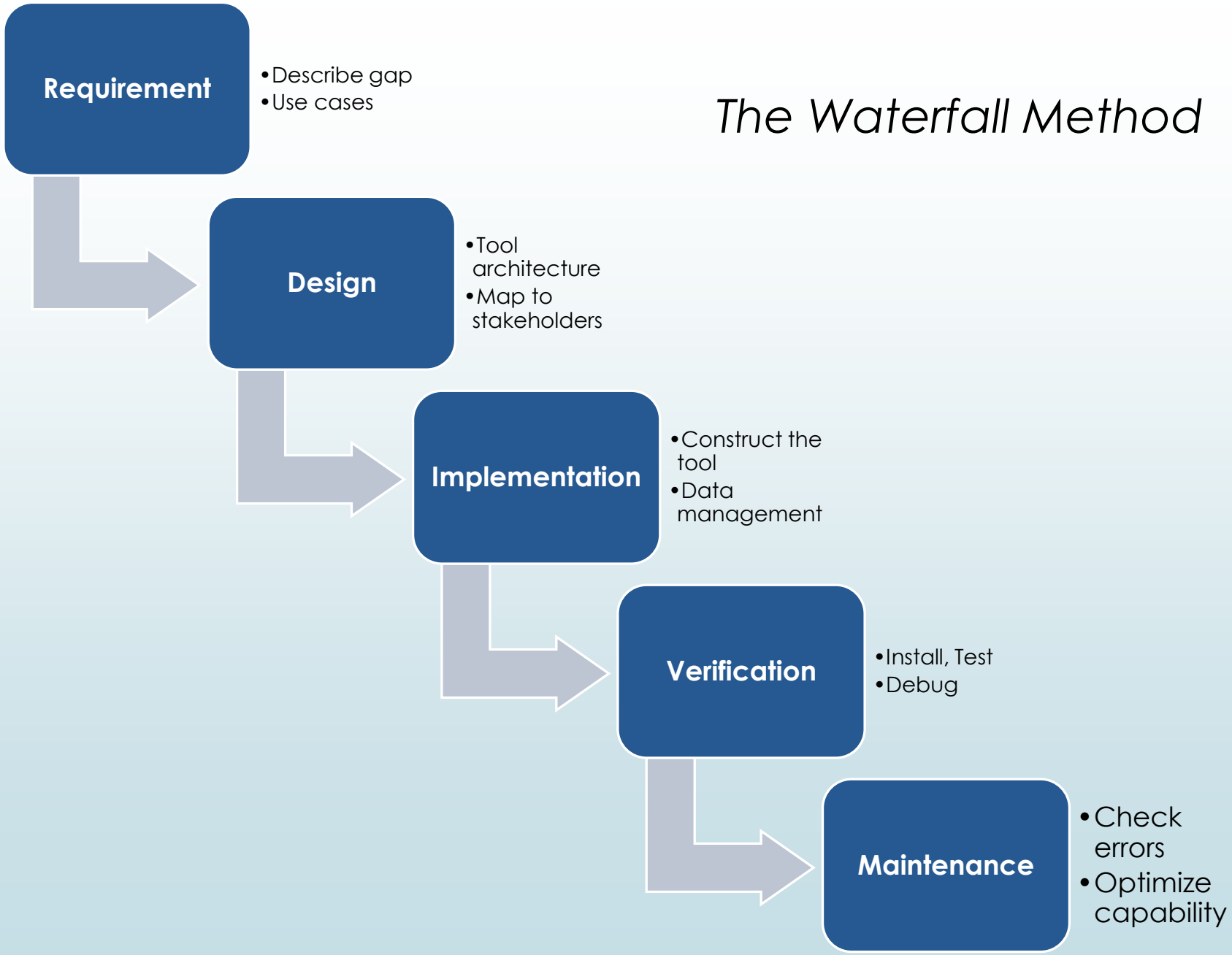
J Loewen, MD, W Wagstaff, MD, K Reddy, MD , S Palasis, MD

Disclosures: None



Peer Learning Tool Development Approach

The Waterfall Method



Requirement

- Describe gap
- Use cases

Gap*

- Random score-based peer review is a flawed tool for radiologist performance assessment. Many radiology groups are abandoning peer review in favor of Peer Learning (PL).
- However, random score-based peer review is widely established in external reporting to
  - The Joint Commission (Accreditation, ongoing practitioner performance evaluation, OPPE)
  - The American College of Radiology (Accreditation)
  - The American Board of Radiology (Maintenance of Certification, part IV)
- *There is currently no widely available tool that generates reportable metrics from PL programs

Use Case*

- This tool was developed in free-standing pediatric hospital with academic affiliation.
- There was no budget for this intervention.
- We needed a tool that facilitates PL program metric reporting in *pediatric neuroradiology

Design

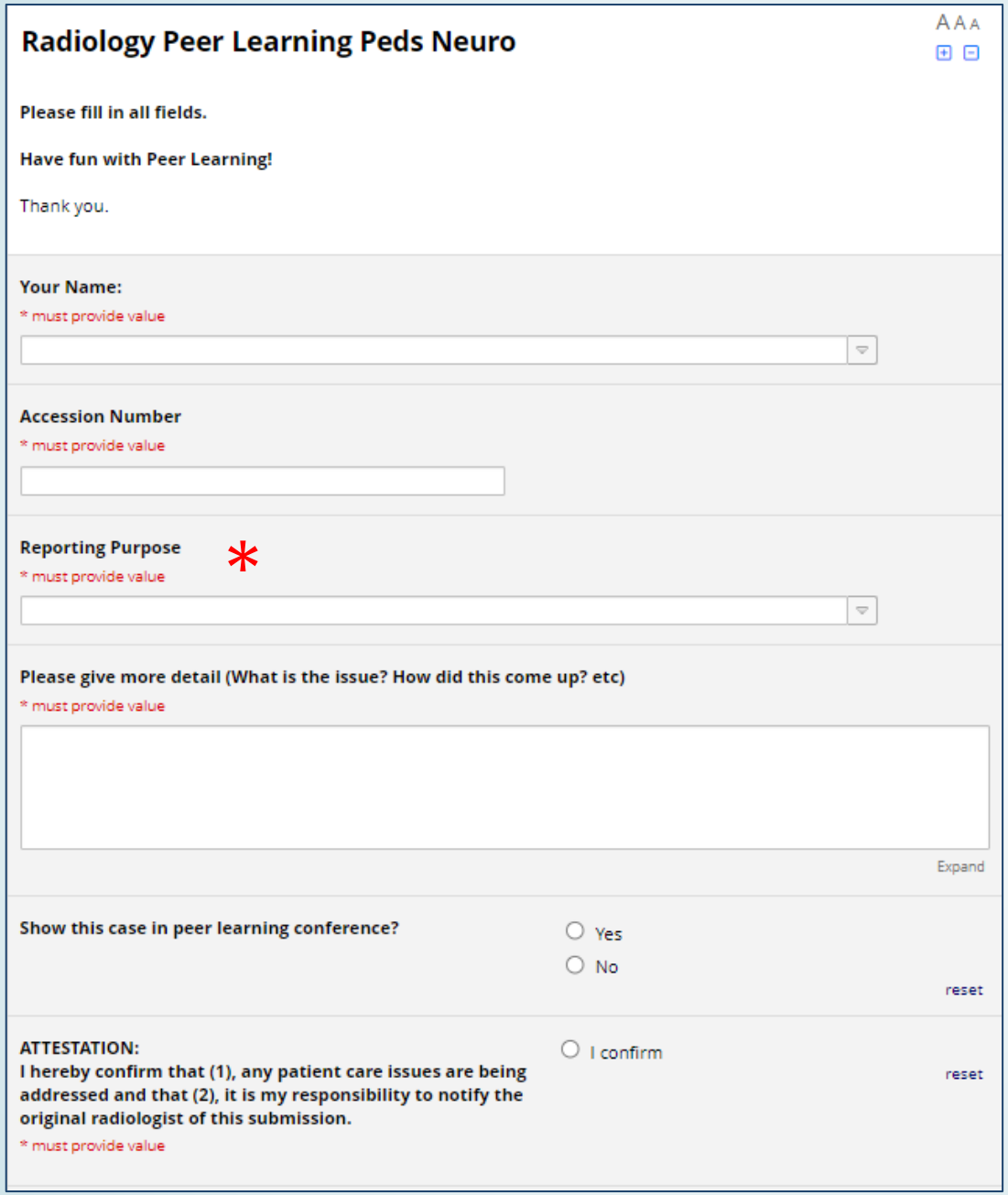
- Tool architecture
- Map to stakeholders

Tool Development Concepts

- Types of cases: Submit a wide variety of cases to maximize learning and improvement opportunities, including discrepancies, interesting cases, great catch, issues related to protocols, communication etc).
- Standardized notification: The original reader receives a pdf by email with subject line "Confidential Peer Review" that always indicates the case identifier, category for submission, details regarding the case, instructions on whether an action is recommended, and indication whether this case was marked for the peer learning conference.
- Clinical care: Built-in accountability for providing appropriate clinical care lies with the radiologist submitting a case. Eliminate the group voting process.
- PL Conference preparation: Radiologists indicate whether the case is worth discussing in the PL conference, reducing the amount of time that the conference leader would otherwise need to make this determination
- PL Conference: Each conference is recorded and can be viewed asynchronously. Anonymized case review in PACS by using a virtual meeting application that allows sharing a customized area of the PACS monitor (Zoom®, Zoom Video Communications, San Jose, CA, U.S.)
- Faculty performance metrics: (1) Case submissions per month per faculty, and (2) 50% attendance of PL sessions.
- ACR Annual Reporting: The database tool tracks metrics required for ACR reporting on the ACR Peer Learning Pathway for Accreditation.

Design

- Tool architecture
- Map to stakeholders



Radiology Peer Learning Peds Neuro

AAA

Please fill in all fields.

Have fun with Peer Learning!

Thank you.

Your Name:

* must provide value

Accession Number

* must provide value

Reporting Purpose *

* must provide value

Please give more detail (What is the issue? How did this come up? etc)

* must provide value

Expand

Show this case in peer learning conference?

Yes

No

reset

ATTESTATION:
I hereby confirm that (1), any patient care issues are being addressed and that (2), it is my responsibility to notify the original radiologist of this submission.

I confirm

reset

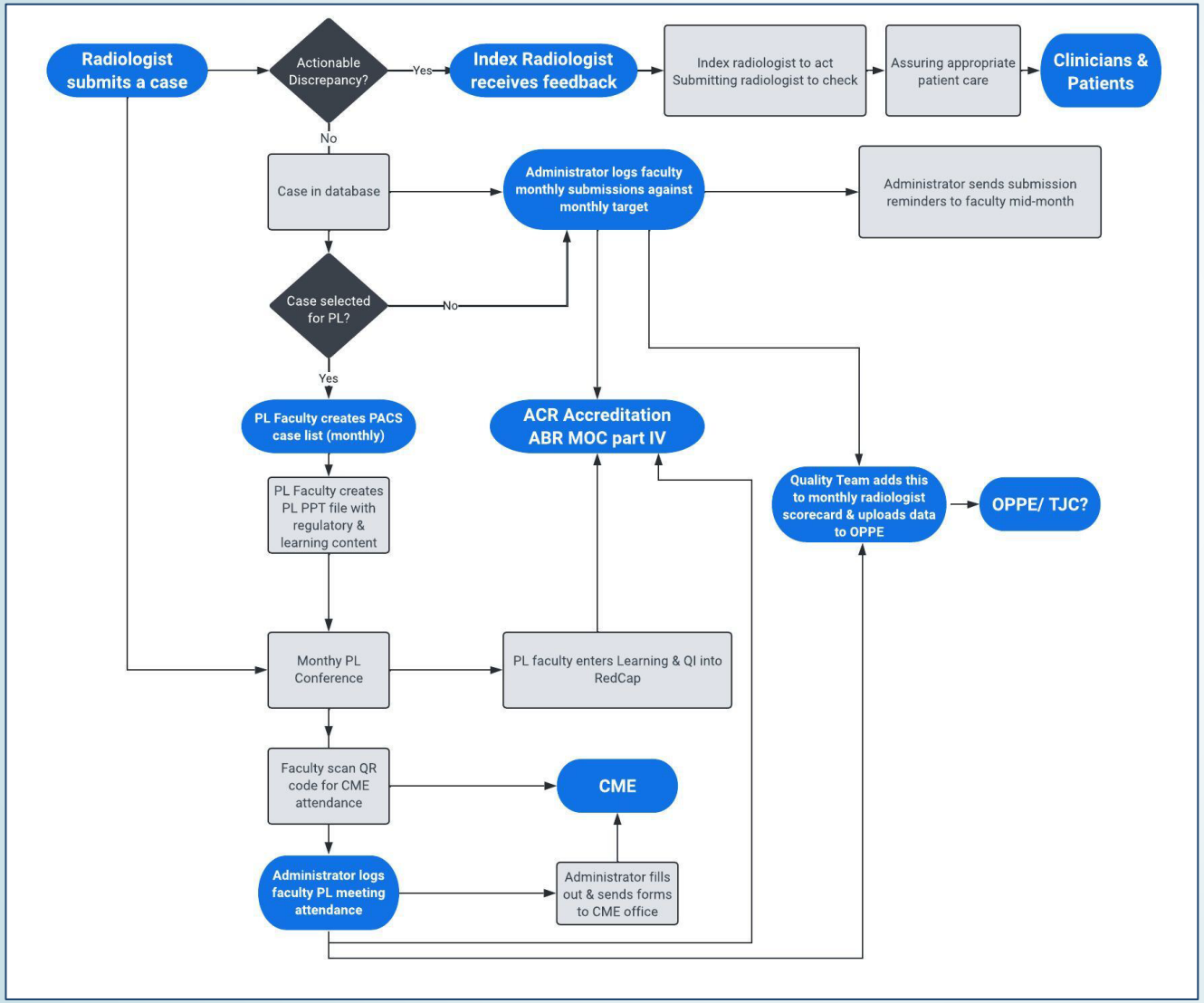
* must provide value

Tool Architecture: PL Case Input Form

*Additional fields open when the reporting purpose is a discrepancy

Design

- Tool architecture
- Map to stakeholders



Map to stakeholders*

*Blue ovals

Implementation

- Construct the tool
- Data management

Data Management: Monthly Report for Conference Planning

Record ID record_id	submission_ date	**Your Name:** submitter_ name	**Accession Number** accession_ number	**Reporting Purpose** reporting_ purpose	**Please give more detail (What is the issue? How did this come up? etc)** notes_to_report_author_is	**Requested follow-up ACTION:** requested_ follow_up_ action
403 08-17-2023 - [custom_tag_peer_review]	08-17-2023	Palasis, Susan (8)	796526	Discrepancy-Perception (5)	retinal hemorrhages on SWI not reported.	
404 08-18-2023 - [custom_tag_peer_review]	08-18-2023	Kadom, Nadja (5)	7975533	Discrepancy-Communication (6)	MRI report states LEFT skull fracture in Impression, but fracture was right (correct in findings) Please addend with correction in case this will go to court (NAT)	A clinician or patient requested an addendum (2)
405 08-19-2023 - [custom_tag_peer_review]	08-19-2023	Trofimova, Anna (10)	8016802	For Discussion (protocol, template, anything else) (3)	CT head/CTA head and neck from ER for possible stroke, ordered w/o calling stroke alert or discussing with us, during regular hours, should have been done as stroke MRI instead.	
406 08-19-2023 - [custom_tag_peer_review]	08-19-2023	Trofimova, Anna (10)	7012632	Discrepancy-Perception (5)	Left retinal detachment and subretinal hemorrhage	
407 08-20-2023 - [custom_tag_peer_review]	08-20-2023	Trofimova, Anna (10)	6889432	Discrepancy-Perception (5)	thickening and FLAIR hyperintense signal of the inferior tectal plate	
408 08-21-2023 - [custom_tag_peer_review]	08-21-2023	Trofimova, Anna (10)	Acc 7963124; finding on OSH MRI face from 7/11/2023 (no acc available)	Discrepancy-Interpretation (4)	Intracranial extension of the sinus disease: dural thickening and CE left middle cranial fossa, mass effect on the left pole; no bone on CT in that area.	I am recommending an addendum (1)
409 08-21-2023 - [custom_tag_peer_review]	08-21-2023	Kadom, Nadja (5)	7365931	Discrepancy-Interpretation (4)	Ventricles are larger, patient having a f/u CT prior to surgical shunt revision	
410 08-21-2023 - [custom_tag_peer_review]	08-21-2023	Goldman-Yassen, Adam (4)	3012445	Great Catch! (1)	PRES on CT, confirmed on MRI	
411 08-22-2023 - [custom_tag_peer_review]	08-22-2023	Little, Stephen (7)	7097955	Discrepancy-Perception (5)	left optic nerve and right optic tract hypoplasia	I am recommending an addendum (1)
412 08-22-2023 - [custom_tag_peer_review]	08-22-2023	Dennison, John (13)	7896394	Discrepancy-Perception (5)	Missed right maxillary sinus opacification with restricted diffusion.	
413 08-23-2023 - [custom_tag_peer_review]	08-23-2023	Goldman-Yassen, Adam (4)	7710677	Discrepancy-Communication (6)	Impression says "Low-lying cord at T4 level" with correct L4 level in the body.	I am recommending an addendum (1)

Implementation

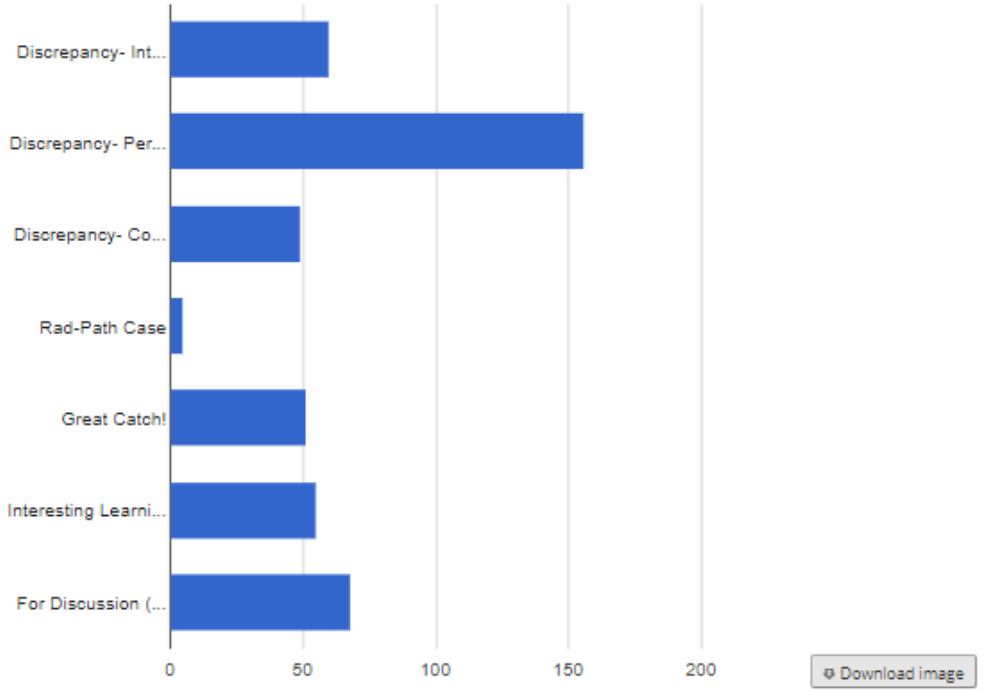
- Construct the tool
- Data management

Data Management: Automated Monthly Results

Reporting Purpose *(reporting_purpose)* Refresh Plot | View as Bar Chart

Total Count (N)	Missing*	Unique
444	1 (0.2%)	7

Counts/frequency: Discrepancy- Interpretation (60, 13.5%), Discrepancy- Perception (156, 35.1%), Discrepancy- Communication (49, 11.0%), Rad-Path Case (5, 1.1%), Great Catch! (51, 11.5%), Interesting Learning Case (55, 12.4%), For Discussion (protocol, template, anything else) (68, 15.3%)



Also generates cases per faculty/month

Learning point description: learning_point_desc	Improvement action description: improvement_action_desc
	Need separate views anterior/posterior circulation 3D best, coming with SECTRA
	Decided against using measurements from literature because they do not take into consideration the entire brain appearance.
	Discussed best practices for optic nerve measurements vs no measurement
	Initiated modification of ordering labels for procedures
	Shared tips on appropriate protocol selection
	Improve outside imaging & transmission/upload to CHoA. IT team informed on 7/18/2023
Check literature to clarify protocol	Check literature to clarify protocol

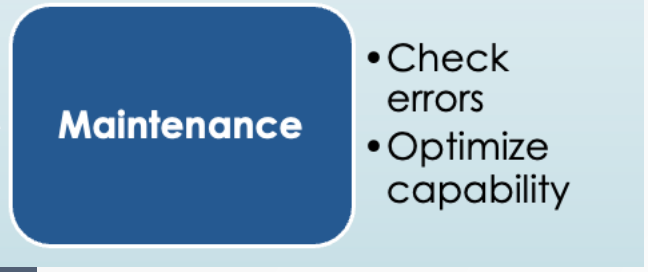
Captures Learning points and improvement actions

Verification

- Install, Test
- Debug

Iterative Improvements

- Our initial manual data collection process was too time consuming. The new tool automatically collects data and generates certain statistics of interest.
- We recruited an administrative assistant for certain tasks to decrease the time effort for the PL faculty leaders
- We switched from anonymous ppt to anonymous PACS monitor presentations, which made the case reviews more effective and decreased time effort for the PL faculty leaders
- The virtual meeting application creates an attendance sheet, so the administrative assistant no longer has attend the PL meeting
- Removal of the name of the case submitter from the feedback that is sent to the index reader resulted in an increase of case submissions from a monthly average of 12 cases in 2022 to 29 cases in 2023 (n=8 neuroradiology faculty)
- We used to have two faculty members run the program, taking turns each month, but keeping up with program changes was a challenge, so currently only one faculty member leads the program. As the number of iterative changes decreases, we may reconsider this



Scaling Up

- The PL program started in 2021 and comprised 5 pediatric neuroradiologists
- The small initial implementation allowed for iterative improvements that could be tolerated by a small group of faculty
- The PL tool resulted in a program optimization that enables us to scale up
  - Adoption by the Division of Pediatric Imaging (38 radiologists)
  - Adoption by the Emory Radiology Interventional Radiology Division
  - Testing by the Emory Radiology Abdominal Imaging Division
- The PL tool meets accreditation criteria for the ACR and meets ABR MOC part IV criteria.
- We are still exploring how PL metrics can be used in faculty performance evaluation from the perspective of The Joint Commission/OPPE

Children's Healthcare of Atlanta

Contact: Nadja Kadom, MD
nkadom@emory.edu
@nkpiano

EMORY UNIVERSITY