From Monologue to Dialogue: Using an Online Feedback Tool to Improve Image Quality Through Enhanced Radiologist-Technologist Communication

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Radiologist-Technologist Communication

- Prior to the digital age, radiologists and technologists worked in close proximity.
- Distance and increase volume has created challenges to radiologist technologist communication.

Radiologist-technologist communication: Old model

Technologists and radiologists confer in person.

Communication: New model

Technologist

Radiologist

Hospital B

Hospital A

Readi
roon

Imaging
center

Technologists and radiologists are remote and communicate by phone.

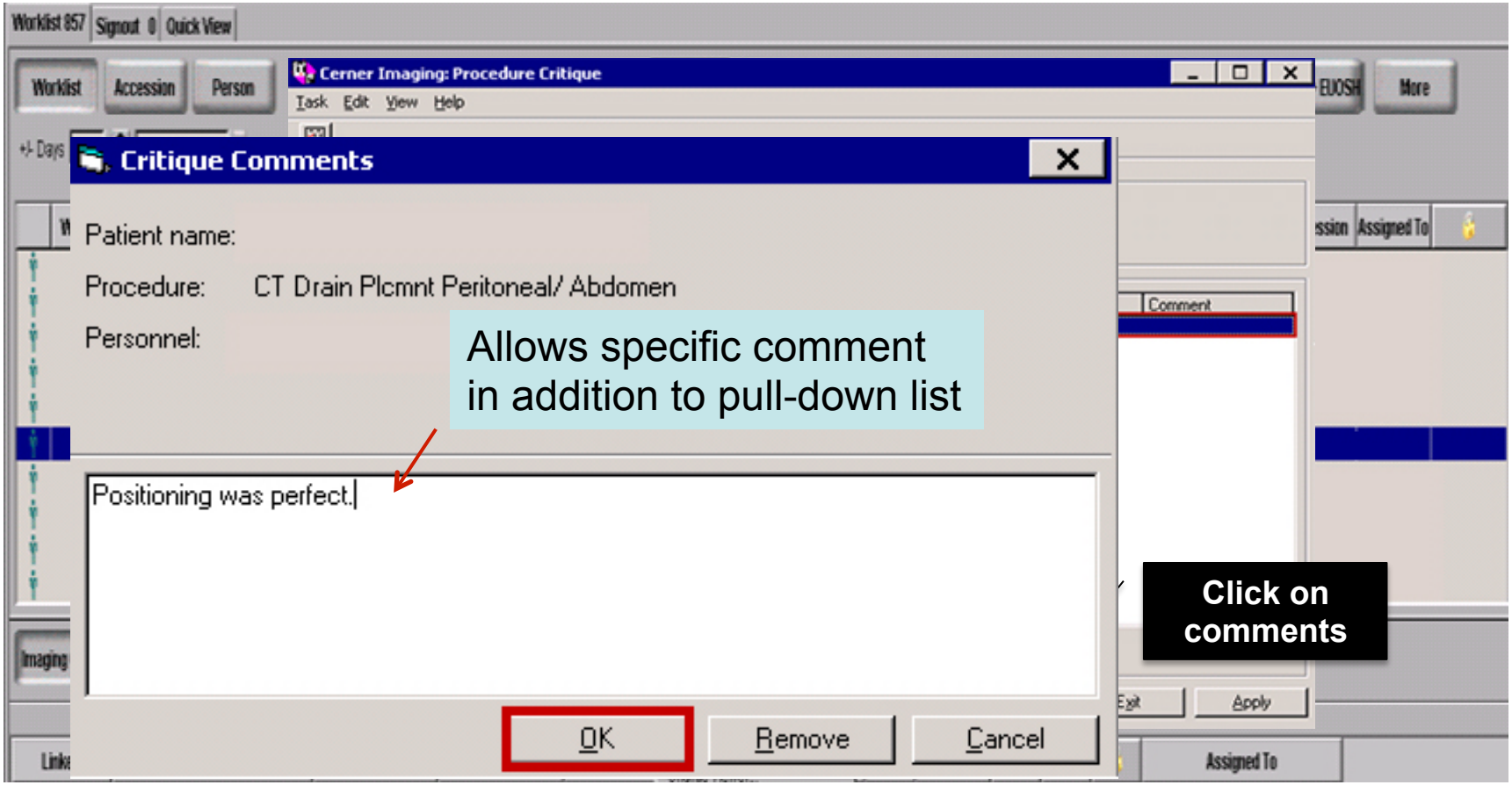
Background

- Radiologists and technologists have few opportunities for direct interaction, resulting in difficulty communicating image quality concerns.
- A process was developed using a commercially available online tool in RadNet® (Cerner Corp.) for radiologists to provide feedback to technologists.

Improvement Goal (Aim Statement)

- To improve the technologist response rate to >90% of cases critiqued using online quality tool by May 2013.
- To improve the specificity and quality of radiologist-technologist communication.

Radiologist Feedback Tool



Initial Process

Radiology resident or attending sends feedback in Radnet (RIS)

↓

Tech supervisor pulls data room by room from Powerchart

↓

Supervisor reviews case and discusses with tech

↓

Sup. sends response to a coordinator

↓

Coordinator sends response to division reading room coordinator

↓

Division coordinator looks up cases to add attending's name if critique was from a resident

↓

Radiologist reads the response and contacts supervisor if necessary

- Supervisor must remember to pull data weekly from each room
- Response format not uniform
- May be multiple emails with different format
- Different coordinator from intake

Radiologist survey

- Survey attending physicians and radiologist Sept. 2012
  - 56% used tool
  - 12% received feedback
- Comments:
  - No technologist response to feedback!
  - Difficult to tell if it's doing any good

Technologist Survey

- Survey of technologists from April 2013
- 48% said the process had a positive impact.
- 48% did not feel it was positive or negative.
- Comments:
  - Radiologists should give more **specific comments** and suggestions for improvement
  - More direct communication needed

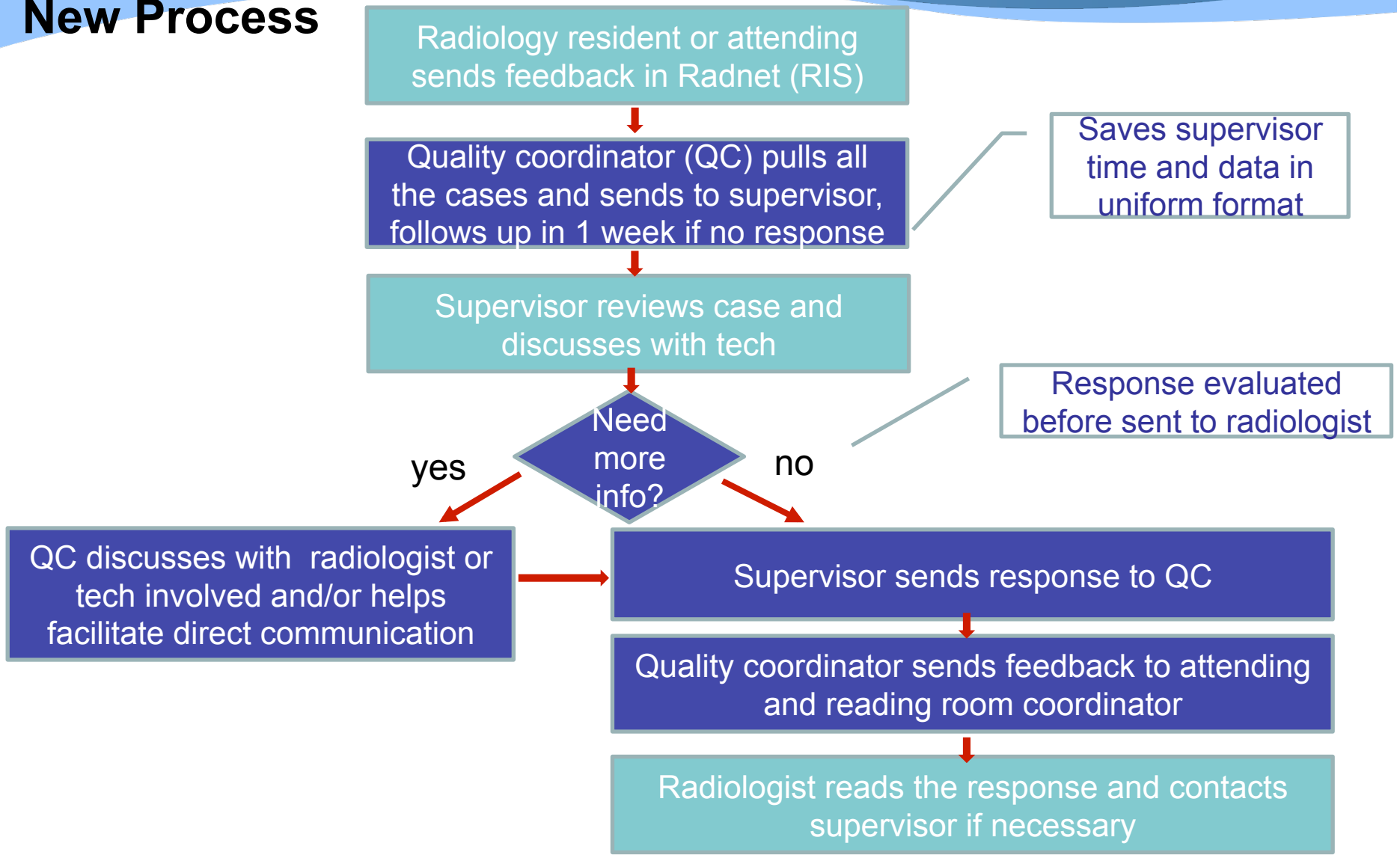
Plan, Do, Study, Act (PDSA)

Tests of Change	What did we learn?
Add a quality coordinator to pull cases, to ensure responses were made, and to send radiologists the feedback.	Pulling data was a time consuming process and reminders were helpful to ensure responses.
Radiologists were asked to submit more detailed and specific comments.	Technologists did not always know why an image was cited and needed more specific information.
Technologists were asked to discuss cases with radiologists if they needed help or more information.	Technologists were reluctant to reach out to radiologists. Sometimes radiologists did not respond to requests for help.

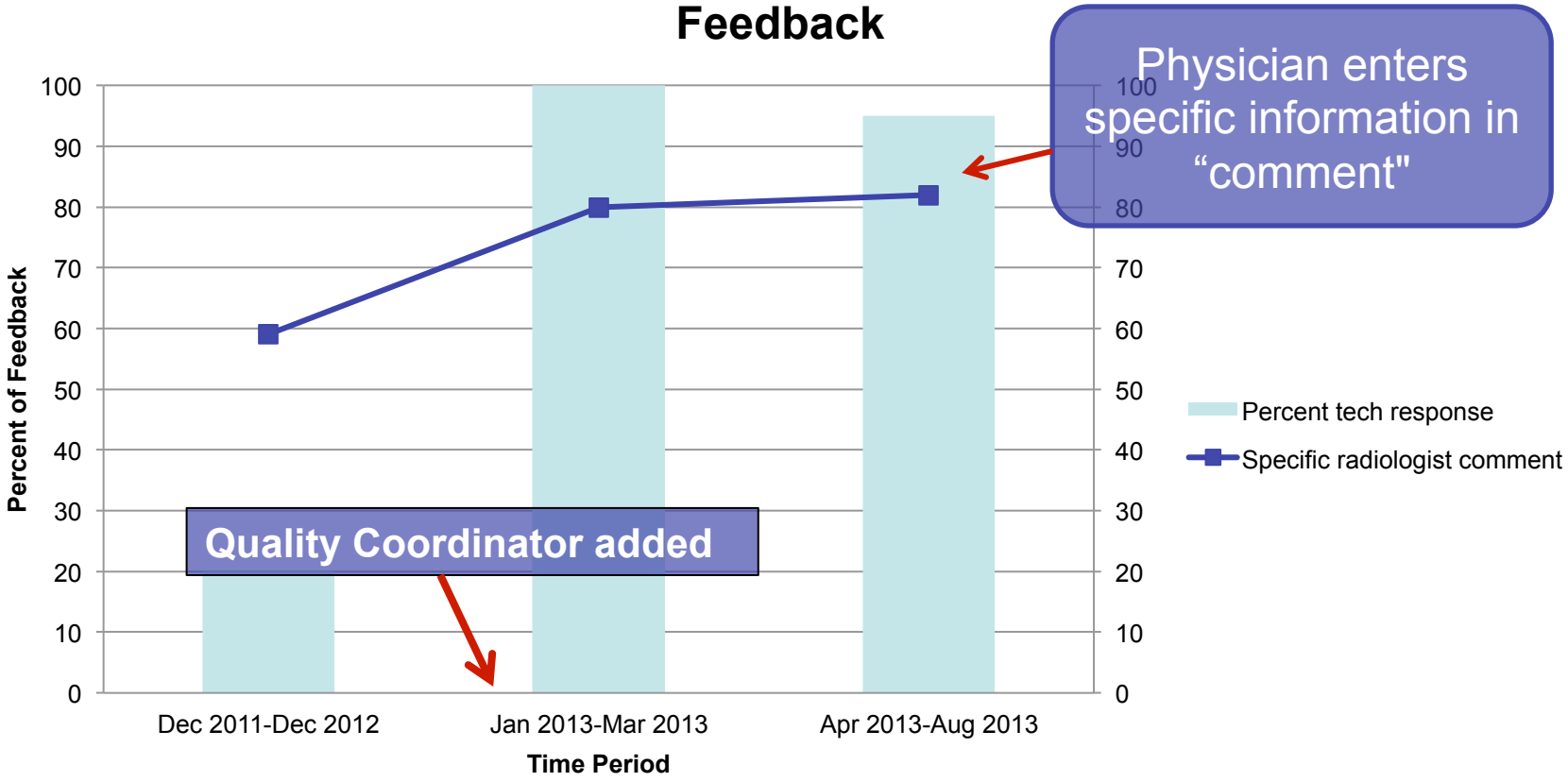
New Responsibility Chart

Radiologist	• Enter feedback into tool • Suggest specific areas of improvement • Be available for clarification • Follow up with Quality Coordinator if feedback is not satisfactory
Supervisor/Technologist	• Review cases on PACS • Compile specific feedback: protocol modification, technologist education, technologist oversight, etc • Contact radiologist directly for clarification • Return feedback to Quality Coordinator
Quality Coordinator	• Distribute feedback to supervisors • Send reminders for feedback not returned • Distribute supervisor feedback to radiologists by division • Facilitate conversations between techs/supervisors/radiologists

New Process


Radiology resident or attending sends feedback in Radnet (RIS)
Quality coordinator (QC) pulls all the cases and sends to supervisor, follows up in 1 week if no response
Saves supervisor time and data in uniform format
Supervisor reviews case and discusses with tech
Need more info?
yes
no
Response evaluated before sent to radiologist
QC discusses with radiologist or tech involved and/or helps facilitate direct communication
Supervisor sends response to QC
Quality coordinator sends feedback to attending and reading room coordinator
Radiologist reads the response and contacts supervisor if necessary

Specific Radiologist Comment and Tech Response to Feedback



Technologist response improved from 20% to over 95%

14

Radiologists critiques

	Dec 2011-Aug 2012	Jan 2013-Mar 2013	Apr 2013-Sep 2013
% positive feedback	15%	12%	13% →
% feedback with comments	59%	80%	82% ↑
Total responses	103/month	71/month	61/month ↓

Total number of critiques declined but percentage of positive critiques remained constant.

Technologist responses to negative feedback

	Dec 2012 to Aug 2012	Jan 2013 to Mar 3013	Apr 2013 to Sep 2013
Explanation for suboptimal study	41.2%	36.3%	21.2%
Plan to improve technique in the future	49.1%	60.5%	70.4%
Disagree with radiologist	10.5%	11.5%	6.0%
Need more information or Don't understand critique	6.1%	0.6%	3.1%
No applicable category	5.3%	3.2%	9.4%

*Total does not equal 100 as response may be in more than category. Percentages differ from those reported in abstract as positive responses not included.

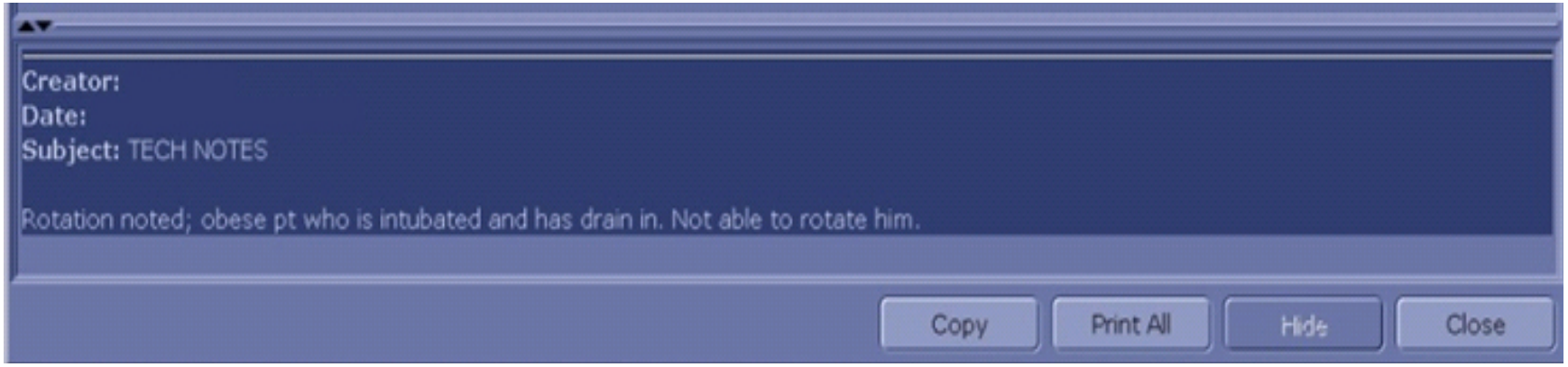
Technologist responses

- Fewer did not understand or disagreed with critique.
- More responses included a plan to improve.

Improved communication

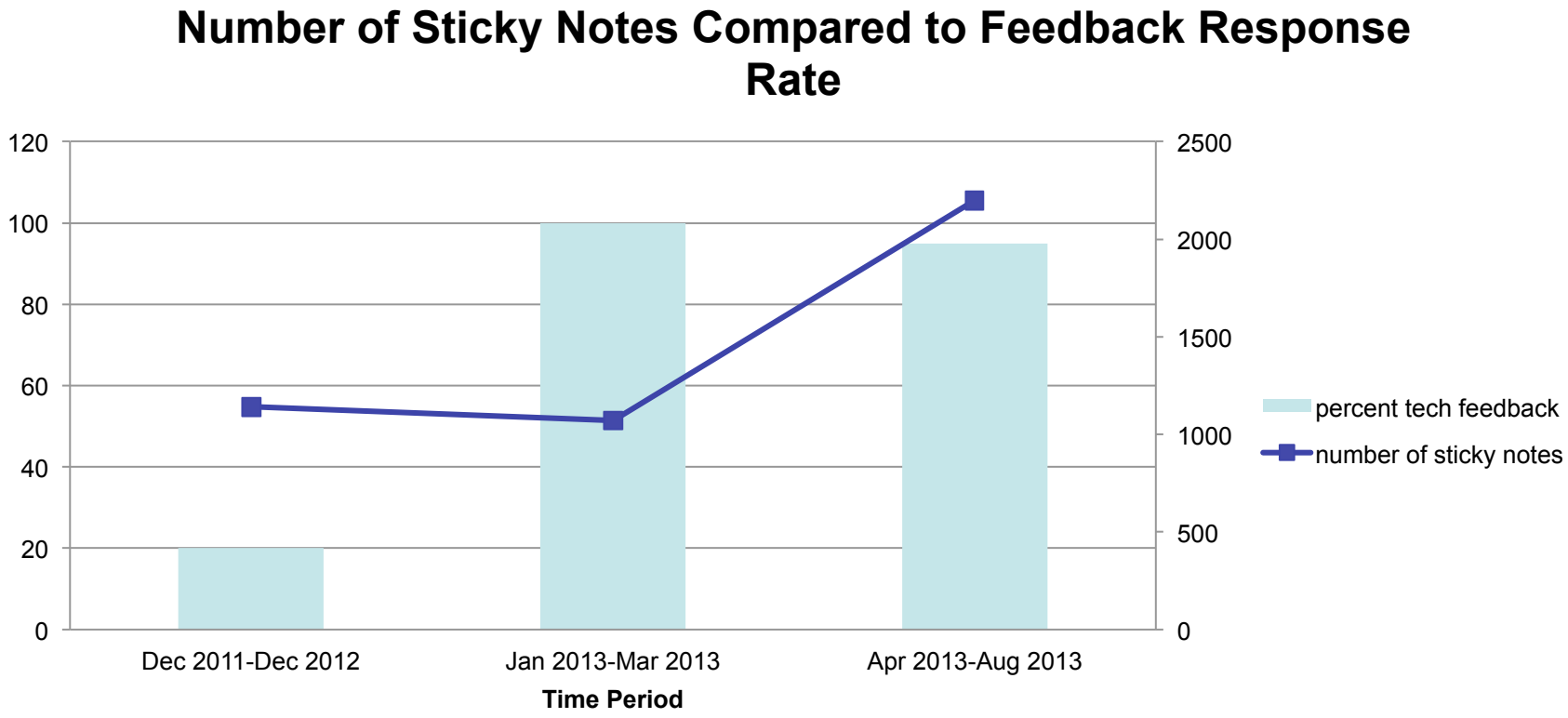
- Some of the radiologist feedback was regarding positioning or other patient factors.
- Technologist may communicate limitations to optimal exams at the time the exam is performed via “sticky notes.”
- Technologists also provide additional history/ information via “sticky notes.”

Sticky notes



Sticky notes in GE Centricity PACS can help with technologist communication

Sticky notes



Doubled number of Sticky Notes from first time period

Radiologist survey update

- Repeat survey of radiology attendings and residents on April 2013
  - Radiologist using tool increased from 56% to 65%
  - Number receiving responses rose from 12% to 58%

Conclusions

- Improved technologist response rate from 20% to over 95%
- Radiologists added more specific comments to feedback.
- Technologists provided additional information at time of exam via “sticky notes.”
- Improved communication decreased number of unresolved reports.

Next Steps

- Follow up satisfaction survey for technologists and radiologists
- Continue to solicit ways to improve process from radiologist and technologists
- Use data collected in the feedback tool as teaching materials for technologists and radiology residents