Radiology Resident Idea System

The Problem

Residents have great ideas for systems-level quality improvement, but there is no formal system for residents to communicate ideas to department administrators.

Aim/Goal

To provide a platform for residents to report workflow inefficiencies, submit potential solutions, receive feedback from department administrators about proposed ideas, and actively participate in implementing changes.

The Team

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The Interventions

A senior radiology department administrator guided the Radiology Resident Quality Improvement Director with support of the department chair to establish a committee of 5 residents from all class years to implement the Idea System. An electronic submission system was created per specifications of the committee based on Idea Systems described in business management [1] and previously implemented by technologists in our department. This project also adhered to the principles of Lean methodology [2]. The committee meets every 5 weeks to review submissions, enter a response on the electronic dashboard, and delegate tasks to implement proposed changes.

All radiology residents may submit ideas, which must include a proposed solution, under the following categories: Daily workflow, On-call/weekend workflow, Patient safety, Resident safety, Information technology, and Other. Submissions are not anonymous. There are no repercussions for suggesting solutions in a professional manner.

The Results/Progress to Date

In 11 months, 48 ideas were submitted by 11 residents from all 4 class years. 40/48 (83%) of submissions have been completely resolved. 27/40 (68%) resulted in a change.

Category	Submissions (n = 48)	Sample Change
Daily workflow	16 (33%)	Schedule lung biopsies in the morning so complications can be managed as outpatient
On-call/weekend workflow	5 (10%)	Prompt ordering ED physician to note if patient may/may not receive oral contrast when ordering abdominal/pelvic CT so we do not interrupt them to ask
Patient safety	9 (19%)	Remove tamper resistant tape from Epi-Pens in sealed contrast reaction kits, since this prohibits opening them in an emergency
Information technology	8 (17%)	When an ED patient is admitted in the computer but still in the ED, keep imaging studies on ED list in PACS instead of switching to inpatient list to avoid delay in interpretation
Resident safety	3 (6%)	Chairs with torn arm-rests and broken back support repaired or replaced (many still under warranty)
Other: Resource utilization Education	4(8%) 3(6%)	Provide notebooks to reduce use of high-quality printer paper for informal daily notes

Ideas that could not be implemented predominantly involved potential violation of regulations or guidelines or a compromise of patient safety.

Lessons Learned

Residents learn through the committee's response to submissions and by serving on the committee about the intricacies of department operations and the process of making changes at the systems level. The department learns directly from trainees "on the ground" about potential areas for improvement and potential solutions. Implementing information technology changes is complex and costly, but involving end-users at the development stage helps avoid implementation problems. PQI projects have resulted from submitted ideas.

Next Steps

Create similar systems for fellows and faculty.

References

1. Hamilton B, Wardwell P. *Continuous Improvement System* "Lesson 7: Idea Systems.". e[2] Management, Greater Boston Manufacturing Partnership Inc. September 2009.
2. Kruskal JB, Reedy A, Pascal L, et al. Quality Initiatives: Lean Approach to Improving Performance and Efficiency in a Radiology Department. Radiographics 2012 32:2, 573-587.

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