Implementing Pediatric CT Protocols Throughout a Large, Diverse Multihospital Healthcare System

SYNOPSIS

- Reliable and widespread implementation of best practices remains elusive 15 years after the Institute of Medicine reported that our health care system does not provide consistent, high quality medical care to all people.
- In our enterprise, neither the Image Gently campaign nor installation of a dose management system led to routine use of pediatric CT protocols.
- A data-driven improvement initiative has led to increased compliance.

BACKGROUND

Needed to improve imaging throughout a large diverse enterprise:
- Optimal use of ionizing radiation as an improvement target
- Builds on awareness created by Image Gently campaign
- However, needed to go beyond education and provide a local, sustainable approach
- Use data to demonstrate measurable improvement

Method for driving large scale change:
- Blending platform NPD and Lean (when one can’t be found)
- Guiding coalition: Radiology Clinical Expert Council
- Guiding vision: “Every child deserves a pediatric CT protocol”
- Focus on small wins: Monitoring use of pediatric CT protocols
- Potential conflicts which could create barriers to change
- Diverse enterprise: Tertiary vs community hospitals
- Trust: Private practice vs academic radiology groups
- Organizational structure: Medical staff vs hospital administration

METHODS

- Radiology CEC established: comprised of Radiologists and Administrators representing 11 BJC hospitals.
- System-wide CT protocol revision: central standard and local protocols standardized in 100+ CT scanners.
- Master CT protocol list developed for enterprise use.
- Compliance management system: data collected at all hospitals and compliance measured from CT requirements.
- Competitiveness training on new dose management program provided to Radiologists and technical staff.
- New Joint Commission and CMS diagnostic imaging requirements implemented.
- Pediatric CT protocols launched.
- Begin monitoring pediatric CT protocol compliance. Results presented at quarterly Radiology CEC meetings.
- Initial results showed poor compliance, agreement, and performance levels were lower than pediatric CT protocols.
- CT experts begin visiting sites to identify and remove barriers.
- Analyze data to better understand barriers.
- Experts identify facilities that require additional training and/or coaching.
- Success story from one community hospital (Hospital #1) shared with others at Radiology CEC meeting.
- Educational and monitoring tools developed and delivered.
- Site visits continue on an ad hoc basis.
- Frequency of site specific feedback, CT protocols, and performance compliance is monitored.

PROJECT MILESTONES

- 2014
- New Joint Commission and CMS diagnostic imaging requirements implemented.
- Pediatric CT protocols launched.
- New CT protocols improve performance over the next 15 months.
- Site visits continue on ad hoc basis.
- Frequency of site specific feedback, CT protocols, and performance compliance is monitored.

RESULTS

- Pediatric CT Protocol Use
  - Baseline data (Jan 1, 2015-June 30, 2015) demonstrated that compliance was poor at most sites.
  - Indications that awareness, agreement and passive monitoring were not sufficient to drive change.

Barriers

- “We don’t image pediatric patients”
- “We already use pediatric protocols”
- Lack of feedback and accountability

Addressing barriers

- Provided data showing that all sites image children (defined as patients < 18 yrs old)
- Provided data showing impact of routinely using pediatric protocols (Figure 4).
- Site visits for face-to-face education and feedback (Figure 2).
- Frequent & specific feedback (Case Studies below).

Case Studies: Change management at two community hospitals (Hospitals 7 and 8)

1. Educating the technologists (direct communication, group emails, department meetings, posting reminders and sign at the scanner).
2. Monitoring local performance on a monthly basis by reviewing each pediatric CT scan to determine if a pediatric CT protocol was used.
3. Identifying the technologists and investigating the causes, finding common underlying causes (e.g., patient age close to adult border, weekend and night shifts shifts, technologists, etc), providing feedback to staff and appropriate training.
4. Increasing monitoring frequency to a weekly basis, one-on-one interaction with technologists by their supervisors per case to case change behavior and employee importance.
5. Providing positive feedback to the team by posting the performance rates and comparing our results with other centers within the enterprise.
6. Ongoing monitoring to determine if changes last beyond improvement.

CONCLUSIONS

- Reliable use of pediatric CT protocols is an important goal.
- Challenges to achieving throughout a large, diverse enterprise.
- Important to establish a robust improvement structure.
- The BJC Center for Clinical Excellence served as a “trusted agent” to promote change across the system.
- Established the Radiology CEC as a neutral territory (“Switzerland”)
- Collected and analyzed data.
- “If we have data, let’s look at the data. If all we have are opinions, let’s go with mine.” Jim Barkdale, CEO of Netscope
- Site visits provide face-to-face interactions with personnel.
- CEC meetings were a forum for discussing and celebrating successes.

REFERENCES


IMPLICATIONS

- Why aren’t we at 100% yet? What are the remaining barriers?
- These problems are not new. Doris Lesser observed..."If there is a decrease in utilization of one thing, they will be increased at another thing more than any other. It is this—that we do see more about ourselves now than people did in the past, but that view of the system has been put into effect."