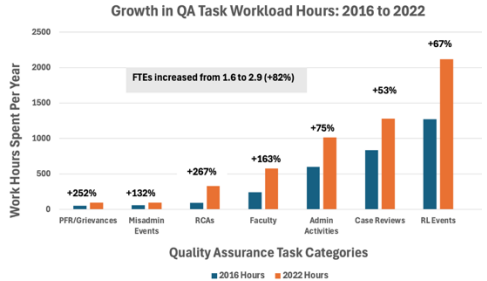
A Novel Metric for Measuring Radiology Quality Assurance Workload

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Background

- Increased radiology exam volumes are linearly related to many required quality assurance (QA) tasks
- QA team faced burnout due to inability to meet demand which they felt exceeded current staffing level
- No formal institutional process for justifying QA expansion
- Due to fiscal restraints, leadership places barriers to hiring additional "non-clinical" staff including QA team members





Legend: PFR/Grievances (Patient Feedback Review), Misadmin Events (Medication Administration Errors), RCAs (Root Cause Analyses), Faculty (Faculty Involvement), Admin Activities (Administrative Duties), Case Reviews (Clinical Case Review), RL Events (Safety Reporting Events)

Objective

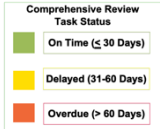
- To implement a standardized task time metric to quantify outstanding QA workload and advocate for hiring 1 additional radiology QA staff member

Methods

- Each QA-related task was assigned an expected average turnaround time (TAT)
- Using an Excel tracker, tasks were labeled "On time" if completed within TAT, "Delayed" if between 1-2x TAT, "Overdue" if more than twice the TAT
- Tasks were reviewed and reprioritized weekly
- Monthly workload summaries were shared with leadership
- Data included outstanding work in all task categories in total hours, weeks, and as a % of total workload, as well as monthly trends of the % of overdue tasks

July 2023 Workload Summary

Example: Comprehensive reviews (arrow) were on time if within 30 days, delayed if 31-60 days, and overdue if > than 60 days.



Quality Caseload Summary - As of 7/25/23

Outstanding Reviews	1-14 Days	15-30 Days	31-60 Days	61-90 Days	> 90 Days	SUBTOTAL	Completed CY23YTD	Hours / Activity
Comprehensive Reviews	4	3	0	2	20	29	7	7
Focused Reviews	4	2	2	3	8	19	39	3
Inter-departmental Quality Review	0	2	1	0	0	3	0	5
Root Cause Analysis/NYPORTS	0	0	1	2	0	3	4	24
NYPORTS 914	1	0	0	0	0	1	18	3
Patient Family Relations	1	3	0	2	2	8	49	3
RL Solutions (Risk Events)	26	2	15	10	6	59	812	1
Patient/Insurance Grievances	0	1	0	0	0	1	3	6
TOTAL	36	13	19	19	36	123	932	
	HOURS OF WORK TO DO	WEEKS OF WORK TO DO	% WORKLOAD				Activities Completed YTD	Hours Completed YTD
GREEN = On Time	120	3.0	27%					
ORANGE = Delayed	26	0.7	6%					
RED = Overdue	293	7.3	67%					
TOTAL	439	11.0					932	1293

Results

June – December 2023 Month-to-Month Workload Trends

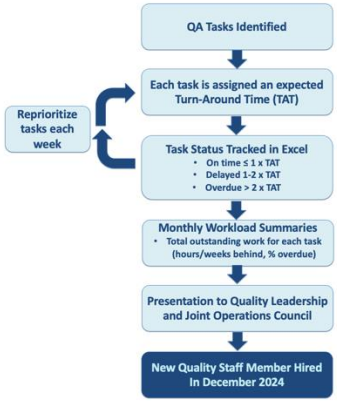
	Jun-23	Jul-23	Aug-23	Sep-23	Oct-23	Nov-23	Dec-23
weeks of work behind	11.2	11.0	10.0	11.3	11.3	13.7	13.5
% workload overdue	48%	67%	65%	64%	69%	65%	73%

% workload Overdue Goal	0-19%	20-39%	40-59%	60+%

- With the current staffing level, from June to December 2023 the % of overdue tasks rose from 48% to 73%
- Number of weeks behind schedule rose from 11.2 weeks to 13.5 weeks
- Tracker helped prioritize tasks with reasonable deadlines
- Presentation of data to leadership led to approval for hiring an additional radiology QA position in 2024

Conclusion

Workflow for Tracking QA Task Volume



- This task time metric is a novel approach to measuring operational workload in radiology QA
- This metric identifies QA workload imbalance, promoting timely quality reviews and adherence to regulatory requirements
- Tracking QA workload can identify potential staff burnout and help secure support from leadership for QA staffing expansion
- Tracking this metric over time can help predict the future impact of QA workload / staffing imbalance

References

Bruno MA, Nagy P. Fundamentals of quality and safety in diagnostic radiology. *J Am Coll Radiol*. 2014
Bruno MA, Walker EA, Abujudeh HH. Understanding and Confronting Our Mistakes: The Epidemiology of Error in Radiology and Strategies for Error Reduction. *Radiographics*. 2015