

Improving Quality Improvement: Increasing QI Competency in Internal Medicine Subspecialty Fellows

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Background

- QI importance is highlighted by ACGME
 - Identify system error and impact on healthcare cost
- QI curriculums focus on participation rather than application proficiency
- Standard curriculum:
 - QI project inclusion
 - Online training modules
 - Multidisciplinary didactics
- Proficiency limited by
 - Time restraints
 - Lack of faculty expertise

Aims

- Develop a novel, brief, active learning, small-group instructional activity for IM subspecialty fellows in QI
- Improve fellow satisfaction of their QI understanding and confidence
- Assess the impact of “Fellow QI Power Hour” on QI learning outcome

Methods

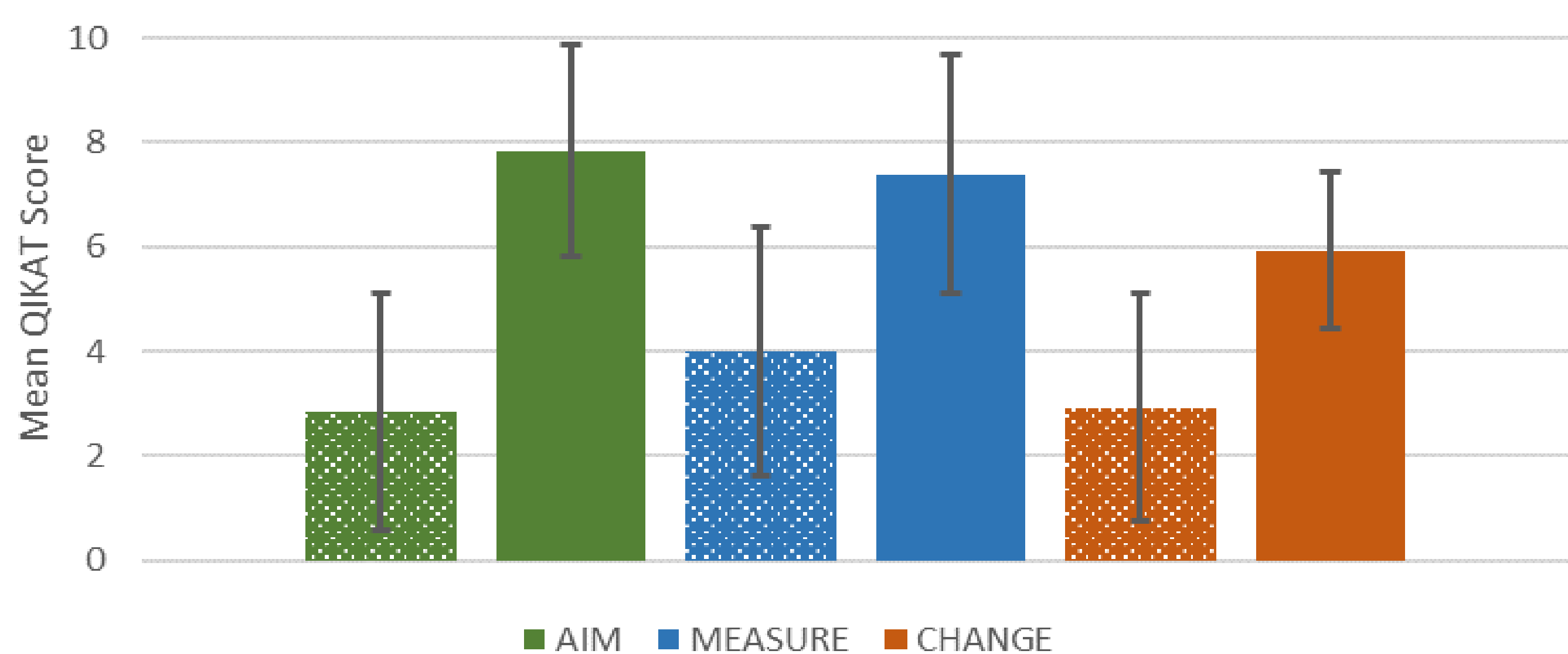
- ID/Allergy/Immunology/Endocrinology Fellows 2019-2020 (13 fellows)
- 1-hour PowerPoint
 - Active learning prompts in developing a QI project
- 5-question satisfaction survey (5-item Likert scale)
- Pre/Post-test QIKAT-R assessment tool (9 Qs)

Results

QIKAT Scoring Total			
	Pre-Power Hour	Post-Power Hour	Difference
Mean	9.8	21.2	11.4
Mean (%)	36.2	78.3	42.2
		p-value	0.00001

There was a 42.2 % increase in Total QIKAT score after "QI Power Hour." A paired, single-tail, t-test was utilized to evaluate the p value

Comparing Mean QIKAT-R Scores Before and After "QI Power Hour"



Prior to "QI Power Hour" mean raw scores were on average 3.8 points lower than post intervention. Fellows were able to show a higher proficiency in determining the AIM of potential QI Projects consistently.

Satisfaction Survey Results

Positive perception (% Agree/Strongly Agree)	92.3
Negative perception(%Disagree/Strongly Disagree)	7.7

Conclusions

- One hour of dedicated QI competency training can increase proficiency and confidence for developing a QI project
- Fellow satisfaction of QI understanding was favorable after QI Power Hour
- Can easily be integrated into the time restraints of a fellowship or residency curriculum

References

- Institute of Medicine. 2000. To Err is Human: Building a Safer Health System. Washington, DC: The National Academies Press. <https://doi.org/10.17226/9728>.
- Holmboe ES, Prince L, Green M. Teaching and improving quality of care in a primary care internal medicine residency clinic. *Acad Med.* 2005;80:571-7.
- Nasca TJ, Philibert I, Brigham T, Flynn TC. The Next GME Accreditation System— Rationale and Benefits. *N Engl J Med* 2012; 366:1051-1056. DOI: 10.1056/NEJMs1200117
- ACGME Common Program Requirements (Fellowship). Effective July 1, 2019. <https://www.acgme.org/Portals/0/PFAssets/ProgramRequirements/CPRFellowship2019.pdf>
- Boonyasai RT, Windish DM, Chakraborti C, et al. Effectiveness of teaching quality improvement to clinicians: a systematic review. *JAMA.* 2007;298:1023-37.
- Wong BM, Levinson W, Shojania KG. Quality improvement in medical education: current state and future directions. *Med Educ* 2012;46(1):107–119.
- Patow CA, Karpovich K, Riesenber LA, et al. Residents’ engagement in quality improvement: a systematic review of the literature. *Acad Med* 2009;84(12):1757–64.
- Baxter K, Petz C, Middleton JL, Chan M. Re-thinking How We Teach Quality Improvement: Adding Meaning to an ACGME Requirement. *J Gen Intern Med.* 2019 Jun 13. doi: 10.1007/s11606-019-05059-7. [Epub ahead of print].
- Kevin B. Weiss, John Patrick T. Co, and James P. Bagian (2018) Challenges and Opportunities in the 6 Focus Areas: CLER National Report of Findings 2018. *Journal of Graduate Medical Education: August 2018, Vol. 10, No. 4s, pp. 25-48.* <https://doi.org/10.4300/1949-8349.10.4s.25>
- Singh MK, Ogrinc G, Cox KR, et al. The quality improvement knowledge application tool revised (QIKAT-R). *Academic Medicine* 2014;89(10):1386–91. <https://doi.org/10.1097/ACM.0000000000000456>.
- Kashani KB, Ramar K, Farmer JC, Lim KG, Moreno-Franco P, Morgenthaler TI, Dankbar GC, Hale CW. Quality improvement education incorporated as an integral part of critical care fellows training at the Mayo Clinic. *Acad Med* 89: 1362–1365, 2014
- Katz JD, Biehl A. Integrating a patient safety conference into graduate medical education. *Med Sci Educ* 25:467–472, 2015
- Prince LK, Little DJ, Schexneider KI, Yuan, CM. Integrating Quality Improvement Education into the Nephrology Curricular Milestones Framework and the Clinical Learning Environment Review. *CJASN* February 2017, 12 (2) 349-356; DOI: <https://doi.org/10.2215/CJN.04740416>.

Revised QIKAT Scoring Rubric (QIKAT-R)	
AIM	
A1	is focused on the system-level of the problem presented
A2	includes direction of change (increase or decrease).
A3	includes at least one specific characteristic such as magnitude (% change) or time frame.
MEASURE	
M1	is relevant to the aim
M2	is readily available so data can be analyzed over time
M3	captures a key process or outcome
CHANGE	
C1	is linked directly with the aim
C2	proposes to use existing resources.
C3	provides sufficient details to initiate a test of change

Each item receives one point if the response adequately addresses the item and zero points if it does not. The total possible score is 9 points for each scenario.