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Letter

Resident perspectives on a dermatology Quality Improvement curriculum: the University of Colorado experience

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Abstract

The Centers for Medicare and Medicaid Services (CMS) have prioritized the objective of optimizing quality healthcare through quality improvement initiatives, yet research on dermatology-specific QI programs and their perceptions among dermatology residents remains limited. We explore residents' opinions of a dermatology-specific QI scholarly project curriculum implemented at University of Colorado Denver (UCD) in 2010 and also evaluate residents' attitudes regarding the value of this curriculum in aiding them to meet ACGME core competencies.

Introduction

Optimized healthcare requires ongoing engagement in quality improvement (QI) initiatives. The Centers for Medicare and Medicaid Services (CMS) have prioritized this objective. Starting in 2015, physicians face financial penalties for not reporting quality measures within the CMS Physician Quality Reporting System (PQRS) [1]. Additionally, attainment of QI proficiency is expected by the Accreditation Council for Graduate Medical Education (ACGME) under the new Clinical Learning Environment Review Program [2], highlighting the importance of QI within modern residency training.

Although assessment of QI initiatives is necessary for promoting healthcare quality [3], research on dermatology-specific QI programs and their perceptions among dermatology residents remains limited. We sought to both explore residents' opinions of a dermatology-specific QI scholarly project curriculum implemented at University of Colorado Denver (UCD) in 2010, and also

evaluate residents' attitudes regarding whether this curriculum enhanced their abilities to meet the following ACGME core competencies: patient care, medical knowledge, practice-based learning and improvement, and systems-based practice. The curriculum provides faculty support and protected time to engage residents in the design and implementation of QI initiatives. These are longitudinal group projects designed during the PGY-2 year and completed by the end of the PGY-4 year. Time spent completing the group projects was variable and not formally monitored. All residents participated in a project. Because they worked in groups, some residents did work more on projects than others over the course of their residency. The residents had different projects based on their year of residency. Projects were resident driven and included: 1) developing a residency program wiki website [4] to enhance dermatology education for medical students, 2) using the electronic medical record (EMR) to improve tuberculosis screening in patients receiving biologics, 3) optimizing EMR dermatology note templates, and 4) improving biopsy site identification and clinicopathological correlation through integrating clinical photographs into EMR.

Methods

Our survey consisted of 6 questions assessing resident satisfaction, knowledge attainment, and behavioral influence associated with the UCD dermatology QI curriculum using a 5-point Likert scale ranging from "very satisfied" to "very dissatisfied" and "strongly agree" to "strongly disagree." Participants included all UCD dermatology residents enrolled in the curriculum on January 25, 2013. Participants were from various PGY levels and at different stages of the curriculum.

We implemented the survey online (SurveyMonkey, Palo Alto, CA). Respondents had 3 days to anonymously complete the survey and received 1 reminder e-mail. We calculated the proportion of ordinal responses by category for each question and compared global differences across all questions using Fisher's exact test. All analyses were performed using Stata SE 13.1 (StataCorp, College Station, TX). This project was not human subjects research as determined by the Colorado Multiple Institutional Review Board guidelines.

Results

Survey response rate was 100% (n=16). Eighty-eight percent (n=14) of respondents expressed overall satisfaction with the QI curriculum. A majority of respondents felt that participation in the QI curriculum contributed to the capacity to meet ACGME competencies, specifically practice-based learning and improvement (n=12; 75.1%), systems-based practice (n=11; 68.8%), patient care (n=11; 68.8%), and medical knowledge (n=10; 62.6%). We found no significant ($P=0.95$) difference in the proportion of responses across questions.

Discussion

Assessing residents' perceptions of their training and ability to perform QI initiatives constitutes an important aspect of QI training evaluation. Recent research has evaluated ACGME competency goals and performance within dermatology training programs [5, 6], but currently, resident attitudes regarding QI initiatives remain poorly understood. Our results indicate high satisfaction with a dermatology-specific QI curriculum, with most residents expressing that this curriculum contributes to their ability to satisfy four ACGME core competencies related to QI training.

Our study has several limitations. First, our survey is not formally validated, and our results may not be generalizable. Second, our small sample size prevents adjusted analyses to account for potential confounders. Third, because respondents were residents within our department, responses may be subject to desirability bias. Finally, consequent to our design, we did not determine the impact of the QI curriculum on long-term physician behavior.

Despite these limitations, our study underscores the importance of dermatology-specific QI training among residents. Future research is needed to determine the role of dermatologic QI curricula in achieving CMS PQRS requirements, maintenance of dermatology board certification, and, ultimately, care delivery for patients with cutaneous disease.

Table 1. Characteristics of Dermatology Residents Completing Quality Improvement Survey

Variable	n=16 (%)
Mean age (range) at start of residency	29(26-34)
PGY level at time of survey	

PGY-II	6 (37.5%)
PGY-III	5 (31.25%)
PGY-IV	5 (31.25%)
Female	10 (62.5%)
Race/ethnicity	
White	14 (87.5%)
Asian	2 (12.5%)
Completion of prior residency training	1 (6.3%)
Holds Ph.D.	2 (12.5%)

Table 2. Dermatology Resident Assessment of Quality Improvement Program, by Survey Item

Survey Item ^a	% (n)				
	Very Satisfied	Satisfied	Neither	Dissatisfied	Very Dissatisfied
1. Rank your overall satisfaction from 1-5 with regards to the dermatology resident quality improvement project.	25.0 (4)	62.5 (10)	6.3 (1)	6.3 (1)	0.0 (0)
	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
2. The dermatology resident quality improvement project was a helpful teaching tool for the advancement of patient care.	12.5 (2)	56.3 (9)	25.0 (4)	6.3 (1)	0.0 (0)
3. The quality improvement project has increased your medical knowledge.	18.8 (3)	43.8 (7)	18.8 (3)	18.8 (3)	0.0 (0)
4. The quality improvement program has influenced the ways you perform practice-based learning and improvement in such ways as: use of information technology to access data important for patient care, accurate analysis and assessment of clinical studies.	31.3 (5)	43.8 (7)	18.8 (3)	6.3 (1)	0.0 (0)
5. The quality improvement project has improved your systems-based practice skills (such as: knowledge of health care delivery systems; cost effective medical care without compromising quality).	31.3 (5)	37.5 (6)	25.0 (4)	6.3 (1)	0.0 (0)
6. With regards to the dermatology resident quality improvement project, you would recommend that the program continue unchanged.	25.0 (4)	43.8 (7)	18.8 (3)	12.5 (2)	0.0 (0)

^aNo significant differences in responses were observed across survey items (*P*-value 0.95)

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