Effects on Physician Practice After Exposure to a Patient-Centered Care Curriculum During Residency

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ABSTRACT

Background A novel patient-centered curricular experience was implemented in an internal medicine residency program in 2007. There is little published evidence that what is taught in residency affects practice after graduation.

Objective We sought to evaluate whether graduates perceived any long-term effects of participation in this patient-centered curriculum.

Methods From July to September 2015, a web-based survey with quantitative and qualitative components was sent to graduates of the program to assess self-reported effects of this curriculum on current practice. Graduates spent 2 to 8 weeks on the intervention team during their training. Responses to open-ended questions were independently coded by 2 investigators, using the editing analysis method. Emergent themes and representative quotes are reported.

Results Of 150 residents who completed at least 1 year of training from 2007 to 2014, 94 of 110 (85%) with available email addresses responded to this survey. Of respondents, 21 (22%) were still in fellowship training, and 71 (76%) were in full-time practice. The majority responded "a great deal" when asked if the experience was valuable to their training as a physician (72 of 94, 77%) or influenced their practice (59 of 94, 63%). Free-text comments indicate that residents felt the experience enhanced their understanding of social determinants of health, communication skills, relationship building, and ability to tailor treatments to individual patients.

Conclusions Internal medicine residency graduates reported that exposure to a curriculum focused on knowing patients as individuals had important enduring effects on their practice.

Introduction

Knowing the patient as an individual is one of the main tenets advocated by the National Institute for Health and Care Excellence in the United Kingdom to improve the experience of care[1] and is essential to realizing ideal patient-centered care.[2] Practicing patient-centered care has been linked to improvements in patient trust in their physicians, diagnostic accuracy, and patient adherence to treatment plans.[3] Among patients with HIV, the patient's perception of being "known as a person" was found to be associated with their receipt of highly active antiretroviral therapy.[4] Despite this, only 42% of 39 090 patients surveyed by *Consumer Reports* rated their physicians as "excellent" with respect to their efforts to get to know them as a person.[5]

In 2007, a curricular experience that focused on knowing the patient as a person was developed and implemented on an inpatient service in our internal medicine residency program.[6] This experience, known as the "Aliki Initiative,"[7] is named for Aliki Perroti, who funded its development. There is very little published evidence demonstrating whether what is taught in residency has an effect on the practice of graduates, although a systematic review found that most residency curricular outcomes were limited to time during training.[8] We have shown that the patient-centered care curriculum described in the present study improves residents' self-reported ability to address patient medication adherence, communicate with patients about transitions of care, and know their patients as people.[9] Medical students identify the experience as distinct from other clerkship experiences.[10] We report here on the perceived effects of this curriculum on the practice of graduates from our program exposed to this curriculum.

Methods

One of 4 inpatient general medicine teams at Johns Hopkins Bayview Medical Center, a 335-bed urban academic hospital in Baltimore, Maryland, has been implementing a patient-centered care curriculum mentioned above since 2007, emphasizing the

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Editor's Note: The online version of this article contains themes and sample quotes demonstrating what graduates believed was the focus of the Aliki Initiative.

importance of knowing the patient as a person. This curriculum includes a restructured admission history form, preference for bedside rounding, conducting phone calls to outpatient providers, and following up with patients after discharge.[6] To accommodate these added tasks, each team of 2 interns and 1 resident admitted 1 fewer patient every 4 days than the other 3 medical teams. The details of this curriculum and learner and patient experience have been previously reported.[7,9] Residents rotate on all 4 general medicine teams during training. All interns are exposed to this experience for a minimum of 4 weeks and additional exposure occurs for at least 4 weeks in residency.

From July through September 2015, web-based surveys were sent via email to graduates of the 3-year residency program or to those who completed a preliminary medicine internship between 2007 and 2014. We contacted graduates whose email addresses were available to the residency program. Graduates were invited to participate in the online survey; their decision to complete the survey served as consent to participate in the study. Up to 4 emails were sent to maximize response rates. No remuneration was offered. The survey consisted of 17 items to collect demographic information, practice characteristics, and the graduate's view of the importance of the patient-centered care experience to their residency training and to their current practice. Graduates were asked to rate how valuable the patient-centered care experience was in their training and the influence of the experience on their practice. Possible responses to these questions were "a great deal," "a little," "not at all," "not sure," and "I no longer practice medicine." The responses to these questions were reported as frequency counts and percentages. Two narrative response items were included: (1) "Please type in one sentence about what you believe the Aliki Initiative is about," and (2) "Describe how your practice as a physician has been influenced by your participation in the Aliki Initiative. Please skip if it did not." Responses were analyzed using the editing analysis style of qualitative research methods, in which the coding template emerges from the data.[11] Two study team members (C.C. and J.D.R.) independently generated a coding template to capture the themes that emerged from the free-text responses. The study team came to a consensus on the final coding categories and representative quotes. Free-text responses were reviewed independently by 2 authors (C.C. and J.D.R.) who created a coding dictionary, described themes, and coded responses by consensus. This study was approved by the Johns Hopkins Institutional Review Board.

What was known and gap
A patient-centered curriculum has been shown to affect residents' experiences and practice while in residency, but there are few studies demonstrating whether specific residency curricula influence graduates' practice.

What is new
A web-based survey sent to graduates of the program to assess the effect of a patient-centered curriculum on current practice.

Limitations
Results are from self-reports rather than from patient assessments or analyses of patient care. Study was conducted in a single program, which may limit generalizability.

Bottom line
Graduates of an internal medicine residency program reported that a curriculum focused on knowing patients as individuals was a valuable component of their residency and had important effects on their practice after graduation.

Results

A total of 150 residents completed at least 1 year of residency training in the program between 2007 and 2014, 110 of whom had email contacts available to us. Of the 110 graduates contacted, 94 (85%) responded to our request to participate in this survey. There was an even distribution across gender and years in training of respondents; 21 (22%) were still in fellowship training, and 71 (76%) were in full-time practice. In the past year, graduates reported that on average they spent about 60% of their time in clinical work, and about 23% of their time in teaching activities. Table 1 demonstrates the respondents' current types of practice. Approximately half (48 of 94) of the graduates reported that they participated in the patient-centered care curricular experience both as a resident and as an intern, 16% (15 of 94 each) as either resident or intern; and 15% (14 of 94) either

TABLE 1
Current Practice Type of Residency Program Graduates

Type of Practice[a]	N (%)[b]
Academic medicine	39 (41)
Specialty medicine practice	25 (27)
Fellowship	21 (22)
General medicine practice	16 (17)
Predominantly clinical	15 (16)
Other	14 (15)
Predominantly research	13 (14)
Private practice	8 (9)
Predominantly teaching	5 (5)
Predominantly administrative	1 (1)

[a] Respondents indicated as many descriptors as were applicable to their current practice.
[b] A total of 94 individuals responded to this question. Percentages reflect the percentage of the 94 respondents involved, to any degree, in a particular type of practice.

TABLE 2
Themes and Illustrative Quotes Demonstrating How Graduates Perceived Their Practice Was Influenced by the "Aliki Initiative"

Themes	Sample Quotes
Communication	"I enjoy getting to know who patients are and find that by getting to know patients' stories, I can better care for them. My listening skills are better because of Aliki." "I think I communicate with patients and their families more. Although it can take more time, I call patients (families) on my way home when I am concerned that something may have not been communicated effectively. I think this really stems from my experiences on Aliki. I will never forget going to a patient's home and realizing that half of the medications we changed were never filled and/or just sitting in a box."
Empathy and humanism	"I spend more time listening and trying to put myself in their shoes as a result of Aliki." "During busy days with numerous encounters, my training helps me to keep the patient at the center. It reminds me that I am dealing with an individual (a father, a husband, or brother), and not just an 'n' in a randomized control trial."
Patient-centered care	"My decision to pursue an MPH focusing on health behavior change and stroke prevention was influenced by my participation in Aliki. I realized that I had not learned principles essential to promoting behavior change in my patients, especially the importance of considering the broader environment and its influences on behavior. After completing my MPH, I decided that I wanted to develop a patient-centered system of care for stroke survivors." "The insight to recognize the social and personal factors that influence my patients' understanding and experience of disease, choices, priorities, and plans for their care."
Coordination of care	"It's given me a greater understanding of several important aspects of care, eg, the importance of following through and communicating with other providers to coordinate care, the ways in which a patient's home environment and social situation influences their health and ability to adhere to recommendations, cost consciousness." "I ask patients about their concerns leaving the hospital, extensively review how they take their meds, and make follow-up phone calls."
Values	"It has solidified my values and validated that prioritizing quality of care over quantity of care is a legitimate aspiration (in the face of many competing messages in the modern health care system)." "I invest more time with my patients and make a point to develop a relationship with them. They get better care and I am more fulfilled with my practice."
Intention to shape others' practice	"Students, residents, and fellows have consistently provided positive feedback about my bedside manners, and I am hopeful that by observing my patient interactions, they are influenced to provide similar care. I strongly believe that programs like Aliki are key to transforming medical education . . . in the US." "The Aliki experience will go with me in all walks of my professional life. It has a direct influence on my role as the chair of our hospitalist group as I find myself striving to cultivate an Aliki environment in our group, but I also find myself drawing from my Aliki experience in most patient care encounters."

did not participate or were not sure if they had. The majority (72 of 81 people who answered this question, 77%) reported that the experience was valuable to their training as a physician "a great deal" and 18 of 81 (22%) "a little," while none responded "not at all," and only 1 reported they were "not sure." The majority responded that their practice as a physician was influenced by participating in the experience "a great deal" (53 of 84 respondents to this question, 63%) or "a little" (26 of 84, 31%), while 3 (4%) responded "not at all," and 2 (2%) responded, "I no longer practice medicine."

Seven major themes emerged from free-text descriptions of the patient-centered care experience: dedicated time, knowing patient as person, communication, empathy, social determinants of health, tailoring medical care, and transitions (quotes representative of each theme are available as online supplemental material). In describing the ways in which the experience influenced their current practices, 6 themes emerged: communication, empathy and humanism, patient-centered care, coordination of care, values, and intention to shape others' practice. TABLE 2 presents quotes representative of these themes.

Discussion

Physicians who participated in a specific curricular experience that focused on knowing the patient as a person during internal medicine residency reported that the experience was a valuable part of their

training and had an enduring effect on their practice after graduation. Graduates felt that this experience positively influenced their communication skills and relationship building with patients and helped them consider their patients holistically. These findings suggest that the value of this experience previously reported by residents during their training[9] persists after graduation. It may at first seem surprising that a curriculum that comprised on average 10% or less of the total residency experience might affect practice after graduation. However, we previously found that exposure to the curricular experience seemed to affect patient-centered care practice on other teams, resulting in a diffusion of concepts and behaviors throughout the residency program.[12]

Although it is generally assumed to be the case, there is little published evidence that specific aspects of the residency training experience influence the practice of graduates. Using an analysis of deliveries performed by 4124 obstetricians who were graduated from 107 residency programs, Asch et al found that higher maternal complication rates were experienced by women treated by obstetricians trained in residency programs with the highest risk-standardized major maternal complication rates.[13] Bansal et al analyzed general surgical procedures performed by 454 graduates of 73 general surgery residency programs and found that adverse events were more common in procedures performed by graduates of programs that had higher risk-standardized adverse event rates.[14] To the best of our knowledge, there is only one prior study that examined the effect of residency training site on graduates of an internal medicine residency program. Sirovich et al studied American Board of Internal Medicine certifying examination responses of 6639 graduates of 357 residency programs to assess their preference for appropriately conservative patient care management.[15] They found that graduates of programs in low-intensity health care practice regions were more likely to identify when conservative patient care management was appropriate. Fewer studies still evaluated the effect of specific curricula during residency training on long-term attitudes and practices: one study found that a spirituality curriculum during family medicine residency had a positive impact on physicians' attitudes and confidence 8 years after exposure,[16] and another study suggested that exposure to a research curriculum during family medicine training influenced attitudes toward research but not practice approximately 4 years later.[17] Similarly, to test our hypothesis conclusively and minimize the risk of selection bias, residency programs could randomize some residents to a patient-centered curriculum and others to a control curriculum, and then compare clinical patient outcomes of those groups of residents years later.

There are several limitations to the findings of this report. The results are from self-reports rather than from patient assessments or analyses of patient care. The observations reflect those of graduates of a single residency program and may have limited generalizability. Finally, survey results reflect the perspective of graduates only a few years out from residency training. This is important since practice habits undoubtedly evolve over time, and the effect of residency training on these habits seemed to diminish over time in a previous study.[14]

Conclusions

Graduates of an internal medicine residency program in an academic medical center reported that exposure to a curriculum focused on knowing patients as individuals was a valuable component of their residency training and had important effects on their practice after finishing training. This survey suggests that a patient-centered curriculum may influence physicians' self-reported practice years after graduation.

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