Trends in High-Value Care as Reported by Internal Medicine Program Directors

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ABSTRACT

Background The value of care, defined as the relationship of cost, harm, and benefit, has garnered increased focus in recent years. Program directors (PDs) can provide information about resident skill and institutional priorities related to high-value care.

Objective The objective of the study was to evaluate changes between 2012 and 2014 in PD-reported resident skills and institutional priorities related to high-value care.

Methods We performed annual surveys of US internal medicine PDs from 2012–2014 and evaluated responses to identical questions related to high care value. The survey was developed by the American College of Physicians and the Alliance for Academic Internal Medicine.

Results Response rates were 235 of 378 (62.2%) in 2012, 213 of 380 (56.1%) in 2013, and 215 of 391 (54.9%) in 2014. The majority of PDs reported that balancing benefits, harms, and costs was (1) a teaching priority; (2) the subject of didactics; (3) discussed by residents; and (4) emphasized by institutional leadership. Approximately one-third reported that unnecessary ordering occurred most or all the time, with no changes in the survey period. When asked about resident ordering compared to 3 years ago, 42.5% (88 of 207) of PDs reported residents ordering fewer unnecessary tests most or all the time in 2014, compared to 28.1% (63 of 224) in 2012 ($P = .002$).

Conclusions Internal medicine PDs reported high levels of institutional interest in and teaching of care value between 2012 and 2014, but responses for later years suggest improvement in trainees avoiding unnecessary testing.

Introduction

The importance of educating trainees about high care value has gained broad recognition in recent years,[1,2] with increased attention since the 2012 launch of the Choosing Wisely initiative.[3] While the incorporation of a formal curriculum in high-value care[4] has grown among internal medicine (IM) training programs, institutional culture is another important determinant of resident attitudes and behavior in this area.[5] Despite its clear importance, resident ability to practice high-value care is rarely assessed, largely because assessment is challenging[6] and there are few robust methods of measurement.

Internal medicine program directors (PDs) are well positioned to describe both resident skills in high-value care and relevant components of the institutional environment. Our objective was to evaluate PD-reported changes in value-related resident skills and institutional environments between 2012 and 2014 in US-based IM residency programs. We hypothesized that PDs would report growth in formal and informal teaching of high-value care with small reductions in the resident ordering of unnecessary tests.

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Methods

The Internal Medicine In-Training Examination (IM-ITE) is a multiple-choice examination offered annually across the United States to help residents assess their knowledge of IM. Educators at the American College of Physicians and the Alliance for Academic Internal Medicine develop and administer an annual online survey for PDs whose residents complete the IM-ITE. Beginning in 2012, surveys have included questions related to high-value care, several of which have remained constant for the 3 years from 2012 through 2014. Survey nonresponders receive up to 6 reminders over 3 months. We evaluated responses related to identical high-value care questions from 2012 through 2014. We excluded responses from non-US PDs and those who did not consent to research participation. Survey questions related to frequencies of experiences and behaviors with responses on a 5-point Likert scale (1, never; 2, hardly ever; 3, sometimes; 4, most of the time; and 5, all or almost all of the time). Analyses were conducted using SPSS Statistics versions 21 to 23 (IBM Corp, Armonk, NY).

This study was exempted from ongoing oversight by the Institutional Review Board of Memorial Sloan Kettering Cancer Center.

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TABLE
Program Director Responses Over Time[a]

Question	2012 (N = 224), n (%)	2013 (N = 208), n (%)	2014 (N = 207), n (%)	*P* Value[b]
Teaching residents to balance the clinical benefit of care with the harms and costs is a priority	172 (76.8)	161 (77.4)	162 (78.3)	.71
Balancing the clinical benefit of care with the harms and costs is discussed by residents when caring for patients	154 (68.8)	142 (68.3)	144 (69.6)	.86
Institutional leadership promotes the concept of balancing clinical benefits of care with the harms and costs	137 (61.2)	122 (58.7)	140 (67.6)	.18
Balancing the clinical benefit of care with the harms and costs is the subject of teaching rounds or conferences	118 (52.7)	107 (51.4)	119 (57.5)	.33
Compared to 3 years ago, residents are ordering fewer unnecessary tests	63 (28.1)	80 (38.5)	88 (42.5)	.002
Residents order more tests than are necessary	76 (33.9)	78 (37.5)	62 (30.0)	.40

[a] n (%) of respondents reporting occurrence "most of the time" or "all/almost all of the time." Response options for all items were "never," "hardly ever," "sometimes," "most of the time," or "all or almost all of the time."
[b] *P* values are for test of trend over time using logistic regression.

Results

Between 97.4% (380 of 390) and 98.7% (391 of 396) of US IM PDs[7] participated in the IM-ITE during the 3-year study period. In 2012, 224 of 378 eligible PDs (59.3%) completed the survey and consented to be included in the research, with similar response rates in 2013 (208 of 380, 54.7%) and 2014 (207 of 391, 52.9%). The number of PDs who completed the survey but did not consent to research participation was 11 in 2012, 5 in 2013, and 8 in 2014; these PDs were included in the denominator for response rate calculations. In all 3 years, the majority of PDs reported that teaching residents to balance benefits, harms, and costs was a priority most or all of the time and was the subject of rounds or conferences (TABLE). In all 3 years, the majority of PDs also reported that balancing the benefits with the harms and costs was discussed by residents in patient care settings and was emphasized by institutional leadership most or all the time (TABLE). There were no significant changes in any of these responses over the 3 years.

Additional questions addressed resident ordering behaviors. In 2012, 33.9% (76 of 224) of PDs reported that unnecessary ordering occurred most or all of the time compared to 37.5% (78 of 208) in 2013, and 30.0% (62 of 207) in 2014; differences were not statistically significant. However, when asked about resident test ordering compared to 3 years ago, PD responses shifted over time. In 2012, 28.1% (63 of 224) reported that residents were ordering fewer unnecessary tests compared with 3 years ago most or all of the time, as compared to 38.5% (80 of 208) in 2013 and 42.5% (88 of 207) in 2014 ($P = .002$; TABLE).

Discussion

Program directors reported no changes in the formal or informal curriculum or institutional commitment to high-value care between 2012 and 2014. This is despite an increased focus on care value in medical and lay literature, a proliferation of relevant educational tools, and the 2014 inclusion of skills in cost-effective care in the Accreditation Council for Graduate Medical Education Internal Medicine Reporting Milestones.[8]

Although there is a need for resident education in optimizing value,[2] PDs reported no growth in institutional commitment to value. The lack of reported change in curricula or institutional attitudes may be disheartening to educators who have focused on teaching residents to provide high-value care, and have worked to achieve buy-in from administrators. However, PDs reported that this issue was a priority in 2012, and a ceiling effect may have limited the ability to capture change over time. In addition, the survey was not designed to measure changes in the application of curricula or in the breadth of integration of high-value care principles into day-to-day education, and it may have underestimated change in this area.

A positive finding is that, when asked to compare current practice to a historical period, PDs reported improvement in residents' ability to avoid unnecessary testing. Given the reported lack of substantial

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change in formal or informal curricula, this could be attributable to subtle shifts in medical culture.[5]

Limitations of our study include the fact that we relied on PD reports, which may be biased; that our survey was developed by educational experts but was not formally validity tested; and that our response rates were modest. Because the survey did not include any demographic information, we cannot evaluate differences based on program type, geographic region, program size, or other relevant factors, and we do not know the extent to which respondents are representative of PDs across the country. It is reassuring that our response rate results likely reflect larger trends.

Conclusion

Internal medicine PDs reported uniformly high levels of institutional interest in high-value care and focus on formal and informal teaching of these principles in the 3-year period between 2012 and 2014. An encouraging trend is the reported improvement of residents avoiding unnecessary testing when compared to a prior time period.

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