Providing Graduate Medical Education Orientation to Program Coordinators: A National Survey and Analysis

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ABSTRACT

Background The role of a program coordinator (PC) in graduate medical education (GME) has become increasingly important.

Objective We surveyed PCs nationwide to identify the predictors of better performance outcomes.

Methods A 58-question survey focusing on metrics that could be used to measure administrative performance was submitted electronically to 1515 PCs. Preplanned analysis was conducted to determine the association between receipt of training and PC performance metrics.

Results A total of 712 (47%) PCs responded to the survey completely. Most (59%, 422 of 712) were from university programs. Respondents reported having received only GME training (17%, 121 of 712), only peer training (15%, 106 of 712), or both (9%, 67 of 712). Of those who reported, 51% (366 of 712) with GME training and 99% (708 of 712) with peer training found that training was helpful. The PCs who received both GME and peer training reported better performance, including lower rates of delayed starts and graduations, higher rates of compliance in cases and work hour reporting, and higher levels of readiness for internal reviews, GME visits, and the Match. The PCs who received only peer training reported better performance than did those with only GME training. Self-reported factors associated with improved PC performance were having prior administrative experience ($\beta = 0.201$, $P = .010$) and being a PC for a longer time ($\beta = 0.188$, $P = .027$).

Conclusions Having only GME training did not seem sufficient for an optimal PC performance. A combination of peer and GME orientation yielded the best administrative outcomes.

Introduction

As the responsibilities of program coordinators (PCs) in graduate medical education (GME) have increased, so have the concerns regarding whether PCs are being adequately prepared and trained for the role. The role of a PC now involves a comprehensive understanding of program requirements essential for accreditation from the Accreditation Council for Graduate Medical Education as well as institutional requirements. These requirements involve complex rules and regulations that a PC must navigate to ensure successful accreditation.[1] In addition to these national requirements, a PC must also be well informed of program and institutional requirements, including the completion of various surveys, annual updates, and milestones. As described by Nawotniak,[2] the PC roles include that of a "den parent," counselor, advocate, educator, secretary, manager, resource, data entry person, data analyst, advisor, human resource manager, social and event planner, and scheduler, among others.[3]

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Editor's Note: The online version of this article contains the survey used in the study and a table of outcomes reported by program coordinators.

There are only a few studies that outline the optimal form and content for the successful training of specialty-specific PCs.[4–9] Current practice for the onboarding of PCs involves an orientation about their duties and expectations from the GME office at their specific institutions (GME training). Occasionally, new PCs may receive direction and assistance from their peers in a one-on-one setting prior to assuming the responsibilities of the position (peer training). At present, the best methods for preparing PCs for this complex job are unknown.

As such, the current study sought to determine the perceived effects of GME institutional and peer training on PC performance through the development and dissemination of a national survey to PCs in the United States. We also aimed to determine factors related to successful administrative outcomes.

Methods

Setting and Participants

All PCs with available contact information in the FREIDA database (American Medical Association, Chicago, IL) from 6 specialties, including anesthesiology, internal medicine, medicine-pediatrics, obstetrics and gynecology, pediatrics, and general surgery,

TABLE 1
Program Coordinator Characteristics[a]

Characteristic	No. (%), n = 712
Region	
Northeast	242 (34)
Midwest	137 (19)
South	231 (32)
West	89 (12)
Other	13 (2)
Setting	
Community	282 (40)
Military	7 (1)
University	422 (59)
VA	1 (0.1)
Specialty	
Anesthesiology	89 (12)
Internal medicine	194 (27)
Medicine-pediatrics	1 (0.1)
Obstetrics and gynecology	136 (19)
Pediatrics	120 (17)
Surgery	172 (24)
Coordinator training	
None	418 (59)
GME	121 (17)
Peer	106 (15)
Both	67 (9)
Have assistant	272 (38)
	N ± SD (median)
Years as coordinator, y	8.53 ± 8.14 (6)
No. of residents	45.43 ± 37.09 (35)
No. of IMGs in the past 5 y	17.18 ± 26.49 (17)

Abbreviations: VA, Veterans Affair Hospital; GME, graduate medical education; IMG, international medical graduate.
[a] Response rate: 712 of 1515 (47%).

were selected to participate in this survey, which was administered via online survey software (Qualtrics, Provo, UT).

Intervention

A survey was designed to evaluate the training and performance of PCs (provided as online supplemental material). After development by the authors, the survey was reviewed for content and clarity by the associate program director of the general surgery residency program at the University of Illinois at Chicago. The survey was then modified without further testing to 58 questions with Likert scale type responses (0–7).

Standard demographic data, such as program location, program type, and specialty, as well as coordinator training, coordinator assistance, and experience, were collected. Parameters used to assess PC performance, such as compliance with case logs (as required by each specialty accrediting body), resident start time (based on program academic year), work hour reporting, GME survey completion, and several other administrative tasks, were also collected (provided as online supplemental material). This one-time survey was conducted from October 26, 2017 to January 25, 2018, with responses during that period included in the analysis. Incomplete and duplicate surveys were excluded.

The survey was deemed exempt by the University of Illinois at Chicago Institutional Review Board.

What was known and gap
Program coordinators (PCs) have become increasingly important to graduate medical education, but there is little information on the optimal way to train them.

What is new
A nationwide survey was performed of PCs from varying specialties, which linked training experience with performance metrics.

Limitations
Survey lacked validity evidence and may have been subject to sampling bias.

Bottom line
Training that combines a peer one-on-one and an institutional approach appears to lead to improved PC performance metrics.

Statistical Analysis

Inferential analysis was conducted with a *t* test, chi-square, analysis of variance, and univariate/multivariate regression, as applicable. Then, a scoring system was developed based on those parameters, assuming all the outcomes exercised an equal weight on a PC's performance. The PC performance was based on various metrics, including delayed start, delayed graduation or completion of a program, compliance in case log reporting, compliance in work hour reporting, readiness for internal reviews, readiness for GME site visits, and readiness for the Match. All analyses were performed with STATA 13.0 (StataCorp LLC, College Station, TX).

Results

Surveys were sent to 1515 PCs at 1661 institutions. Some PCs were the same for multiple institutions and some institutions didn't list PCs in FREIDA. A total of 712 completed surveys (47%) were received and eligible for analysis. Responses were received from programs in all settings, with most respondents from university programs (59%, 422 of 712; TABLE 1). Most

TABLE 2
Comparative Analysis of Reported Outcomes Among Groups of Program Coordinators Based on Training Received[a]

Outcome	No Training	GME Training	Peer Training	GME and Peer Training	*P* Value[b]
Delayed start, %	18.44 ± 9.34	15.34 ± 8.63	11.45 ± 6.75	9.91 ± 5.54	**.012**
Delayed graduation, %	50.95 ± 6.62	48.51 ± 9.38	40.02 ± 16.52	34.15 ± 7.68	**.004**
Compliance in information update, %	54.09 ± 8.81	57.82 ± 10.32	45.81 ± 5.17	58.15 ± 9.65	.44
Compliance in case log, %	87.41 ± 16.27	88.56 ± 17.76	89.90 ± 11.97	95.16 ± 12.71	**.009**
Compliance in work hours reporting, %	88.80 ± 15.21	89.02 ± 14.62	88.39 ± 18.21	94.65 ± 11.76	**.036**
Compliance in ACGME survey (residents), %	92.58 ± 12.16	91.33 ± 6.77	91.89 ± 6.99	97.57 ± 7.22	**.013**
Compliance in ACGME survey (staff), %	91.22 ± 11.54	93.54 ± 9.33	92.52 ± 10.27	92.55 ± 8.64	.16
Readiness for internal reviews, %	83.33 ± 16.53	85.80 ± 12.30	83.64 ± 15.07	92.00 ± 11.67	**.007**
Readiness for GME visit, %	87.60 ± 16.87	86.39 ± 13.12	87.84 ± 11.37	93.76 ± 10.15	**.011**
Readiness for the Match, %	90.35 ± 14.50	91.20 ± 14.79	92.92 ± 13.43	96.11 ± 9.34	**.044**
Readiness for in-service examination, %	94.41 ± 12.07	93.68 ± 13.55	93.73 ± 14.02	95.14 ± 14.45	.38
Readiness for board examinations, %	32.98 ± 17.66	29.47 ± 15.44	34.55 ± 18.21	36.47 ± 18.73	.73

Abbreviations: GME, graduate medical education; ACGME, Accreditation Council for Graduate Medical Education.
[a] Delay in starts and compliance were reported objectively by the coordinators based on their internal data. Readiness for events were averaged based on subjective reporting by coordinators on a scale from 1 to 10.
[b] Bolded numbers represent statistically significant *P* values.

respondents were PCs from internal medicine (27%, 194 of 712) and surgery (24%, 172 of 712) programs.

The average years of experience as a PC for all respondents were 8.53 ± 8.14 years (mean ± SD). The mean ± SD number of residents handled by the PCs was 45.43 ± 37.09. The mean ± SD number of international medical graduates (IMGs) in the past 5 years was 17.18 ± 26.49. More than one-third of respondents (38%, 272 of 712) had an assistant in their position as a PC.

Seventeen percent (121 of 712) of PCs received only GME training, 15% (106 of 712) received only peer training, and 9% (67 of 712) received both. More than half of respondents (59%, 418 of 712) did not receive any formal GME or peer training. Among those who received GME or peer training, 51% (366 of 712) of respondents found the GME training helpful, while 99% (708 of 712) reported that the peer training was helpful. In multivariable analysis, compared with PCs who received no formal GME or peer training, training was associated with delayed start (training, 10%, versus no training, 18%; $P = .012$); delayed graduation or completion of program (training, 34%, versus no training, 51%; $P = .004$); compliance in case log reporting (training, 95%, versus no training, 87%; $P = .009$); compliance in work hour reporting (training, 95%, versus no training, 89%; $P = .013$); readiness for internal reviews (training, 92%, versus no training, 83%; $P = .007$); readiness for GME site visit (training, 94%, versus no training, 88%; $P = .011$); and readiness for the Match (training, 96%, versus no training, 90%; $P = .044$; TABLES 2 and 3). Furthermore, PCs who received both GME and peer training reported better performance outcomes versus all other groups (TABLE 2).

Conversely, there was a reversed linear correlation between the number of residents and PC performance ($\beta = -0.247$, $P = .002$).

Discussion

This national survey of PCs found that only 41% of PCs reported receiving formal training (17% received only GME training, 15% received only peer training, and 9% received both). Training was associated with better PC-reported performance metrics in the areas of delayed resident start, delayed graduation, and compliance in case logs. Having both GME institutional and peer training was associated with the best outcomes.

Few studies have evaluated the role of training for a PC. Feist and colleagues[6] found that most child-neurology PCs had limited experience (< 5 years) and were supervised by someone without GME experience. These results are important as Nickel and colleagues[5] found that most PCs perform tasks and take on responsibilities beyond what is listed in their job description. These studies highlighted the importance of PC training due to the complexity of that position. As our results indicate, most PCs do not receive any formal training. These findings suggest that there is an unmet need for formal training for PCs.

TABLE 3
Multivariate Regression Analysis to Identify the Predictors of Improved Program Coordinator (PC) Performance[a]

Predictors of Performance	Univariate Analysis			Multivariate Analysis		
	Adjusted r^2	β	*P* Value[b]	Adjusted r^2	β	*P* Value[b]
Setting						
Community	0.009	−0.09	.28			
Military	N/A	N/A	N/A			
University	0.005	+0.070	.42			
VA	N/A	N/A	N/A			
Specialty						
Anesthesia	0.001	−0.036	.68			
Internal medicine	0.041	−0.203	**.019**		0.053	.54
Medicine-pediatrics	N/A	N/A	N/A			
Obstetrics and gynecology	0.029	+0.169	.05			
Pediatrics	0.048	−0.219	**.011**		0.023	.80
Surgery	0.023	+0.151	.08			
Training						
None	0.13	−0.485	< **.001**		−0.399	**.013**
GME training	0.026	−0.162	.06	0.17		
Peer training	0.226	+0.549	**.001**		+0.432	**.004**
GME + peer training	0.263	+0.612	< **.001**		+0.475	**.001**
Region						
Northeast	0.007	+0.017	.84			
Midwest	0.002	+0.011	.90			
South	0.001	−0.026	.77			
West	0.006	+0.022	.80			
Other	0.002	−0.042	.63			
Having an assistant	0.002	+0.046	.53			
Prior administrative experience	0.211	+0.276	**.001**		0.201	**.010**
Years as coordinator	0.151	+0.225	**.009**		0.188	**.027**
No. of residents	0.088	−0.213	**.006**		−0.247	**.002**
No. of IMGs	0.053	−0.229	**.008**		−0.014	.81
No. of sites	0.001	−0.034	.70			

Abbreviations: N/A, not applicable; VA, Veterans Affair Hospital; GME, graduate medical education; IMG, international medicine graduate.
[a] Performance was measured based on a scoring system derived from the outcomes in TABLE 3, assuming that each outcome exercised an equal weight on PC performance.
[b] Bolded numbers represent statistically significant *P* values.

Although the receipt of any training was associated with improved metrics, peer training appears to be superior to GME training. This finding may be related to the one-on-one, task-specific training that is often a large part of peer training. Thus, in the orientation of a new PC, it may be essential to establish a formal transition period in which the outgoing PC has dedicated time to train the incoming PC.

We did not find specialty-specific discrepancies in training or PC metrics. The PC's performance was strongly associated with the receipt of training as well as inversely related to the number of residents in the program.

This study is limited by its cross-sectional design, which prevents causation conclusions, and by common survey issues, such as lack of survey validity evidence, recall bias, and inaccurate data collection. Missing information may have also affected the results. Furthermore, subjective metrics, as opposed to objective metrics, were used to assess PC performance. This study is also limited by the approximately 50% response rate, which may have led to sampling bias. The assumption that factors equally affect performance metrics, which was used in the multivariable analysis, may not be accurate, which could affect findings in unknown ways.

Studies are needed to determine the optimal number of residents for which a single PC can effectively be responsible, as well as studies examining the effects of large program numbers of IMGs, which impose additional PC efforts related to visas and documentation.

Conclusions

Our findings suggest that training prior to assuming PC responsibilities is important for managing a successful GME program. A combined institutional GME and peer (one-on-one) training approach appears to result in better reported performance outcomes in the areas of delayed resident start, delayed resident graduation, compliance in case logs, and other key outcomes. In contrast, an increased number of residents in a program was associated with worse reported performance outcomes.

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