

Perceptions of Internal Medicine–Pediatrics Residents About Autonomy During Residency

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Abstract

Background The development of autonomy is a key component of residency training. Although studies have examined levels of graduated autonomy within specialties, they have not, to our knowledge, examined how residents' perceptions of autonomy differ among specialties.

Objective We surveyed residents in internal medicine–pediatrics programs to determine their perceptions of the autonomy they experienced when they were serving on internal medicine (IM) and pediatrics inpatient rotations.

Methods In 2012, we administered a 24-item online survey to residents in 36 internal medicine–pediatrics programs.

Results Of 698 eligible residents, 143 (20.5%) participated. Participants were distributed equally among all 4 postgraduate years and between IM and pediatrics rotations. Participants were more likely to agree they experienced an appropriate level of

autonomy when they were on IM rotations than when they were on pediatrics rotations (97.9% versus 34.3%, $P < .001$), were more likely to report experiencing frustration with too little oversight while on IM rotations (32.9% versus 2.2%, $P < .001$), and were more likely to report experiencing frustration with too much oversight while on pediatrics rotations (48.2% versus 0.7%, $P < .001$). Responses to items that described frequently encountered circumstances and hypothetical medical cases indicated participants were more likely to feel anxiety and discomfort with autonomous decision making while on pediatrics rotations.

Conclusions Residents in internal medicine–pediatrics programs perceive significant differences in the autonomy they experience during IM and pediatrics rotations. This may influence their confidence in medical decision making.

Editor's Note: The online version of this article contains the Resident Autonomy in Medicine and Pediatrics Survey used in the study.

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Introduction

The development of graduated resident autonomy, or the increasing capacity for independent action or decision making, is a key component of residency training across specialties.¹ Supervising trainees while allowing them an appropriate degree of autonomy requires a delicate balance to ensure that patients receive safe, efficient, and high-quality care and that trainees increase their medical knowledge and skills.^{2,3}

The disciplines of internal medicine (IM) and pediatrics share many commonalities, including sharing primary care patients across their lifetimes.⁴ However, personal conversations with other internal medicine–pediatrics (medicine-pediatrics)–trained physicians suggest that, at least anecdotally, there may be differences in the cultures of practice between them, which could have bearing on residents' perceptions of autonomy for each. To date, no study, to our knowledge, has examined residents' perceptions of autonomy dually in internal medicine and pediatrics. We, therefore, chose to survey combined medicine-pediatrics residents, who are in a position to reflect on their perspectives of the autonomy offered in the inpatient setting across the 2 specialties.

Based on our own experiences and on a study⁵ that reported a “perceived erosion” of resident autonomy in

pediatrics, we hypothesized that residents in medicine-pediatrics programs would perceive a greater amount of autonomy on IM rotations than they did on pediatrics rotations. We also hypothesized that the perceived level of autonomy in each specialty would affect how comfortable the residents felt in making decisions without input from an attending physician.

Methods

Recruitment of Programs and Participants

We contacted medicine-pediatrics program directors through the Medicine-Pediatrics Program Directors Association listserv and invited them to include their programs in our study. Thirty-six of the 66 programs (55%) agreed to forward the invitation and survey link to residents in all years of their respective medicine-pediatrics programs.

The initial e-mail to residents was sent in February 2012 and was followed by 2 reminder e-mails at 2-week intervals. We described the purpose of the survey and explained that it would be conducted electronically through a commercial online survey instrument (<http://surveymonkey.com>; SurveyMonkey, Palo Alto, CA).

Because many combined medicine-pediatrics programs switch between the 2 specialties every 3 or 4 months, surveying residents starting in February would ensure that first-year residents had experience in both specialties.⁶

The Institutional Review Board of the University of Pittsburgh declared the study exempt.

Development of the Study Survey

We developed the survey items, tested them on a convenience sample of IM faculty members, and revised them in response to their feedback. The final survey (provided as online supplemental material) consisted of 5 items measuring sociodemographics and 18 items assessing resident perceptions and attitudes of autonomy on IM and pediatric inpatient wards.

Statistical Analyses

To characterize the study sample and report responses to survey items, we used descriptive statistics. If participants responded with multiple conflicting answers, we ignored their response to that item and treated it as a missing response.

To assess differences between the participants' responses for IM and pediatrics, we used paired *t* tests and Wilcoxon sign-rank tests because some of the variables were not normally distributed. We ran the analyses both ways, and they produced the same results. Therefore, we present the results of the paired *t* tests. For question 1, we

also analyzed the data in subsets based on sex, level of training (postgraduate year [PGY]), and current rotation specialty (either IM or pediatrics) at the time of the survey.

For all analyses, we used SPSS Version 20 (IBM Corp, Armonk, NY) and considered $P < .05$ to be significant.

Results

Study Sample

Of the 698 residents who were eligible to complete the survey, 143 (20%) responded. Ninety-nine residents (69%) fully completed the survey. An additional 17 (12%) answered the survey fully, but with at least 1 multiple answer. Twenty-one respondents (15%) had missing responses. Six respondents (4%) had both missing and multiple answers.

There was a slightly higher proportion of female residents (56%, 71 of 126), but a roughly equal distribution among participants in all 4 PGY groups and between participants currently serving on IM and pediatrics rotations (TABLE 1). Most participants (83%, 105 of 127) were involved in a university-based residency program, and most programs (53%, 67 of 127) admitted 1 to 4 residents per year. We also obtained demographics of eligible responders (TABLE 1). No differences were noted between responders and eligible responders in sex or level of training. However, responders were more likely to be from community-based programs and programs that had fewer residents.

Survey Responses

When asked about the level of autonomy experienced generally on inpatient rotations, participants showed less variation in their perceptions concerning IM rotations than they did on pediatrics rotations (FIGURE). Participants were more likely to agree or strongly agree that they experienced an appropriate level of autonomy when they were on IM rotations than they did when they were on pediatrics rotations (98% versus 34%; $P < .001$; TABLE 2). The differences remained significant when controlling for sex, level of training, and current rotation.

The participants were more likely to report experiencing frustration, sometimes or often, with too little oversight when they were on IM rotations (33% versus 2%, $P < .001$). They were more likely to report experiencing frustration, often, almost always, or always, with too much oversight when they were on pediatrics rotations (48% versus 1%, $P < .001$).

The remaining attitudinal questions revealed significant differences in medicine-pediatrics residents' perceptions by specialty ($P < .001$; TABLE 2).

TABLE 1 SOCIODEMOGRAPHIC CHARACTERISTICS OF INTERNAL MEDICINE–PEDIATRICS RESIDENTS WHO COMPLETED THE SURVEY				
Characteristic		Responses, No. (%) ^a	Eligible Responders, No. (%)	P Value ^b
Sex	Female	71 (56.3)	394 (56.4)	.98
	Male	55 (43.7)	304 (43.6)	
Level of training, PGY	PGY-1	31 (24.4)	182 (26.1)	.62
	PGY-2	31 (24.4)	173 (24.8)	
	PGY-3	27 (21.3)	171 (24.5)	
	PGY-4 or higher	38 (29.9)	172 (24.6)	
Current specialty rotation	IM	60 (48.4)	Unavailable	
	Pediatrics	64 (51.6)	Unavailable	
No. of residents per year in training program	1–4	67 (52.8)	293 (42.0)	.05
	5–8	43 (33.9)	313 (44.8)	
	≥ 9	17 (13.4)	92 (13.1)	
Residency program base	Community	16 (12.6)	50 (7.2)	.02
	University	105 (82.7)	648 (92.8)	
	Other	6 (4.7)	N/A	

Abbreviations: PGY, postgraduate year; IM, internal medicine; N/A, not applicable.
^a Percentages were calculated based on the total number of responses to each individual demographic item. Percentages of eligible responders were calculated based on the total 698 eligible responders.
^b P value based on χ^2 tests.

Discussion

The results obtained from our brief survey of residents in 36 medicine-pediatrics programs indicate that some residents in those programs perceived significant differences between their experiences while on IM rotations and pediatrics rotations. Those differences may be related to a

variety of factors; foremost among them is that the general culture of medical practice may not be the same for pediatricians and internists, and that may affect the level of autonomy given to trainees. There are few data outlining the existence of those cultural differences between IM and pediatrics; however, anecdotal evidence from program

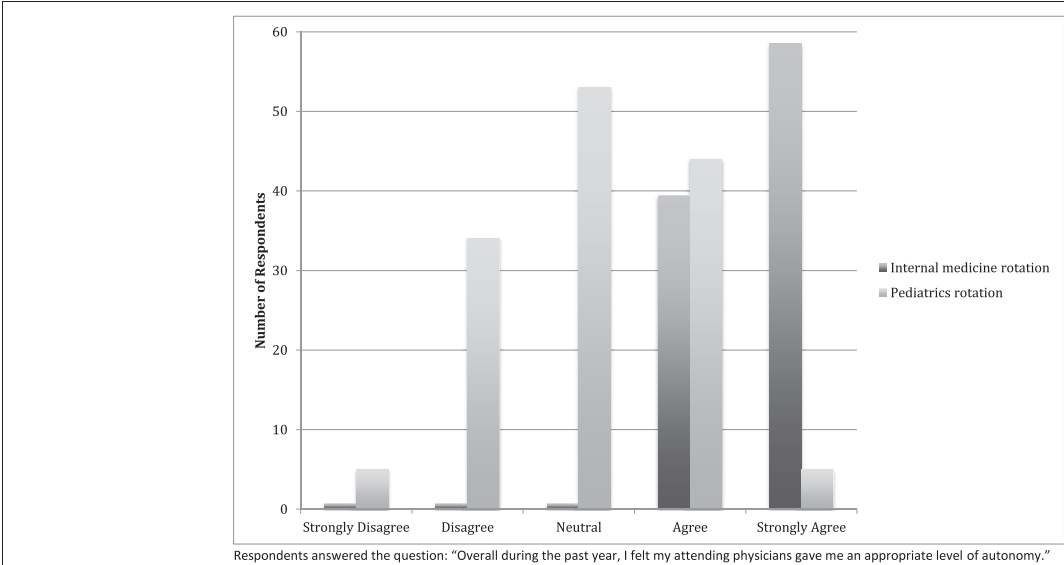


FIGURE RESPONDENTS' PERCEIVED LEVEL OF AUTONOMY ON INPATIENT ROTATIONS

TABLE 2 **RESPONSES OF INTERNAL MEDICINE–PEDIATRICS RESIDENTS TO SURVEY ITEMS REGARDING CHANGES IN PLAN, OBTAINING INPUT FROM THE ATTENDING PHYSICIAN, AND 2 CASE SCENARIOS**

Survey Item	Rotation	Likert Responses, No. (%) ^a						P Value
		Never	Rarely	Sometimes	Often	Almost Always	Always	
How often initial plan was changed	Internal medicine, n = 138	0 (0)	47 (34.1)	87 (63.0)	3 (2.2)	1 (0.7)	0 (0)	< .001
	Pediatrics, n = 138	0 (0)	9 (6.5)	68 (49.3)	43 (31.2)	17 (12.3)	1 (0.7)	
How often change was appropriate	Internal medicine, n = 133	1 (0.8)	3 (2.3)	38 (28.6)	36 (27.1)	47 (35.3)	8 (6.0)	< .001
	Pediatrics, n = 131	2 (1.5)	15 (11.5)	55 (42.0)	31 (23.7)	24 (18.3)	4 (3.1)	
How often change was evidence-based	Internal medicine, n = 138	2 (1.4)	3 (2.2)	34 (24.6)	56 (40.6)	38 (27.5)	5 (3.6)	< .001
	Pediatrics, n = 136	6 (4.4)	40 (29.4)	63 (46.3)	19 (14.0)	7 (5.1)	1 (0.7)	
Frustration with complying to a plan	Internal medicine, n = 138	10 (7.2)	62 (44.9)	48 (34.8)	7 (5.1)	7 (5.1)	4 (2.9)	< .001
	Pediatrics, n = 138	2 (1.4)	20 (14.5)	62 (44.9)	32 (23.2)	15 (10.9)	7 (5.1)	
Minor changes discussed before they were made	Internal medicine, n = 134	72 (53.7)	55 (41.0)	5 (3.7)	2 (1.5)	0 (0)	0 (0)	< .001
	Pediatrics, n = 133	9 (6.8)	24 (18.0)	42 (31.6)	32 (24.1)	24 (18.0)	2 (1.5)	
Minor changes discussed after they were made	Internal medicine, n = 133	35 (26.3)	56 (42.1)	33 (24.8)	8 (6.0)	1 (0.8)	0 (0)	< .001
	Pediatrics, n = 133	8 (6.0)	24 (18.0)	44 (33.1)	28 (21.1)	20 (15.0)	9 (6.8)	
Major changes discussed before they were made	Internal medicine, n = 133	14 (10.5)	27 (20.3)	32 (24.1)	28 (21.1)	21 (15.8)	11 (8.3)	< .001
	Pediatrics, n = 131	5 (3.8)	5 (3.8)	9 (6.9)	14 (10.7)	27 (20.6)	71 (54.2)	
Major changes discussed after they were made	Internal medicine, n = 132	4 (3.0)	11 (8.3)	12 (9.1)	14 (10.6)	21 (15.9)	70 (53.0)	< .001
	Pediatrics, n = 130	2 (1.5)	6 (4.6)	5 (3.8)	3 (2.3)	12 (9.2)	102 (78.5)	
Discussion before patient was discharged	Internal medicine, n = 132	1 (0.8)	8 (6.1)	15 (11.4)	18 (13.6)	29 (22.0)	61 (46.2)	< .001
	Pediatrics, n = 133	0 (0)	2 (1.5)	1 (0.8)	4 (3.0)	15 (11.3)	111 (83.5)	
Anxiety making plan without attending physician input	Internal medicine, n = 133	7 (5.2)	56 (42.1)	62 (46.6)	6 (4.5)	2 (1.5)	0 (0)	< .001
	Pediatrics, n = 130	1 (0.7)	24 (18.4)	47 (36.2)	38 (29.2)	18 (13.8)	2 (1.5)	
Obtaining chest film before input from attending physician	Internal medicine, n = 129	3 (2.3)	0 (0)	0 (0)	5 (3.9)	20 (15.5)	101 (78.3)	< .001
	Pediatrics, n = 128	1 (0.8)	4 (3.1)	8 (6.3)	16 (12.5)	37 (28.9)	62 (48.4)	
Ordering supplemental oxygen before input from attending physician	Internal medicine, n = 129	101 (78.3)	21 (16.3)	1 (0.8)	0 (0)	0 (0)	6 (4.7)	< .001
	Pediatrics, n = 128	80 (62.5)	24 (18.8)	8 (6.3)	6 (4.7)	4 (3.1)	6 (4.7)	
Transferring the patient to intensive care unit before input from attending physician	Internal medicine, n = 129	31 (24.0)	35 (27.1)	22 (17.1)	19 (14.7)	11 (8.5)	11 (8.5)	< .001
	Pediatrics, n = 127	13 (10.2)	10 (7.9)	19 (15.0)	14 (11.0)	27 (21.3)	44 (34.6)	
Initial antibiotic choice	Internal medicine, n = 127	58 (45.7)	43 (33.9)	18 (14.2)	5 (3.9)	2 (1.6)	1 (0.8)	< .001
	Pediatrics, n = 127	24 (18.9)	28 (22.0)	31 (24.4)	20 (15.7)	15 (11.8)	9 (7.1)	

TABLE 2

RESPONSES OF INTERNAL MEDICINE–PEDIATRICS RESIDENTS TO SURVEY ITEMS REGARDING CHANGES IN PLAN, OBTAINING INPUT FROM THE ATTENDING PHYSICIAN, AND 2 CASE SCENARIOS (CONTINUED)

Survey Item	Rotation	Likert Responses, No. (%) ^a						P Value
		Never	Rarely	Sometimes	Often	Almost Always	Always	
Change in antibiotics	Internal medicine, n = 128	26 (20.3)	33 (25.8)	34 (26.6)	22 (17.2)	12 (9.4)	1 (0.8)	< .001
	Pediatrics, n = 127	9 (7.1)	12 (9.4)	21 (16.5)	26 (20.5)	30 (23.6)	29 (22.8)	

^aP values were calculated using paired *t* tests between the internal medicine and pediatrics residents' responses. Percentages were calculated based on the total number of responses to each individual item. Respondents who selected multiple answers were omitted and number of answers omitted per question is shown. Differences in *n* between questions and specialty are due to missing responses.

leaders in IM, pediatrics, and medicine-pediatrics suggests that general differences exist. Improving our understanding of the cultural differences between these 2 primary care specialties, including within the domain of resident autonomy, can help each specialty focus on strengths, identify weaknesses, and share methods more broadly to promote an optimal level of autonomy for trainees.

Although our study included residents from many residency programs, our response rate of 20% (143 of 698) limits generalizability of the results. In addition, there were difficulties with the survey delivery such that residents were able to fail to answer or accidentally answer a question multiple times, resulting in those particular answers being uninterpretable. Despite those limitations, we believe that the study fills a gap in the literature. To our knowledge, it is the only study to date that has focused on comparing the autonomy perceived by residents in different specialties. It can serve as a starting point for future studies on autonomy in residents of these specialties or additional specialties. Further understanding of categorical IM and pediatrics residents' and faculty members' perceptions and practices will be essential to efforts to optimize experiences for both faculty and trainees in the future.

Conclusion

In summary, our survey of residents in combined medicine-pediatrics programs shows that medicine-pediatrics residents' perceptions of their autonomy when they are serving on IM rotations differ from their perceptions when they are serving on pediatrics rotations, and that may influence their confidence in medical decision making.

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