Use of Health Care Services by Pediatrics Residents: A CORNET Study

Kristina Simeonsson, MD, MSPH
John Olsson, MD
Nui Dhepyasuwan, MEd
Jan Drutz, MD
Jacques Benun, MD
Janet R. Serwint, MD

Abstract

Background The personal health practices of residents and their access to health care has not been well explored. Suboptimal personal health care habits and practices among many physicians may evolve during residency.

Objective To identify the nature and extent of pediatrics resident health care use and the factors that restrict or facilitate use.

Methods A web-based survey was sent to pediatrics residents from 19 continuity practice sites enrolled in the nationwide Continuity Research Network (CORNET) during April through June 2010. Outcome measures included self-report of health care use, involvement in an established care relationship with a primary care provider, and barriers residents encountered in receiving care.

Results Of 1210 eligible residents, 766 (63%) completed the survey. Respondents were 73% women; each postgraduate training year was equally represented. More than one-half of residents (54%) stated they had an established care relationship (ECR) with a primary care provider. Interns were less likely to have an ECR when compared with upper level residents; female residents were twice as likely to have an ECR compared with male residents. Although 22% (172 of 766) of the respondents reported they had a chronic health condition, only 69% (118 of 172) of those individuals had an established care provider. The most significant barrier to obtaining health care was resident concern for time away from work and the potential increased workload for colleagues.

Conclusions A slight majority of pediatrics residents stated they had an established relationship with a primary care provider. The most common barriers to seeking routine and acute care were work related.

Introduction

Practicing physicians may underuse available health care services for themselves. Although this issue has not been addressed recently, earlier studies revealed that only one-half to two-thirds of physicians have a primary care physician and that many physicians obtain the medical care they need either through self-treatment or informal consultation with colleagues.[1–4]

Little data exist about the personal health practices of residents and their access to health care. Suboptimal personal health care habits of many physicians may evolve during residency training. Two studies of Canadian residents showed that, despite recommendations that physicians and medical students should have a personal family physician, less than one-half of Canadian residents reported having such a relationship.[5–7] A review of US

Kristina Simeonsson, MD, MSPH, is Associate Professor of Pediatrics and Public Health, Brody School of Medicine, East Carolina University; **John Olsson, MD,** is Professor of Pediatrics and Division Chief of General Pediatrics, Brody School of Medicine, East Carolina University; **Nui Dhepyasuwan, MEd,** is Lead Research Associate and Research Network Manager, Continuity Research Network CORNET, Academic Pediatric Association; **Jan Drutz, MD,** is Professor of Pediatrics, Baylor College of Medicine; **Jacques Benun, MD,** is Associate Professor of Pediatrics, Alpert Medical School at Brown University; and **Janet R. Serwint, MD,** is Professor of Pediatrics and Public Health and Vice Chair of Pediatric Education, Johns Hopkins University School of Medicine.

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Corresponding author: Kristina Simeonsson, MD, MSPH, Department of Pediatrics, East Carolina University, 600 Moye Boulevard, Brody 3E-139, Greenville, NC 27834, 252.744.2535, simeonssonk@ecu.edu

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studies[8] found a study published in 1967 reporting that 45% of residents had made no arrangements for health care during the prior year of their residency. The only other published US study[9] was from 2000, which examined resident health practices in 4 internal medicine programs and found that 46% of residents had a primary care physician.

Some residents feel their health is adversely affected by their training.[5,9–11] The prevailing impression is that residents appear at an increased risk of developing acute illnesses, mental health disorders, burnout, and substance abuse problems.[5,6,10] The Accreditation Council for Graduate Medical Education (ACGME) emphasizes the role of the sponsoring institution in facilitating residents' access to preventive and acute health care, confidential counseling, medical care, and psychological support services in an effort to prevent and address such issues.[12] Physician training programs are required by the ACGME to provide residents with insurance for medical and mental health care.

Surveys of practicing physicians also suggest that their personal health habits often affect the counseling they provide to their patients.[13,14] Examination of pediatrics residents' health care use is particularly important because they provide the medical home for their patients and advise children and parents about preventive measures. For these reasons, and because pediatrics residents need to receive appropriate medical and mental health care, it is important to better understand how members of this group access care and what barriers to care exist. The purpose of this national, cross-sectional study was to determine pediatrics resident health care use and to determine the barriers (or perceived barriers) affecting use of health care services.

What was known

Few studies have addressed the personal health practices of residents, including their access to health care. Suboptimal personal health care habits of many physicians may evolve during residency.

What is new

A survey of pediatrics residents from 19 continuity practice sites assessed the nature and extent of health care use and factors that facilitate or restrict access to routine care.

Limitations

Chronic and mental health concerns were self-reported; childbearing for female residents may explain their higher reported relationship with a primary provider.

Bottom line

Slightly more than 50% of pediatrics residents have an established relationship with a health care provider; common barriers to routine and acute care appear work-related.

Methods

Participants were pediatrics residents whose continuity experience occurred at 1 of the academic continuity sites in the United States enrolled in the Continuity Research Network (CORNET). Formed in 2002, CORNET is a national practice-based research network of pediatrics resident continuity sites, is registered with the Agency for Health Care Research and Quality, and is endorsed as a core function of the Academic Pediatric Association. The 105 institutions affiliated with CORNET represent 51% of all accredited US pediatrics residency programs. Of that number, 19 continuity practice sites (18%), located in 12 states, participated in this study.

The online survey was pilot tested by 8 pediatrics faculty and chief residents at the Brody School of Medicine and the Johns Hopkins University School of Medicine. Survey items included participant demographics, current personal health care practices, existence of an established care relationship with a primary care provider, self-report of chronic medical or mental health concerns, receipt of preventive services, factors influencing use of health care services, and perception of institutional and residency policies pertaining to resident health care use. Items regarding preventive health care and screening services derived from the US Preventive Services Task Force recommendations included folic acid use and blood pressure screening; receipt of influenza vaccine was based on the recommendation of the Advisory Committee on Immunization Practices.[15,16] Additional services and screenings were included based on the work group's recommendations to explore receipt of common preventive services.

Residents were asked whether they had an established care relationship (ECR) with a health care provider, defined as an ongoing medical relationship between a patient and a provider through regularly scheduled appointments. Residents who stated they had an ECR with a health care provider were asked to rate their satisfaction with that care using a Likert scale (1, not satisfied at all, to 5, very satisfied). Residents were also asked if they had a chronic medical condition or mental health concern. Chronic health problems were defined as those which required regular follow-up or ongoing medication. Residents who reported they had a chronic health condition or mental health concern were asked whether services or medications for those concerns were always provided in an ECR. Residents who answered yes were then asked about satisfaction with their health care. In addition, residents were asked whether they had a primary dental care provider, and satisfaction with dental care was ascertained for residents who answered affirmatively.

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TABLE 1 Factors Associated With Having an Established Care Relationship					
		Established Care Relationship			
Characteristic	Sample, No.	Yes, No. (%)	No, No. (%)	Adjusted OR[a] (95% CI)	*P* Value
Female	558	329 (59)	229 (41)	2.02 (1.44–2.83)	< .001
PGY-2 or higher	507	300 (59)	207 (41)	1.91 (1.39–2.62)	< .001
Chronic disease	172	119 (69)	53 (31)	2.28 (1.55–3.34)	< .001
Mental health concern	71	50 (70)	21 (30)	1.82 (1.03–3.22)	.04
Health status improved/ stayed the same	399	227 (57)	172 (43)	1.35 (1.00–1.83)	.048

Abbreviations: OR, odds ratio; CI, confidence interval; PGY, postgraduate year.

[a] Odds ratios adjusted for sex, PGY status, chronic disease, mental health concern, and change in health status.

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Institutional Review Board approval was obtained from the Brody School of Medicine at East Carolina University and from each participating CORNET institution. Completion of the survey by residents served as their consent to participate.

Statistical analyses were performed using PASW Statistics 18.0 (SPSS Inc, Chicago, IL); descriptive statistics and frequencies were determined. Relationships among self-reported patient-provider dyads, sex, level of training, and the existence of chronic medical or mental health concerns were examined using the χ^2 test. Factors associated with having an ECR with a health care provider were identified using logistic regression; adjusted odds ratio (OR) with confidence intervals were calculated, and level of significance was set at $P < .05$.

Results

Of 1210 residents across the 19 participating CORNET programs, 766 (63%) completed the survey. Seventy-three percent (558 of 761) of respondents were women; this is consistent with demographic data of pediatrics residents nationally.[17] Each postgraduate year (PGY) was equally represented.

Fifty-four percent (416 of 766) of residents stated that they had an ECR with a primary care provider. Among the residents with an ECR, 78% were very satisfied or satisfied with the care they received. Fifty-four percent (223 of 416) of residents with an ECR saw a provider in private practice, and 32% (135 of 416) had care provided by an attending at their institution. Residents were asked about their overall health status: 70% (537 of 762) rated their health as very good or excellent and almost half (48%, 362 of 762) reported their health had stayed the same during residency; less than 5% (37 of 762) thought it had improved, and 48% (363 of 762) stated it had declined. Fifty-one percent (129 of 253) of interns felt that their health had declined since starting residency compared with 46% (233 of 507) of upper level residents ($P = .73$).

Chronic health problems were reported by 22% (172 of 766) of responding residents. Of the 172 residents reporting a chronic health problem, 118 (69%) had an established care provider. Mental health concerns were reported by 71 of 765 residents (9%). Of those reporting a mental health concern, 70% (50 of 71) received services and medications within an ECR, and more than two-thirds were very satisfied with their care. Sixty-nine percent (530 of 765) of residents had a primary dental care provider; the majority (81%, 429 of 530) was very satisfied or satisfied with their dental care.

When factors associated with likelihood of having an ECR were examined (TABLE 1), residents with chronic conditions were twice as likely to have an ECR as those without (adjusted OR, 2.28; 95% confidence interval [CI], 1.55–3.34). Upper level residents also were more likely than interns to have an ECR (adjusted OR, 1.91; 95% CI, 1.39–2.62), and female residents were twice as likely to have an ECR compared with male residents (adjusted OR, 2.02; 95% CI, 1.44–2.83).

Residents were asked about routine screenings and preventive care practices within the previous 2 years (TABLE 2). When comparing those with an ECR to those without, blood pressure screening and preventive dental care were the most common preventive services received by residents; cholesterol screening was the least common. Residents with an ECR were 12.77 times more likely to have had blood pressure screening compared with residents without an ECR. Female residents with an ECR were 4.5 times more likely to have had a Papanicolaou test in the previous 2 years compared with those without an ECR. Ninety-six percent (737 of 765) of pediatrics residents

TABLE 2 **Preventive Health Care and Screenings by Established Care Relationship Status**

Characteristic	Established Care Relationship		OR (95% CI)	*P* Value
	Yes, %	No, %		
Routine examination	86	38	10.14 (7.11–14.47)	< .001
Cholesterol screening	58	30	3.27 (2.42–4.43)	< .001
Blood pressure screening	94	53	12.77 (8.14–20.03)	< .001
Preventive dental visit	84	75	1.80 (1.25–2.57)	.001
Routine vision screening	69	62	1.42 (1.05–1.92)	.02
Flu vaccine	97	95	1.77 (0.81–3.88)	.15
Tdap vaccine	88	81	2.05 (1.28–3.30)	.003
Papanicolaou test	89	81	4.50 (2.89–7.00)	< .001
Folic acid use[a]	45	39	1.29 (0.91–1.81)	.15

Abbreviations: OR, odds ratio; CI, confidence interval.

[a] For folic acid use, responses recorded as *less than once a week* were coded as *No*, and responses recorded as *every day* or *almost every day* were coded as *Yes*.

reported they received a seasonal influenza vaccine in the prior year, whereas 85% (648 of 765) reported receiving a dose of Tdap vaccine. Except for the receipt of the influenza vaccine and regular folic acid use, screenings and preventive care practices were more common in residents with an ECR.

The most commonly cited barriers to preventive and acute care included time away from work, the resulting added workload burden on colleagues, and access to health care (FIGURE). Only 7% (54 of 764) stated inadequate health care coverage as a barrier to preventive care; even fewer residents (4%, 34 of 764) stated that was a barrier to acute care. Most residents (65%, 499 of 762) stated that new duty hour requirements were of no benefit in scheduling personal health care. Eighty-one percent (621 of 764) of residents reported they were unaware of a formal institutional policy regarding their personal health care.

Discussion

Fifty-four percent of pediatrics residents in our study had an ECR with a primary provider. This is consistent with previous studies[1,3,5,7–9] involving resident physicians across specialties and practicing physicians. The percentage of

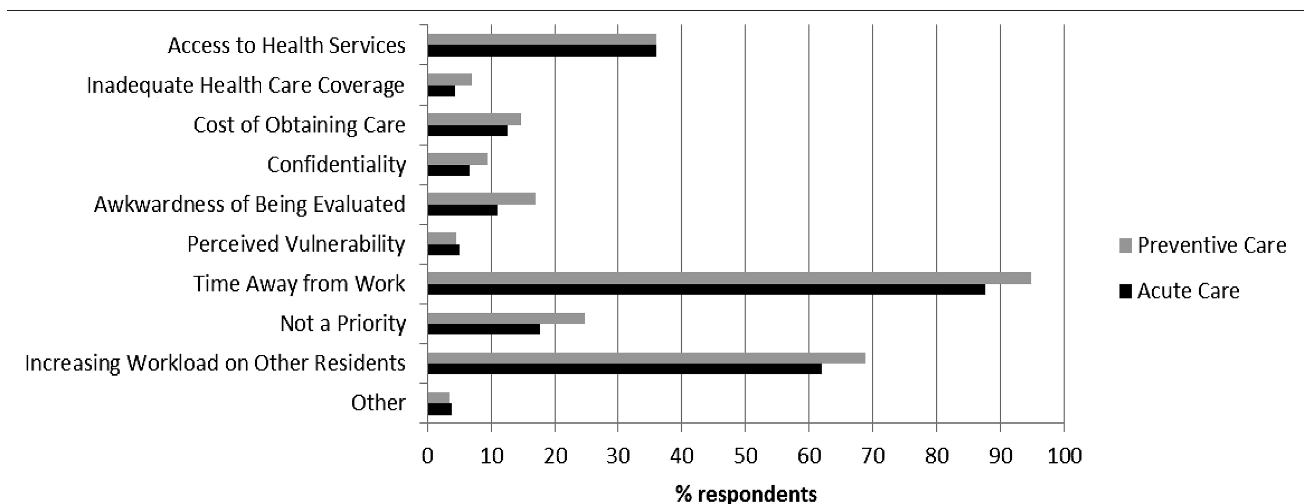

FIGURE **Common Barriers to Seeking Preventive and Acute Care Among Pediatrics Residents**

Note: Respondents could report more than 1 barrier. Residents reported a mean (SD) of 2.78 (1.23) barriers to seeking preventive care; mean (SD) number of barriers to seeking acute care was 2.44 (1.30).

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residents with an ECR in this study is below the Healthy People 2020 baseline and target goals for percentage of adults with a usual primary care provider (76% and 83%, respectively).[18] Looking at young adults of similar age to the residents in our study, the percentage of residents with a usual primary care provider was lower than the percentage in the general population aged 25 to 44 years (54% versus 63%, respectively).[18]

Although it is reassuring that pediatrics residents with chronic health conditions in our study were twice as likely to have an ECR with a provider, it is still worrisome that 31% did not have such a relationship. In addition, 30% of residents who reported a mental health concern did not have an ECR with a provider. This raises the question of how pediatrics residents with chronic health problems and mental health concerns manage their care. Particularly concerning is that having a mental health disorder is a risk factor for physician suicide, making ongoing care in an ECR for these residents a priority.[19,20]

Female residents were more likely than male residents to have a primary physician, consistent with findings from other studies.[5,7,9] One study[7] in particular demonstrated that single, male, resident physicians without children were the least likely to have a primary provider. The difference could be due partially to women of childbearing age seeing an obstetrician and to many women seeking routine gynecologic care and considering those visits as their ECR.

Pediatrics residents in our study identified some barriers to obtaining routine and acute health care, despite many of them reporting an ECR with a provider. The most commonly cited barriers were time away from work and potential increased workload on their resident colleagues. This is surprising given that members of generation Y, those born between 1982 and 2005, put value on work-life balance.[21] The disconnect between wanting that balance and not considering one's own health as a priority warrants attention. Training programs should devote attention to overcoming those perceived barriers. Awareness of existing policies related to personal health care should be heightened. As suggested in a recent commentary on teaching members of generation Y in medical education: "One approach is to reconceptualize the role of academic advisor to include more of a parental function."[21(p460)] Academic advisors could emphasize to their resident advisees the importance of having an ECR with a provider and facilitate access to available health care services.

Whether residents are without an ECR because of an insufficient number of practicing primary care physicians or whether reasons include failure to seek out such providers cannot be determined from this survey. Comments from study participants suggest many had not made the effort to seek out a provider because of lack of time. To address that issue, employee health clinic physicians working in the affiliated medical school and/or teaching hospital could make themselves available to residents at particular times of the day (eg, early morning and evening hours). This arrangement could be beneficial to the resident who is reluctant to miss work. It could also save pediatrics departments and hospitals a considerable amount of money and resident absence from work.

Our study has several limitations. Chronic health conditions and mental health concerns in this sample were self-reported. The true prevalence may be different, given the definitions used in this study. Twenty-three percent of residents reported a chronic health condition in our study. Less than 20% of young adults aged 18 to 29 years in the United States self-reported a similar chronic health condition listed in the National Health Interview Survey.[22] Only 13% of Canadian residents reported a chronic health condition defined as any condition requiring regular medical follow-up.[7] Use of health care was also by self-report; thus, conclusions about residents' actual use of health care services cannot be determined from this study. It is unclear how much of this difference in access to care by sex is due to care provided by obstetricians-gynecologists because the specialty of the provider with whom the resident had an ECR was not asked in the survey.

Conclusion

In this survey of pediatrics residents, slightly more than one-half reported an ECR with a provider. However, even residents with an ECR reported barriers to seeking care. The most common self-reported barriers were work related. Future research is needed to develop educational interventions or policy changes within institutions that address resident health.

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