Utilization of Primary Care Physicians by Medical Residents: A Survey-Based Study

Karina Z. Whelan, MD, Kathryn Levy, MD, Jessica H. Voit, MD, Angelico N. Razon, MD, MPH, and Vineet Chopra MD, MSc

ABSTRACT

Objective: Existing research has demonstrated overall low rates of residents establishing care with a primary care physician (PCP). We conducted a survey-based study to better understand chronic illness, PCP utilization, and prescription medication use patterns in resident physician populations.

Methods: In 2017, we invited internal and family medicine trainees from a convenience sample of U.S. residency programs to participate in a survey. We compared the characteristics of residents who had established care with a PCP to those who had not.

Results: The response rate was 45% (348/766 residents). The majority (n = 205, 59%) of respondents stated they had established care with a PCP primarily for routine preventative care (n = 159, 79%) and access in the event of an emergency (n = 132, 66%). However, 31% (n = 103) denied having had a wellness visit in over 3 years. Nearly a quarter of residents (n = 77, 23%) reported a chronic medical illness and 14% (n = 45) reported a preexisting mental health condition prior to residency. One-third (n = 111, 33%) reported taking a long-term prescription medication. Compared to residents who had not established care, those with a PCP (n = 205) more often reported a chronic condition ($P < 0.001$), seeing a subspecialist ($P = 0.01$), or taking long-term prescription medications ($P < 0.001$). One in 5 (n = 62,19%) respondents reported receiving prescriptions for an acute illness from an individual with whom they did not have a doctor-patient relationship.

Conclusion: Medical residents have a substantial burden of chronic illness that may not be met through interactions with PCPs. Further understanding their medical needs and barriers to accessing care is necessary to ensure trainee well-being.

Keywords: Medical education-graduate, physician behavior, survey research, access to care.

Although internal medicine (IM) and family medicine (FM) residents must learn to provide high-quality primary care to their patients, little is known about whether they appropriately access such care themselves. Resident burnout and resilience has received attention [1,2], but there has been limited focus on understanding the burden of chronic medical and mental illness among residents. In particular, little is known about whether residents access primary care physicians (PCPs)—for either acute or chronic medical needs—and about resident self-medication practices.

Residency is often characterized by a life-changing geographic relocation. Even residents who do not relocate may still need to establish care with a new PCP due to health insurance or loss of access to a student clinic [3]. Establishing primary care with a new doctor typically requires scheduling a new patient visit, often with a wait time of several days to weeks [4,5]. Furthermore, lack of time, erratic schedules, and concerns about privacy and the stigma of being ill as a physician are barriers to establishing care [6-8]. Individuals who have not established primary care may experience delays in routine preventative health services, screening for chronic medical and mental health conditions, as well as access to care during acute illnesses [9,10]. Worse, they may engage in poten-

From the University of Michigan Medical School, Ann Arbor, MI.

tially unsafe practices, such as having colleagues write prescriptions for them, or even self-prescribing [8,11,12].

Existing research has demonstrated overall low rates of residents establishing care with a PCP [6–8,13]. However, these studies have either been limited to large academic centers or conducted outside the United States. Improving resident well-being may prove challenging without a clear understanding of current primary care utilization practices, the burden of chronic illness among residents, and patterns of prescription medication use and needs. Therefore, we conducted a survey-based study to understand primary care utilization and the burden of chronic illness among residents. We also assessed whether lack of primary care is associated with potentially risky behaviors, such as self-prescribing of medications.

Methods

Study Setting and Participants

The survey was distributed to current residents at IM and FM programs within the United States in 2017. Individual programs were recruited by directly contacting program directors or chief medical residents via email. Rather than contacting sites directly through standard templated emails, we identified programs both through personal contacts as well as the Electronic Residency Application Service list of accredited IM training programs. We elected to use this approach in order to increase response rates and to ensure that a sample representative of the trainee population was constructed. Programs were located in the Northeast, Midwest, South, and Pacific regions, and included small community-based programs and large academic centers.

Development of the Survey

The survey instrument was developed by the authors and reviewed by residents and PCPs at the University of Michigan to ensure relevance and comprehension of questions (The survey is available in the Appendix of the online version of this article at www.mdedge.com/jcomjournal.). Once finalized, the survey was programmed into an online survey tool (Qualtrics, Provo, UT) and pilot-tested before being disseminated to the sampling frame. Data collected in the survey included: respondent's utilization of a PCP, burden of chronic illness, long-term prescription medications, prescribing source, and demographic characteristics.

Each participating program distributed the survey to their residents through an email containing an anonymous hyperlink. The survey was available for completion for 4 weeks. We asked participating programs to send email reminders to encourage participation. Participants were given the option of receiving a $10 Amazon gift card after completion. All responses were recorded anonymously. The study received a "not regulated" status by the University of Michigan Institutional Review Board (HUM 00123888).

Statistical Analysis

Descriptive statistics were used to tabulate results. Respondents were encouraged, but not required, to answer all questions. Therefore, the response rate for each question was calculated using the total number of responses for that question as the denominator. Bivariable comparisons were made using Chi-squared or Fisher's exact tests, as appropriate, for categorical data. A P value < 0.05, with 2-sided alpha, was considered statistically significant. All statistical analyses were conducted using Stata 13 SE (StataCorp, College Station, TX).

Results

Respondent Characteristics

Of the 29 programs contacted, 10 agreed to participate within the study timeframe. Of 766 potential respondents, 348 (45%) residents answered the survey (**Table 1**). The majority of respondents (n = 276, 82%) were from IM programs. Respondents were from all training years as follows: postgraduate year 1 residents (PGY-1, or interns; n = 130, 39%), PGY-2 residents (n = 98, 29%), PGY-3 residents (n = 93, 28%), and PGY-4 residents (n = 12, 4%). Most respondents were from the South (n = 130, 39%) and Midwest (n = 123, 37%) regions, and over half (n = 179, 54%) were female. Most respondents (n = 285, 86%) stated that they did not have children. The majority (n = 236, 71%) were completing residency in an area where they had not previously lived for more than 1 year.

Primary Care Utilization

Among the 348 respondents, 59% (n = 205) reported having established care with a PCP. An additional

Table 1. **Respondent Characteristics**

	n (%)
What is your specialty?	*n* = 334
Internal Medicine	276 (82)
Family Medicine	42 (13)
Transition year/Preliminary year resident	7 (2)
Other	9 (3)
What is your current post-graduate year (PGY)?	*n* = 333
PGY-1	130 (39)
PGY-2	98 (29)
PGY-3	93 (28)
PGY-4	12 (4)
PGY-5 and above	0
How many total residents are in your Internal Medicine program?	*n* = 327
< 16	16 (5)
16–35	93 (28)
36–80	102 (31)
81–110	56 (17)
> 110	60 (18)
What region is your residency program located in?	*n* = 333
Northeast (CT, ME, MA, NH, RI, VT, NJ, NY, PA)	29 (9)
Midwest (IL, IN, MI, OH, WI, IA, KS, MN, MO, NE, ND, SD)	123 (37)
South (DE, FL, GA, MD, NC, SC, VA, DC, WV, AL, KY, MS, TN, AR, LA, OK, TX)	130 (39)
West (AZ, CO, ID, MT, NV, NM, UT, WY)	3 (1)
Pacific (AK, CA, HI, OR, WA)	48 (14)
Gender	*n* = 333
Male	154 (46)
Female	179 (54)
Age, yr	*n* = 333
21–25	1 (< 1)
26–30	262 (79)
31–35	63 (19)
36–40	5 (1)
41–45	2 (< 1)
> 45	0
Marital status	*n* = 333
Single	110 (33)
Married	163 (49)
Non-married committed relationship	60 (18)
Do you have children?	*n* = 333
Yes	48 (14)
No	285 (86)
Are you in residency in an area where you have previously lived for more than 1 year?	*n* = 334
Yes	98 (29)
No	236 (71)

6% (*n* = 21) had established care with an obstetrician/gynecologist for routine needs (**Table 2**). The 2 most common reasons for establishing care with a PCP were routine primary care needs, including contraception (*n* = 159, 79%), and access to a physician in the event of an acute medical need (*n* = 132, 66%).

Among respondents who had established care with a PCP, most (*n* = 188, 94%) had completed at least 1 appointment. However, among these 188 respondents, 68% (*n* = 127) stated that they had not made an acute visit in more than 12 months. When asked about wellness visits, almost one third of respondents (*n* = 103, 31%) stated that they had not been seen for a wellness visit in the past 3 years.

Burden of Chronic Illness

Most respondents (*n* = 223, 67%) stated that they did not have a chronic medical or mental health condition prior to residency (**Table 3**). However, 23% (*n* = 77) of respondents stated that they had been diagnosed with a chronic medical illness prior to residency, and 14% (n = 45) indicated they had been diagnosed with a mental health condition prior to residency. Almost one fifth of respondents (*n* = 60, 18%) reported seeing a subspecialist for a medical illness, and 33% (*n* = 111) reported taking a long-term prescription medication. With respect to major medical issues, the majority of residents (*n* = 239, 72%) denied experiencing events such as pregnancy, hospitalization, surgery, or an emergency department (ED) visit during training.

Inappropriate Prescriptions

While the majority of respondents denied writing a prescription for themselves for an acute or chronic medical condition, almost one fifth (*n* = 62, 19%) had received a prescription for an acute medical need from a provider outside of a clinical relationship (ie, from someone other than their PCP or specialty provider). Notably, 5% (*n* = 15) reported that this had occurred at least 2 or 3 times in the past 12 months (**Table 4**). Compared to respondents not taking long-term prescription medications, respondents who were already taking long-term prescription medications more frequently reported inappropriately receiving chronic prescriptions outside of an established clinical relationship (*n* = 14, 13% vs. *n* = 14, 6%; *P* = 0.05) and more often self-prescribed medications for acute needs (*n* = 12, 11% vs. *n* = 7, 3%; *P* = 0.005).

Comparison of Residents With and Without a PCP

Important differences were noted between residents who had a PCP versus those who did not (**Table 5**). For example, a higher percentage of residents with a PCP indicated they had been diagnosed with a chronic medical illness (*n* = 55, 28% vs. *n* = 22, 16%; *P* = 0.01) or a chronic mental health condition (*n* = 34, 17% vs. *n* = 11, 8%; *P* = 0.02) before residency. Additionally, a higher percentage of residents with a PCP (*n* = 70, 35% vs. *n* = 25, 18%; *P* = 0.001) reported experiencing medical events such as pregnancy, hospitalization, surgery, ED visit, or new diagnosis of a chronic medical illness during residency. Finally, a higher percentage of respondents with a PCP stated that they had visited a subspecialist for a medical illness (*n* = 44, 22% vs. *n* = 16,12%; *P* = 0.01) or were taking long-term prescription medications (*n* = 86, 43% vs. *n* = 25; 18%; *P* < 0.001). When comparing PGY-1 to PGY-2–PGY-4 residents, the former reported having established a medical relationship with a PCP significantly less frequently (*n* = 56, 43% vs. *n* = 142, 70%; *P* < 0.001).

Discussion

This survey-based study of medical residents across the United States suggests that a substantial proportion do not establish relationships with PCPs. Additionally, our data suggest that despite establishing care, few residents subsequently visited their PCP during training for wellness visits or routine care. Self-reported rates of chronic medical and mental health conditions were substantial in our sample. Furthermore, inappropriate self-prescription and the receipt of prescriptions outside of a medical relationship were also reported. These findings suggest that future studies that focus on the unique medical and mental health needs of physicians in training, as well as interventions to encourage care in this vulnerable period, are necessary.

We observed that most respondents that established primary care were female trainees. Although it is impossible to know with certainty, one hypothesis behind this discrepancy is that women routinely need to access pre-

Table 2. **Primary Care Utilization**

	***n* (%)**
Do you currently have a primary care physician (PCP) in the city/area where you live?	*n* = 348
Yes	205 (59)
No	122 (35)
No, but I have established care with an obstetrician/gynecologist for routine gynecologic needs	21 (6)
What is your PCP's primary specialty?	*n* = 195
Internal Medicine	99 (51)
Family Medicine	87 (45)
Obstetrics and Gynecology	0
Other	9 (5)
How did you establish care with your PCP? (Pick all that apply)	*n* = 201
Had the same PCP prior to residency	17 (8)
Found PCP on my own	121 (60)
Referred to PCP post hospitalization, urgent care visit, ED visit or subspecialist visit	2 (1)
Recommended by an acquaintance such as a family member, friend or colleague	38 (19)
Recommended by residency program	30 (15)
Assigned by insurance company	11 (5)
Other	4 (2)
Please pick the reason(s) you have a PCP (Pick all that apply)	*n* = 201
Managing a chronic medical illness	24 (12)
Chronic mental health condition	19 (9)
Routine primary care needs (including contraception)	159 (79)
Access in the event I have an acute medical need	132 (66)
Pregnancy or conception	11 (5)
Insurance requirement for referral to a subspecialist	16 (8)
Health/Life insurance required	9 (4)
Other	4 (2)
Have you ever been seen in your PCP's practice for an appointment?	*n* = 201
Yes	188 (94)
No	13 (6)
When was the last time you visited your PCP for an acute care visit?	*n* = 187
Within the past 3 months	21 (11)
Within the past 3–6 months	17 (9)
Within the past 6–12 months	22 (12)
I have not had an acute-care visit for over 12 months	127 (68)
When was the last time you visited your current or prior PCP's practice for a non-acute care visit?	*n* = 339
Within the past 12 months	143 (42)
In the past 1–3 years	93 (27)
I have not had a non-acute care visit for over 3 years	103 (31)

ventative care for gynecologic needs such as pap smears, contraception, and potentially pregnancy and preconception counseling [14,15]. Similarly, residents with a chronic medical or mental health condition prior to residency established care with a local PCP at a significantly greater frequency than those without such diagnoses. While selection bias cannot be excluded, this finding suggests that illness is a driving factor in establishing care. There also ap-

Table 3. **Burden of Chronic Illness**

	***n* (%)**
Have you experienced any of the following before residency? (Pick all that apply)	*n* = 334
Diagnosis of a chronic medical illness	77 (23)
Diagnosis of a chronic mental health condition	45 (14)
Experienced none of the above	223 (67)
Have you experienced any of the following during residency? (Pick all that apply)	*n* = 334
Pregnancy	26 (8)
Diagnosis of a chronic medical illness	14 (4)
Diagnosis of a chronic mental health condition	11 (3)
Acute illness requiring ED visit	25 (8)
Acute illness requiring observation admission, inpatient hospitalization or surgery	7 (2)
Worsening or exacerbation of an existing chronic medical illness	18 (5)
Worsening or exacerbation of an existing mental health condition	25 (8)
Experienced none of the above	239 (72)
Do you currently see a subspecialist for any medical illness?	*n* = 339
Yes	60 (18)
No	279 (82)
Are you currently on a long-term prescription medication (excluding a contraceptive)?	*n* = 334
Yes	111 (33)
No	223 (67)

pears to be an association between accessing the medical system (either for prescription medications or subspecialist care) and having established care with a PCP. Collectively, these data suggest that individuals without a compelling reason to access medical services might have barriers to accessing care in the event of medical needs or may not receive routine preventative care [9,10].

In general, we found that rates of reported inappropriate prescriptions were lower than those reported in prior studies where a comparable resident population was surveyed [8,12,16]. Inclusion of multiple institutions, differences in temporality, social desirability bias, and reporting bias might have influenced our findings in this regard. Surprisingly, we found that having a PCP did not influence likelihood of inappropriate prescription receipt, perhaps suggesting that this behavior reflects some degree of universal difficulty in accessing care. Alternatively, this finding might relate to a cultural tendency to self-prescribe among resident physicians. The fact that individuals on chronic medications more often both received and wrote inappropriate prescriptions suggests this problem might be more pronounced in individuals who take medications more often, as these residents have specific needs [12]. Future studies targeting these individuals thus appear warranted.

Our study has several limitations. First, our sample size was modest and the response rate of 45% was low. However, to our knowledge, this remains among the largest survey on this topic, and our response rate is comparable to similar trainee studies [8,11,13]. Second, we designed and created a novel survey for this study. While the questions were pilot-tested with users prior to dissemination, validation of the instrument was not performed. Third, since the study population was restricted to residents in fields that participate in primary care, our findings may not be generalizable to patterns of PCP use in other specialties [6].

These limitations aside, our study has important strengths. This is the first national study of its kind with specific questions addressing primary care access and utilization, prescription medication use and related practices, and the prevalence of medical conditions among trainees. Important differences in the rates of establishing

Table 4. **Inappropriate Prescriptions**

	***n* (%)**
In the past 12 months how often have you written a prescription for yourself?	
For an *acute* illness/injury	*n* = 334
0 times	306 (92)
1 time	22 (7)
2–3 times	6 (2)
More than 3 times	0
For a *chronic* medical condition (includes contraception)	*n* = 329
0 times	311 (95)
1 time	11 (3)
2–3 times	6 (2)
More than 3 times	1 (< 1)
In the past 12 months how often have you received a prescription from a provider with whom you do not have a clinical relationship?	
For an *acute* illness/Injury	*n* = 333
0 times	271 (81)
1 time	47 (14)
2–3 times	15 (5)
More than 3 times	0
For a *chronic* medical condition (includes contraception)	*n* = 332
0 times	313 (94)
1 time	13 (4)
2–3 times	4 (1)
More than 3 times	2 (1)

In the past 12 months have you written a prescription for yourself?	**Long-Term Prescription Medications, *n* (%)**	**No Long-Term Prescription Medications, *n* (%)**	**Total, *n* (%)**	***P* Value**
For an *acute* illness/injury	*n* = 111	*n* = 222	*n* = 333	0.05
Yes	14 (13)	14 (6)	28 (8)	
No	97 (87)	208 (94)	305 (92)	
For a *chronic* medical condition (includes contraception)	*n* = 109	*n* = 219	*n* = 328	0.12
Yes	9 (8)	9 (4)	18 (6)	
No	100 (92)	210 (96)	310 (94)	

In the past 12 months have you received a prescription from a provider with whom you do not have a clinical relationship?	**Long-Term Prescription Medications, *n* (%)**	**No Long-Term Prescription Medications, *n* (%)**	**Total, *n* (%)**	***P* Value**
For an *acute* illness/injury	*n* = 110	*n* = 222	*n* = 332	0.18
Yes	25 (23)	37 (17)	62 (19)	
No	85 (77)	185 (83)	270 (81)	
For a *chronic* medical condition (includes contraception)	*n* = 111	*n* = 220	*n* = 331	0.005
Yes	12 (11)	7 (3)	19 (6)	
No	99 (89)	213 (97)	312 (94)	

Table 5. **Comparison of Individuals with and without a Primary Care Provider (PCP)**

	Has a PCP, *n* (%)	Does Not Have a PCP, *n* (%)	Total, *n* (%)	*P* Value
Experienced any of the following before residency	*n* = 198	*n* = 136	*n* = 334	
Diagnosis of a chronic medical illness				
Yes	55 (28)	22 (16)	77 (23)	0.01
No	143 (72)	114 (84)	257 (77)	
Diagnosis of a chronic mental health condition				
Yes	34 (17)	11 (8)	45 (14)	0.02
No	164 (83)	125 (92)	289 (86)	
Experienced any of the above listed conditions				
Yes	81 (41)	30 (22)	111 (33)	< 0.001
No	117 (59)	106 (78)	223 (67)	
Experienced any of the following during residency	*n* = 198	*n* = 136	*n* = 334	
Pregnancy (females only)	(*n* = 121)	(*n* = 56)	(*n* = 177)	
Yes	19 (16)	6 (11)	25 (14)	0.38
No	102 (84)	50 (89%)	152 (92)	
Diagnosis of a chronic medical illness				
Yes	12 (6)	2 (1)	14 (4)	0.05
No	186 (94)	134 (99)	320 (96)	
Diagnosis of a chronic mental health condition				
Yes	9 (5)	2 (2)	11 (3)	0.21
No	189 (95)	134 (98)	323 (97)	
Acute illness requiring ED visit				
Yes	17 (9)	8 (6)	25 (8)	0.36
No	181 (91)	128 (94)	309 (92)	
Acute illness requiring observation admission, inpatient hospitalization, or surgery				
Yes	6 (3)	1 (1)	7 (2)	0.25
No	192 (67)	135 (99)	327 (98)	
Worsening or exacerbation of an existing chronic medical illness				
Yes	17 (9)	1 (1)	18 (5)	0.002
No	181 (91%)	135 (99)	316 (95)	
Worsening or exacerbation of an existing mental health condition				
Yes	18 (9)	7 (5)	25 (8)	0.18
No	180 (91)	129 (95)	309 (92)	
Experienced any of the above listed conditions				
Yes	70 (35)	25 (18)	95 (28)	0.001
No	128 (65)	111 (82)	239 (72)	
In the past 12 months have you written a prescription for yourself?				
For an *acute* illness/injury	*n* = 200	*n* = 134	*n* = 334	0.76
Yes	16 (8)	12 (9)	28 (8)	
No	184 (92)	122 (91)	306 (92)	
For a *chronic* medical condition (includes contraception)	*n* = 197	*n* = 132	*n* = 329	0.91
Yes	11 (6)	7 (5)	18 (6)	
No	186 (94)	125 (95)	311 (94)	

Table 5. **Comparison of Individuals with and without a Primary Care Provider (PCP) *continued***

	Has a PCP, *n* (%)	Does Not Have a PCP, *n* (%)	Total, *n* (%)	*P* Value
In the past 12 months have you received a prescription from a provider with whom you do not have a clinical relationship?	*n* = 199	*n* = 134	*n* = 333	0.78
For an *acute* illness/injury	38 (19)	24 (18)	62 (19)	
Yes	161 (81)	110 (82)	271 (81)	
No	*n* = 200	*n* = 132	*n* = 332	0.48
For a *chronic* medical condition (includes contraception)	10 (5)	9 (7)	19 (6)	
Yes	190 (95)	123 (93)	313 (94)	
No				
Are you in residency in an area where you have previously lived for more than 1 year?				
Yes	*n* = 199	*n* = 135	*n* = 334	0.26
No	63 (32)	35 (26)	98 (29)	
	136 (68)	100 (74)	236 (71)	
Gender	*n* = 198	*n* = 135	*n* = 333	< 0.001
Male	76 (38)	78 (58)	154 (46)	
Female	122 (62)	57 (42)	179 (54)	
Do you have children?	*n* = 198	*n* = 135	*n* = 333	0.43
Yes	31 (16)	17 (12)	48 (14)	
No	167 (84)	118 (87)	285 (86)	
Do you currently see a subspecialist for any medical illness?	*n* = 200	*n* = 139	*n* = 339	0.01
Yes	44 (22)	16 (12)	60 (18)	
No	156 (78)	123 (88)	279 (82)	
Are you currently on a long-term prescription medication (excluding a contraceptive)?	*n* = 199	*n* = 135	*n* = 334	< 0.001
	86 (43)	25 (18)	111 (33)	
Yes	113 (57)	110 (82)	223 (67)	
No				
Marital status	*n* = 198	*n* = 135	*n* = 333	0.41
Single	60 (30)	50 (37)	110 (33)	
Married	102 (52)	61 (45)	163 (49)	
Non-married committed relationship	36 (18)	24 (18)	60 (18)	

primary care between male and female respondents, first- year and senior residents, and those with and without chronic disease suggest a need to target specific resident groups (males, interns, those without pre-existing conditions) for wellness-related interventions. Such interventions could include distribution of a list of local providers to first year residents, advanced protected time for doctor's appointments, and safeguards to ensure health information is protected from potential supervisors. Future studies should also include residents from non-primary care oriented specialties such as surgery, emergency medicine, and anesthesiology to obtain results that are more generalizable to the resident population as a whole. Additionally, the rates of inappropriate prescriptions were not insignificant and warrant further evaluation of the driving forces behind these behaviors.

Conclusion

Medical residents have a substantial burden of chronic illness that may not be met through interactions with PCPs.

More research into barriers that residents face while accessing care and an assessment of interventions to facilitate their access to care is important to promote trainee well-being. Without such direction and initiative, it may prove harder for physicians to heal themselves or those for whom they provide care.

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Corresponding author: Vineet Chopra, NCRC 2800 Plymouth Rd., Bldg 16, 432, Ann Arbor, MI 48109, vineetc@med.umich.edu.

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Appendix. Resident Survey

1. Do you currently have a primary care physician in the city/area where you live?

   a. Yes

   b. No

   c. No, but I have established care with an Ob/Gyn for routine Gyn needs

   Logic: If a, proceed to question 2, otherwise skip to question 7

2. *If you do have a PCP:* What is your PCP's primary specialty?

   a. Internal medicine

   b. Family medicine

   c. Obstetrics and gynecology

   d. Other (please specify ____)

3. *If you do have a PCP:* How did you establish care with your PCP? (Pick all that apply)

   a. Had the same PCP prior to residency

   b. Found PCP on my own

   c. Referred to PCP post hospitalization, urgent care visit, ED visit o
   r subspecialist visit

   d. Recommended by an acquaintance such as a family member, friend or colleague

   e. Recommended by residency program

   f. Assigned by insurance company

   g. Other (please specify ____)

4. *If you do have a PCP:* Please pick the reason(s) you have a PCP (Pick all that apply)

   a. Managing a chronic medical illness (non-mental health, Ex: hypertension, diabetes, hypothyroidism)

   b. Chronic mental health condition (depression, anxiety, substance abuse, dependence etc)

   c. Routine primary care needs (including contraception)

   d. Access in the event I have an acute medical need

   e. Pregnancy or conception

   f. Insurance requirement for referral to a subspecialist

   g. Health/life insurance required

   h. Other (please specify ____)

5. *If you do have a PCP:* Have you ever been seen in your PCP's practice
   for an appointment?

   a. Yes

   b. No

   Logic: If b, skip to question 7

6. *If you do have a PCP AND have visited their practice for an appointment:* When was the last time you visited your current PCP's practice for an acute care visit? (Ex: for an infection or injury)

   a. Within the past 3 months

   b. Within the past 6 months

   c. Within the past 12 months

   d. I have not had an acute-care visit for over 12 months

7. When was the last time you visited your current or prior PCP's practice
   for a non-acute care visit (Ex: Wellness exam or physical, management
   of a chronic medical problem)?

   a. Within the past 12 months

   b. Between the past 1-3 years

   c. I have not seen my PCP for a non-acute care visit for over 3 years,
   but I have one scheduled in the next 6 months

   d. I have not a non-acute care visit for over 3 years

8. Have you experienced any of the following BEFORE residency? (Pick all that apply)

   a. Diagnosis of a chronic medical illness

   b. Diagnosis of a chronic mental health condition

9. Have you experienced any of the following DURING residency? (Pick all that apply)

   a. Pregnancy

   b. Diagnosis of a chronic medical illness

   c. Diagnosis of a chronic mental health condition

   d. Acute illness requiring ED visit

   e. Acute illness requiring observation admission, inpatient hospitalization
   or surgery

   f. None of the above apply to me

10. Do you currently see a subspecialist for any medical illness?

    a. Yes

    b. No

11. Are you currently on a long-term prescription medication (excluding a contraceptive)?

    a. Yes

    b. No

12. In the past 12 months how often have YOU written prescription for YOURSELF

    a. *For an ACUTE illness/injury* ***[Row 1]***

    0 times, 1 time, 2-3 times, >3 times

    a. *For a CHRONIC medical condition (includes contraception)* ***[Row 2]***

    0 times, 1 time, 2-3 times, >3 times

Appendix. Resident Survey (continued)

13. In the past 12 months how often have you received a prescription from
a provider with whom you do NOT have a clinical relationship?

    For the purpose of this question, an individual with whom you
    do not have a clinical relationship is defined as a friend, colleague/
    co-resident, attending or family member who has not formally assessed you in a clinic visit, urgent care visit or ER/inpatient visit
    (two columns)

    a. *For an ACUTE illness/injury* ***[Row 1]***

    0 times, 1 time, 2-3 times, >3 times

    b. *For a CHRONIC medical condition (includes contraception)* ***[Row 2]***

    0 times, 1 time, 2-3 times, >3 times

14. Please comment on your responses to question 12 and 13

Demographic Information

15. What is your specialty?

    a. Internal Medicine

    b. Combined Internal Medicine/Pediatrics

    c. Family Medicine

    d. Transition Year/Preliminary Year Resident

    e. Other (please specify)

16. Are you in residency in an area where you have PREVIOUSLY lived for more than one year? (ex: where you previously worked, went to medical school, completed your undergraduate education, or grew up)?

    a. Yes

    b. No

17. What is your age

    a. 21-26

    b. 26-30

    c. 31-35

    d. 35-40

    e. greater than 45

18. What is your sex?

    a. Male

    b. Female

    c. Other

19. What is your marital status?

    a. Single

    b. Married

    c. Non-married committed relationship

20. Do you have children

    a. Yes

    b. No

21. What is your current post graduate year?

    a. PGY 1

    b. PGY 2

    c. PGY 3

    d. PGY 4

    e. PGY 5

    f. PGY 6 and greater

22. How many total residents are in your internal medicine program? Please include all categorical and medicine/pediatric residents as well as preliminary interns.

    a. Less than 16

    b. 16-35

    c. 36-80

    d. 81-110

    e. greater than 110

23. What region is your residency program located in?

    i. Northeast (CT, ME, MA, NH, RI, VT, NJ, NY, PA)

    ii. Midwest (IL, IN, MI, OH, WI, IA, KS, MN, MO, NE, ND, SD)

    iii. South (DE, FL, GA, MD, NC, SC, VA, DC, WV, AL, KY, MS, TN, AR, LA, OK, TX)

    iv. West (AZ, CO, ID, MT, NV, NM, UT, WY)

    v. Pacific (AK, CA, HI, OR, WA)