

Original Research

Volunteer physician faculty and the changing face of medicine

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ABSTRACT ● **Objective** To determine the extent to which current changes in the American health care system might adversely effect the willingness of community physicians to volunteer to teach medical students. ● **Design** Surveys in the form of 2 mailings were sent to 466 physicians in the Pacific Northwest who volunteer to teach first- and second-year medical students. The physicians were categorized into medical specialty or primary care, urban or rural location, and type of practice. ● **Participants** A total of 333 physicians completed the surveys on which responses were analyzed. ● **Results** Respondents noted that clinical and nonclinical workloads had increased (n=211 [63%] and n=276 [83%], respectively) in the past 5 years. One hundred eighty-six respondents (56%) said that they had less time for teaching medical students. Forty-five physicians (14%) indicated that they had discontinued their volunteer teaching activities altogether. During the past 5 years, solo practitioners had the lowest dropout rate (7% [4/57]), and physicians at health maintenance organizations had the highest (23% [7/30]). Primary care physicians were more likely to indicate that they had decreased time for each patient encounter ($P=0.006$). ● **Conclusions** Increasing nonclinical workload demands and higher patient loads are a substantial threat to the recruitment and retention of volunteer faculty. In particular, the involvement of urban, HMO, and primary care physicians may decrease disproportionately in the future.

Medical schools have long relied on volunteer clinical faculty to assist in teaching medical students.¹ Community physician preceptors are often recruited to help teach basic physical examination and history-taking skills to medical students and to provide early exposure to clinical practice for students in their preclinical years. As medical education continues to move from the tertiary care teaching hospital to the ambulatory care setting,^{2,3} such preceptors will be called on even more to provide educational experiences. However, even as medical schools are becoming more dependent on volunteer clinical faculty, these faculty are experiencing increasing demand for their skills and time.⁴⁻⁷

Many fear that the current trend in medicine for increased productivity and the growing pressure of nonclinical responsibilities may begin to hinder community physician involvement in medical education. Skeff and colleagues⁸ theorized that if current pressures for clinical productivity continue, academic institutions will survive financially, but the educational experience may suffer. They described a possible “national tragedy” in which physicians are no longer able to continue the medical tradition of passing on what they have learned. The University of Washington School of Medicine, Seattle, depends heavily on volunteer physician faculty and shares this concern. Although an accurate historical dropout rate is not known, the staff coordinators of the preclinical programs included in this study noted that the dropout rate among our volunteer faculty has been increasing, particularly among physicians in staff-model health maintenance organizations (HMOs). For example, during the past year, 7 (25%) of 26 small-group tutors had dropped out of the first-year Introduction to Clinical Medicine course, and

10 (23%) of 42 physicians had dropped out of the second-year course. In addition, 10 physicians dropped out of the half-day-a-week continuity preceptorship in the winter quarter compared with a usual turnover of 3 to 4 per course per quarter.

In this study, we surveyed physicians who volunteer their time to teach first- and second-year medical students. The instrument assessed 3 factors that may affect future clinical faculty involvement in teaching: current motivation and rewards, current or potential barriers, and the effect of increasing clinical and nonclinical demands on the willingness of the clinical faculty to volunteer their time. With the survey, we attempted to go beyond the question of how teaching affects productivity and to explore to what extent the drive for productivity and the increased workload in general is affecting volunteer physician educators. More specifically, is there a trend to decrease volunteer teaching activities? If so, what area of medical practice is most likely to be affected? Documenting this information is essential to enable medical schools to proactively address the problem if it exists, to initiate collaboration with professional societies to identify physicians who are willing to teach, and to find creative ways to reward those who do.

METHODS

The University of Washington School of Medicine serves much of the medical educational needs of a 5-state region comprising Washington, Wyoming, Alaska, Montana, and Idaho (WWAMI), although Wyoming was only added in 1997 and was not included in the study. Students from the WWAMI program attend the first year of medical school in their home state, and for the second

year, they attend the Seattle campus. The third and fourth years are spent in clinical clerkships or electives in hospitals and community practices throughout the region. Three student programs in the preclinical years that depend heavily on volunteer physician faculty and require a significant time commitment were targeted by this survey, including an elective preceptorship in various specialties in which first- or second-year medical students spend 1 half-day a week for 1 or more quarters seeing patients with a physician; a required Introduction to Clinical Medicine I class in which faculty (including physicians and nonphysicians) teach first-year students in small groups and clinical laboratories to learn interviewing, history-taking, and basic physical examination skills; and a required Introduction to Clinical Medicine II class for second-year students in which 1 or 2 students have an in-depth clinical experience with community physicians in hospitals or their office several times a quarter for 1 year.

Based on a review of the literature⁹⁻¹¹ and telephone interviews with 10 volunteer preceptors, a 36-item questionnaire with information on demographics, volunteer and formal teaching activity, workload variables, and satisfaction and potential barrier variables was developed. The survey instrument was pilot-tested with the full-time faculty at the University of Washington Department of Family Medicine and changes made based on their feedback. Satisfaction and dissatisfaction variables were scored on a 5-point Likert scale, ranging from “strongly agree” (score of 5) to “strongly disagree” (score of 1) in response to the following 2 series of questions: “Please indicate how significant the following incentives are for your current or past volunteer activities,” and “Please indicate how strongly you agree or disagree with the following statements as current or potential barriers to your volunteerism.” The survey was mailed to 489 physicians in the 4-state Washington, Alaska, Montana, and Idaho (WAMI) area who have volunteered for 1 of the above-mentioned programs at any time in the past 5 years, including physicians who no longer volunteer for these programs. Two mailings were sent 8 weeks apart to increase the response rate.

The survey requested physicians to self-describe their practice setting as urban, suburban, urban underserved, or rural. To identify urban versus rural physicians more accurately, the physician’s mailing address zip code was compared with the 1994 US census data,¹² which groups zip codes into categories 0 to 9 based on total population of the area, the population of surrounding areas, and the general infrastructure of the area. We used 0 to 3 to denote urban areas and 4 to 9 to denote rural areas. To determine specialty versus primary care, the physicians’ names and addresses were compared with those in the American Medical Association’s master file, which lists a primary and secondary specialty. Physicians listed with a primary

care specialty and no secondary specialty were classified as primary care. All others were classified as specialty provider. Only 3 surgeons were contacted in the survey, and we did not include their responses in the analyses of specialty versus primary care.

Completed surveys were entered into a Microsoft Excel database. Mean Likert scores were calculated for satisfaction and barrier questions, and differences of mean were examined relative to differences in demographic, workload variables, and teaching activities to determine which physicians were most dissatisfied and which were most likely to discontinue their volunteer activities.

RESULTS

Of the 489 surveys sent, 23 were returned because of an address change with no forwarding address. Of the remaining 466 questionnaires sent, 351 physicians responded, for a 75% response rate. Of these, 18 physicians indicated that they are retired, they did not complete many of the variables, and therefore, their responses were not included in the formal data analysis. That left 333 completed surveys that were included in the study. Of note, 11 (61%) of the 18 retired physicians continue to volunteer in educational programs described earlier. Furthermore, of the 7 retired physicians who have discontinued their activities, 3 indicated that they would volunteer again in the future.

Respondents have been in practice for a mean of 15.5 years (range, 1-40 years), with an overall mean of 8.5 years (range, 1-30 years) of volunteer activities in the 3 medical student programs studied (table 1). According to US census data, 280 (84%) of the 333 respondents were from urban areas, and the rest were from rural settings. Excluding the relatively few who worked for an academic institution, 159 (52%) indicated that they took part at some level in the supervision of residents or other formal medical education activities.

All satisfaction questions were considered important to physicians, as indicated by a value greater than 3 (neutral rating on a 1-5 scale). Interaction with medical students was rated most important to these faculty (table 2). Questions concerning current or possible barriers to faculty involvement revealed a desire to spend more time with family as the most influential deterrent, followed closely by administrative duties making it more difficult to volunteer. Primary care physicians were significantly more likely than medical specialists to state that “Teaching is respected by my patients” ($P=0.02$). There were no other significant differences between primary care and medical specialists regarding these rewards or barriers.

Most respondents ($n=273$ [82%]) reported that their nonclinical workloads had increased in the past 5 years (table 3). Increasing clinical workload was noted by 211 responders (63%). About half of the physicians (171

Table 1 Characteristics of respondents by practice type

Characteristics	Group (n = 191)	Solo (n = 57)	HMO (n = 30)	Practice type Academic or VA (n = 27)	CHC (n = 20)	Other (n = 8)*	Total (n = 333)
Percentage of cohort	57	17	9	8	6	2	99†
No longer volunteering, no. (%)	24 (13)	4 (7)	7 (23)	4 (15)	2 (10)	4 (50)	45 (14)
Years in practice, mean	15.1	20.1	16.8	12.5	10.0	13.6	15.5
Years volunteering, mean	9.3	9.6	8.3	6.3	5.8	5.6	8.5
Patients per day, mean	22.3	17.8	27.7	16.2	18.7	16.3	21.2

HMO = health maintenance organization; VA = [Department of] Veterans Affairs; CHC = community health center.

*Not specified.

†Total adds up to less than 100% because of rounding.

[51%]) indicated that they had less time for each patient encounter, and 205 (62%) said that they had less time for teaching medical students. The importance of this result is underscored by the fact that those who indicated they had less time for teaching were significantly more likely to agree with the statement, “I am considering discontinuing my volunteer activities” (2.5 vs 1.5, $P < 0.001$).

In all, 45 physicians (14%) indicated that they had discontinued their volunteer activities with medical students altogether. Of these, 44 (98%) were urban ($P < 0.001$). When we compared practice types for those who have discontinued their volunteer faculty involvement, a rather concerning trend emerged. The 30 HMO physicians had the highest dropout rate—23% ($n = 7$)—over the past 5 years ($P = 0.08$). They were also more likely to agree with the barrier statement that they had to see more patients per day ($P = 0.08$). Although neither of these reach statistical significance, it may be that the small representation of HMO physicians accounts for this decreased power. Solo practitioners had the lowest dropout rate (7% [$n = 4$]), followed by community health care providers (10% [$n = 2$]). This was below the average of 14%

for all respondents. Of note, even when HMO physicians were excluded from the sample, urban physicians still comprised most of those who had discontinued their activities ($P < 0.001$).

Primary care physicians were significantly more likely ($P = 0.006$) to indicate that they had decreased time for each patient encounter. These physicians also indicated that they had increasing clinical and nonclinical demands and less time for teaching compared with specialty care physicians, but these differences were not statistically significant.

We did this survey to determine to what extent our volunteer clinical faculty supply was in jeopardy in the immediate future. The number of responders who indicated that they somewhat or strongly agreed with the statement, “I am considering discontinuing my volunteer activities with medical students”—64, or 19%—hint at how many preceptors may soon be unavailable. However, the preceptors who have already stopped volunteering confound this finding because they all agreed with the statement. That leaves 19 (7%) respondents who are still volunteering but are thinking of quitting.

Table 2 Teaching rewards and barriers

Rewarding aspects	Mean score*
Teaching allows me to interact with medical students	4.6
I feel a good deal of fulfillment as a teacher	4.4
My skills are sharpened when I teach medical students	4.2
The teaching of medical students is respected by my patients	3.7
I enjoy the academic recognition for teaching medical students	3.5
The teaching of medical students is respected by my colleagues	3.5
The clinical faculty appointment is important to me	3.4
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Current or potential barriers	Mean score*
I would like to spend more time with my family	4.2
My administrative duties are making it more difficult to volunteer	3.8
I have to see more patients per day and cannot spare the time	3.0
I would like to volunteer for something else	2.6
I am considering discontinuing my volunteer activities with students	2.1
My patients did not like having a medical student present	2.0
I am losing interest in teaching medical students	1.9
I had a bad experience while teaching past medical students	1.5

*A 5-point Likert scale, with 1 indicating “strongly disagree”; 3, neutral; and 5, “strongly agree.”

DISCUSSION

To the best of our knowledge, this study is the first to document the relationship between increasing workloads and the threat to community physicians’ willingness to volunteer for teaching. It also may be the first study to document that this trend is highest among urban HMO physicians.

As with past studies,^{13,14} interaction with students and the enjoyment and fulfillment as a teacher are the primary reasons physicians teach. Furthermore, most volunteer faculty are also involved in other medical education activities. The study group represents a subset of physicians who are self-motivated to make medical education an important part of their professional lives, and therefore, these findings are not surprising. With this in mind, the first goal of medical schools should be to identify such subsets of physicians. This could be done through collaboration with professional societies using surveys that look at physicians

with past teaching experience or keeping track of medical students or residents who served as teaching assistants and/or demonstrated excellent teaching skills while in training.

Time pressures are well-known concerns of volunteer physician educators.^{7,15,16} What causes the time pressures, and what can be done about them? These results indicate that more time with family is physicians' greatest desire, which is understandable, given the pressures of medical practice. This survey strongly suggests that the nonclinical administrative workload is a major frustration for physicians in general. This was evidenced by the finding that the second most prevalent threat to teaching involvement is increased administrative duties (table 2) and that for 83% of physicians, their nonclinical workload had increased (table 3). Increasing demands for higher patient loads is also a threat to clinical faculty involvement. Seeing more patients per day was seen as a deterrent to volunteer teaching, although not as strongly (table 2). In addition, most physicians (63%) believed that their clinical workload had increased (table 3). It is likely that while seeing more patients, a physician may still find it possible to involve students. However, administrative duties do not lend themselves easily to educational opportunities. Again, those who indicated that they had less time for teaching were significantly more likely to agree with the statement, "I am considering discontinuing my volunteer activities" (2.5 vs 1.0, $P < 0.001$).

Contrary to our expectation, retirement was not a barrier to volunteering to teach medical students. Of the 18 retired physicians 11 (61%) indicated that they planned to volunteer to teach medical students, if possible. Obviously, it will be impossible for these retired physicians to teach one-on-one with patients in their own clinical settings, but a multitude of alternative possibilities—clinical or laboratory skills or small group discussions—exists. This unexpected finding may point to a largely untapped pool of possible volunteer teachers from which medical schools can draw for the preclinical years.

In the early days of general care, many speculated that an HMO would offer a good opportunity and setting for the education of medical students.¹⁷ Moore and associates¹⁸ speculated that HMOs would welcome medical education because

by developing a medical school relationship . . . , an HMO acquires a new capacity for fresh thinking and innovation . . . [I]n a competitive world, a reputation for quality is an advantage. . . [A] medical school's reputation for educational excellence could enhance an HMO's image as a high quality organization [p 597].

This study suggests that this may not be true. Although not statistically significant, it was concerning to see twice the dropout rate among the HMO physicians. This study

Table 3 Physician perception of workload and time for patients and teaching

Perception	Increased	Remained the same	Decreased
In the past 5 years, clinical workload has			
Urban	190	66	24
Rural	21	19	13
Total, no. (%)	211 (63)*	85 (26)	37 (11)
In the past 5 years, nonclinical workload has			
Urban	239	38	3
Rural	37	14	2
Total, no. (%)	276 (83)†	52 (16)	5 (2)
Time for each patient encounter			
Urban	9	118	153
Rural	4	31	18
Total, no. (%)	13 (4)	149 (45)	171 (51)†
Time for teaching medical students			
Urban	11	100	169
Rural	0	17	36
Total, no. (%)	11 (3)	117 (35)	205 (62)†

*The percentage for which this statement is true was significantly greater for urban physicians than for rural ($P < 0.001$).

†The percentage for which this statement is true was significantly greater for urban physicians than for rural ($P = 0.002$).

suggests that this subset of physicians is most hindered by their clinical load, with nonclinical demands being secondary. This is a group that warrants further study, particularly because a growing percentage of medical providers work in HMOs,¹⁹ and HMOs are the major employers of the graduates of medical schools.

This study can be criticized on the grounds that the data are from a single institution, and local market forces may have skewed the results, particularly concerning the HMO sample. However, the University of Washington WAMI program covers a 4-state region, including several independent medical markets, which lessens this negative effect. Also, the future volunteer pool is currently unknown and the possible negative effect may not be as severe as our data suggest.

The University of Washington volunteer faculty pool at present does not appear to be immediately threatened—only 7% of the current volunteers are considering discontinuing their involvement in the near future. However, this is only partially reassuring, given the high number (205 [62%]) who said they had less time to teach. If current trends in medicine continue, our findings indicate that although physicians will still desire involvement in medical education, they may be unable to offer these services because of increasing clinical and nonclinical demands. This is particularly the case with urban physicians, who are disproportionately represented in our dropout pool and who are experiencing substantially more barriers to involvement in our programs. This is of concern because of the difficulty and expense of developing programs for medical education in rural areas.²⁰ Indeed, in the preclinical years, geographic limitations force us to rely heavily on urban volunteer faculty. Although the only significant difference between primary care and medical

specialties is that primary care providers have less time for each patient encounter, this may portend that primary care volunteer faculty involvement may decrease disproportionately in the future.

At a time when greater emphasis is being placed on the education of medical students in ambulatory care settings, especially in primary care,²¹ this possibility is worrisome. Primary care physicians find themselves torn between their internal desire to teach and the external pressures put on them to be more productive. Medical schools must identify a wider pool of physicians willing to teach and find creative ways to reward these volunteer teachers. They also must address the need for ongoing recognition and nurturing of their volunteer teaching faculty or face the adverse consequences of benign neglect. The findings from this study should alert academic institutions that if current trends continue, they could be faced with an abrupt decline in their pool of volunteer faculty.

Authors Brian E Vath was a 4th-year medical student at the time of the study. Ronald Schneeweiss is professor of family medicine, and Craig S Scott is professor of medical education at the University of Washington School of Medicine, Seattle.

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