

Exploring the Motivation Behind Physician Volunteerism

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Tarek Eid
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Stephanie Briney, DO

Abstract

Background and Significance

Physician volunteers play an integral role in educating medical students and providing health care to the uninsured. Therefore, understanding the reasons why physicians volunteer their time can possibly improve recruitment procedures. It may help clinics and medical schools advertise to prospective volunteer physicians by emphasizing the positives and directly addressing the main concerns in volunteering.

Research Question

To understand the reasons why physicians volunteer their time to provide healthcare to the uninsured and to educate future physicians. Another goal is to define the barriers that prevent physicians from volunteering.

Methods

A survey was distributed to physicians from multiple specialties who work at the University Of Arizona College of Medicine – Phoenix and Banner University Medical Center – Phoenix. The survey consisted of questions regarding physicians' background information, volunteer experience, barriers to volunteerism, and motivation behind their volunteerism. Motivation was evaluated utilizing a validated and widely used survey called the Volunteer Functions Inventory (VFI).

Results

A total of 100 physicians responded to the survey. 84% of physicians cited "Lack of Time" as being the primary barrier to volunteerism. 25% and 22% of the physicians cited "Financial Costs" and "Unaware of Opportunity" as barriers, respectively. With respect to VIF components, the "Values" category showed the highest mean score of 30.38 out of a possible 35 points, while "Career Factors" observed the lowest score of 14.09. Multivariate analysis adjusting for all other VIF survey factors show that a 1% increase in the aggregate score of the

“Career” and “Protective” factors, rendered a 27% and 28 % increase in the number of volunteer hours, respectfully.

Conclusions

Medical schools and clinics could possibly improve their recruitment efforts by making it less time consuming for physicians to volunteer and by minimizing the financial costs to physicians. They could also benefit by advertising the altruistic and humanitarian nature of the volunteer activity. Furthermore, organizations trying to recruit younger physicians to volunteer could benefit by advertising ways in which the volunteer activity can help advance the physician’s career in one way or another.

Table of Contents

Introduction/Significance	1
Research Methods and Materials	4
Results	9
Discussion	16
Future Directions	18
Conclusions	19
References	20

Lists of Figures and Tables

Figure 1: Survey

Table 1: Physician Background Information

Table 2: Barriers to Volunteerism

Table 3: VIF Survey Factors

Table 4: Multivariate Analysis of Survey Factors and the Log of Volunteer Hours

Table 5: Multivariate Analysis Physician Characteristics and Survey Factors

Introduction/Significance

There are currently at least 27.6 million people in the United States who do not have health insurance.¹ Many of the uninsured receive their health care at free clinics, which represent an important part of the healthcare "safety net" system.² With over 1000 free clinics in the United States that provide health care to an average of 1.8 million people a year, these clinics depend heavily on physician volunteers to care for people who have little or no access to health care otherwise.^{3,4}

In addition to treating the uninsured, physician volunteers also play a vital role in educating medical students.⁵ Recently, there has been a shift in emphasis of undergraduate medical education from the inpatient to outpatient/primary care-based settings.⁶ As a result, almost all medical schools in the United States provide an office-based primary care experience as part of their core clerkships. Medical students benefit greatly from this experience as they are provided the opportunity to expand not only their knowledge of patient care, but also the understanding of the healthcare delivery system in the outpatient setting. Accordingly, community-based, outpatient experiences have been identified as a requirement of several accreditation and professional organizations, such as the Association of American Medical Colleges (AAMC) and Liaison Committee on Medical Education (LCME).⁷ Therefore, medical schools currently rely heavily on community based physician volunteers to provide their students with the education they need to adapt to the ever changing medical field.⁵

Given the importance of physician volunteers in providing care to the uninsured and in medical education, a few studies have looked into the motivation behind physician volunteerism. A study performed by the Department of Pediatrics at Virginia Commonwealth University surveyed volunteer physicians who teach medical students in their core pediatric clerkship.⁸ The study compared active preceptors (those who have worked with students in the past year) with inactive preceptors (those who have not worked with students in the past year).⁸ They found that both active and inactive preceptors valued intrinsic factors such as satisfaction from

sharing knowledge, interacting with other volunteer faculty, and directly participating in the education of future physicians.⁸ However, active preceptors showed a significant preference toward developmental opportunities and appreciation while inactive preceptors showed a significant preference toward financial compensation.⁸ Furthermore, inactive preceptors reported 'lack of time' as the most significant barrier to precepting students.⁸ In another study, a free clinic in North Carolina surveyed its volunteer physicians to determine the barriers to volunteerism and figure out ways to attract physician volunteers to the clinic.⁹ Their study revealed that limited time and patient overload were the most significant barriers to physician volunteerism.⁹ Similarly, a study that investigated the barriers that prevent orthopedic surgeons from volunteering overseas identified lack of time and desire to spend more time with family as the most significant barriers.¹⁰

The goal of this study is to understand the reasons why physicians volunteer their time to provide healthcare to the uninsured and to educate future physicians utilizing the Volunteer Functions Inventory (VFI). The VFI has been validated by factor analyses, used with various different volunteer activities, tested by numerous researchers in their own studies, and has ultimately reached a level of acceptance to where it is commonly used in volunteer studies within the field of psychology. The researchers who developed the VFI determined that there are six different motivational functions that fuel volunteerism (Values, Understanding, Social, Career, Protective, and Enhancement).¹¹

These different motivational factors show that people performing the same volunteer activity, such as treating patients for free, may be doing it for different reasons. One study that utilized the VFI to determine the reasons behind volunteerism in young adults found that people who are motivated by multiple motivational factors as defined by the VFI are associated with greater satisfaction and good integration in the organization.¹² Furthermore, people who are motivated by more than one factor are also less vulnerable to costs related to the activity and are more likely to maintain longer involvement.¹²

To the best of our knowledge, the VFI has never been used to evaluate the motivation behind physician volunteerism. In this study, we also evaluated the main barriers that prevent physicians from volunteering in the first place. Understanding the answers to these questions can possibly help clinics and medical schools recruit prospective physician volunteers by emphasizing the positives and directly addressing the main concerns in volunteering.

Research Methods and Materials

The survey was distributed to physicians from multiple specialties who work at the University of Arizona College of Medicine–Phoenix and Banner- University Medical Center via a physician listserv.

The survey utilized in the study includes 3 different sections (Figure 1). The first section contains questions that ask for background information about the physician’s job and volunteer experience. The next section contains a question to determine the reasons why physicians do not volunteer. Finally, the last section contains 30 questions from the Volunteer Functions Inventory (VFI) to determine the reasons why physicians volunteer. The VFI has been validated by factor analyses, used with various different volunteer activities, tested by numerous researchers in their own studies, and has ultimately reached a level of acceptance to where it is commonly used in volunteer studies within the field of psychology. The researchers who developed the VFI determined that there are six different motivational functions that fuel volunteerism.¹¹ Each function or factor is measured with five items within a 30 question survey. The six motivational functions are:

Values – This centers on the opportunities that volunteerism provides for individual to express values related to altruistic and humanitarian concerns for others.

Understanding – This involves the opportunity for volunteerism to permit new learning experiences and the chance to exercise knowledge, skills, and abilities that might otherwise go unpracticed.

Social – This offers opportunities to be with one’s friends or to engage in an activity viewed favorably by important others. This reflects motivations primarily concerning relationships with others.

Career – This is concerned primarily with career-related benefits that may be obtained from participation in volunteer work.

Protective – In the case of volunteerism this may serve to reduce guilt over being more fortunate than others and to address one's own personal problems.

Enhancement – This centers on personal development, personal growth, and higher self-esteem.

Statistical analysis:

Demographics, professional background, and barriers to volunteerism of the survey respondents were assessed using frequencies, proportions for categorical variables. Univariate analysis using linear regression was implemented to ascertain whether these covariates were independently associated with volunteer hours. VFI motivational factors were assessed using means and standard deviations. To determine the associations between motivational factors and volunteer hours, a hierarchical approach using three models via linear regression was conducted to report Beta-Coefficients and 95% Confidence intervals. Model 1 includes the univariate analysis for each of the survey factors. Model 2 is a multivariate model that adjusts for all other survey factors within the model. The final model further adjusts for potential confounders with univariate $p < 0.20$. Therefore, expectation of inefficiency, language barrier, financial cost, clinical volunteerism, other volunteerism and work hours were entered into the final model. Our primary outcome of volunteering hours observed a normal distribution following a log transformation, thus the interpretation will change from the estimated mean difference to a percent difference. All p-values were 2-sided and $p < 0.05$ were considered statistically significant. All data analyses were conducted using STATA version 14 (College Station, TX).

Figure 1. Survey

1. What is your degree? _____
2. What is your specialty? _____
3. For how long have you been in practice? _____
4. How many hours a **week** do you work? _____
5. How many hours a **month** do you volunteer? _____
6. If you do volunteer, in what setting do you volunteer in?
 - Clinical
 - Education
 - Both Clinical and Education
 Other (Please Specify) _____

7. Please indicate which barriers make you less likely to volunteer (*Select all that apply*):
 - Lack of time
 - Lack of interest
 - Malpractice Concerns
 - Financial cost
 - Unaware of opportunities
 - Language Barrier
 - Expectation of inefficiency/disorganization at site
 - Other (Please Specify) _____

8. There are many reasons why people volunteer. Please indicate the importance of each of these factors in explaining why you choose to volunteer. (*Circle one number for each item*)

Motivational Factors	Not at all Important	Very Unimportant	Somewhat Unimportant	Neutral	Somewhat Important	Very Important	Extremely Important
Volunteering can help me get my foot in the door at a place where I would like to work	1	2	3	4	5	6	7
My friends volunteer	1	2	3	4	5	6	7

I am concerned with those less fortunate than myself	1	2	3	4	5	6	7
People I'm close to want me to volunteer	1	2	3	4	5	6	7
Volunteering makes me feel important	1	2	3	4	5	6	7
People I know share an interest in community service	1	2	3	4	5	6	7
No matter how bad I've been feeling, volunteering helps me to forget about it.	1	2	3	4	5	6	7
I am genuinely concerned about the particular group I am serving	1	2	3	4	5	6	7
By volunteering I feel less lonely.	1	2	3	4	5	6	7
I can make new contacts that might help my business or career.	1	2	3	4	5	6	7
Doing volunteer work relieves me of some of the guilt over being more fortunate than others	1	2	3	4	5	6	7
I can learn more about the cause for which I am working	1	2	3	4	5	6	7
Volunteering increases my self-esteem	1	2	3	4	5	6	7
Volunteering allows me to gain a new perspective on things.	1	2	3	4	5	6	7
Volunteering allows me to explore different career options.	1	2	3	4	5	6	7
I feel compassion toward people in need	1	2	3	4	5	6	7
Others with whom I am close place a high value on community service	1	2	3	4	5	6	7
Volunteering lets me learn things through direct, hands on experience	1	2	3	4	5	6	7
I feel it is important to help others	1	2	3	4	5	6	7
Volunteering helps me work through my own personal problems.	1	2	3	4	5	6	7
Volunteering will help me to succeed in my chosen profession.	1	2	3	4	5	6	7

I can do something for a cause that is important to me.	1	2	3	4	5	6	7
Volunteering is an important activity to the people I know best.	1	2	3	4	5	6	7
Volunteering is a good escape from my own troubles.	1	2	3	4	5	6	7
I can learn how to deal with a variety of people.	1	2	3	4	5	6	7
Volunteering makes me feel needed.	1	2	3	4	5	6	7
Volunteering makes me feel better about myself.	1	2	3	4	5	6	7
Volunteering experience will look good on my resume	1	2	3	4	5	6	7
Volunteering is a way to make new friends	1	2	3	4	5	6	7
I can explore my own strengths.	1	2	3	4	5	6	7

Results

A total of 100 physicians responded to the survey (Table 1). 52% of the respondents were primary care physicians while 48% were not. 61% of physicians reported working less than or equal to 50 hours per week while 39% reported working more than 50 hours a week. 73% and 50% of the physicians volunteer in medical education and within a clinical setting, respectively. There is a statistically significant association between physicians who volunteer in a clinical setting and the number of hours they spent volunteering. Those who volunteered clinically had 52% higher volunteering hours than those who did not.

When surveyed the barriers to volunteerism, 84% of the physicians cited “lack of time” as being the primary barrier to volunteerism. Furthermore, 25% and 22% of physicians cited “Financial Costs” and “Unaware of Opportunity” as barriers, respectfully (Table 2).

With respect to the VIF survey components, the “Values” factors showed the highest mean score of 30.38 out of a possible 35 points, while the “Career” factor observed the lowest score of 14.09 (Table 3). Comparing the difference in VIF factors compared between physicians who have been in practice for less than 16 years versus the ones who have been in practice for more than 16 year showed a statistically significant difference in the average “Career” factor score (P-value = 0.01); 15.8 for physicians who have been in practice for < 16 years and 12.4 for physicians working for > 16 years.

Univariate analysis with no adjustments shows that a 1% increase in the aggregate score of the “Career” factor rendered a 2% increase in the number of volunteer hours (Table 4).

Furthermore, a 1% increase in the aggregate score of “Values” Factors rendered an increase in physician volunteer hours of 2.5%. Multivariate analysis adjusting for all other VIF survey factors show that a 1% increase in the aggregate score of the “Career” and “Protective” factors, rendered a 27% and 28 % increase in the number of volunteer hours, respectfully. Multivariate

analysis adjusting for all other VIF factors and other potential biases such as expectation for inefficiency, language barrier, financial cost, and volunteerism at a clinical or “Other” site, show that a 1% increase in the aggregate score of the “Career” and “Protective” factors, rendered a 6.5% and 8% increase in the number of volunteer hours, respectfully.

Table 5 shows the relationship between physician characteristics and VIF survey factors. Those physicians who work greater than 50 hours a week showed a statistically significant decrease in scores of “Social” and “Career” factors, respectively. Furthermore, Physicians who have practiced medicine for more than 16 years showed a statistically significant decrease in “Career” factors. Finally, physicians who volunteer at a clinical setting showed a statistically significant increase in the “Values” factor.

Table 1. Physician Background Information

Variables	# of Physicians N=100	Coeff (95% CI)	P-Value ¹
Specialty (n, %)			0.22
No Primary Care	48	REF	
Primary Care	52	0.24 (-0.14, 0.63)	
Length of Practice, Years (n, %)			0.73
≤ 16	51	REF	
>16	49	-0.07 (-0.46, 0.32)	
Work Hours per Week, Hours (n, %)			0.19
≤ 50	61	REF	
>50	39	0.26 (-0.13, 0.66)	
Volunteering Location (n, %)			
Clinical	50	0.52 (0.14, 0.90)	0.008
Educational	73	0.003 (-0.51, 0.52)	0.99
Other	24	0.36 (-0.07, 0.79)	0.099

¹P-values calculated via univariate analysis using Linear Regression with Log volunteer hours as the primary outcome.

Table 2. Barriers to Volunteerism

Variables	# of Physicians N=100 %	Coeff (95% CI)	P-Value ¹
Lack of Time	84	0.15 (-0.38, 0.67)	0.58
Lack of Interest	7	0.13 (-0.58, 0.84)	0.72
Malpractice Concern	19	0.09 (-0.42, 0.61)	0.71
Financial Cost	25	0.36 (-0.07, 0.81)	0.10
Unaware of Opportunities.	22	-0.30 (-0.81, 0.21)	0.25
Language Barrier	9	0.61 (-0.09, 1.31)	0.091
Expectation of Inefficiency/Disorganization at Site	14	0.45 (-0.09, 0.98)	0.10
Other	12	-0.36 (-0.97, 0.54)	0.23

¹P-values calculated via univariate analysis using Linear Regression with Log volunteer hours as the primary outcome.

Table 3. VIF Survey Factors stratified by Length of Practice

Variables	Overall Mean (SD)	≤ 16 years Mean (SD)	>16 years Mean (SD)	P-Value ¹
Enhancement	18.66 (7.10)	19.5 (6.81)	17.6 (7.32)	0.18
Understanding	22.79 (5.80)	23.6 (5.69)	21.9 (5.76)	0.08
Social Factors	17.80 (6.22)	18.2 (6.23)	17.4 (6.23)	0.52
Career Factors	14.09 (6.67)	15.8 (6.74)	12.4 (6.20)	0.01
Values	30.37 (3.21)	30.4 (3.26)	30.4 (3.17)	0.96
Protective	14.30 (5.75)	15.0 (5.86)	13.6 (5.60)	0.31

¹P-values calculated via the Wilcoxon Rank sum.

Table 4. Multivariate Analysis of Survey Factors and the Log of Volunteer Hours

Variables	Model 1	P-Value ¹	Model 2	P-Value ²	Model 3	P-value ³
	Coef (95% CI)		Coef (95% CI)		Coef (95% CI)	
Enhancement	-0.006 (-0.03, 0.03)	0.68	-0.02 (-0.07, 0.03)	0.43	-0.01 (-0.06, 0.04)	0.58
Understanding	-0.003 (-0.04, 0.03)	0.85	-0.01 (-0.07, 0.04)	0.65	0.006 (-0.05, 0.06)	0.83
Social Factors	-0.014 (-0.05, 0.02)	0.41	-0.02 (-0.07, 0.03)	0.45	-0.03 (0.08, 0.02)	0.20
Career Factors*	0.02 (-0.35, 0.49)	0.91	0.27 (-0.35, 0.89)	0.39	0.065 (-0.54, 0.67)	0.83
Values	0.013 (-0.05, 0.08)	0.65	0.04 (-0.03, 0.11)	0.23	-0.02 (-0.08, 0.06)	0.71
Protective*	0.025 (-0.43, 0.48)	0.91	0.28 (-0.37, 0.94)	0.39	0.08 (-0.55, 0.71)	0.80

Model 1. Univariate analysis with no adjustments via Linear Regression.

Model 2. Multivariate Analysis adjusting for all other covariates via Linear Regression

Model 3. Multivariate Analysis adjusting for all other covariates plus further adjustment for Expectation of Inefficiency, Language Barrier, Financial Cost, Clinical volunteerism and Other Volunteerism.

*Conducted Log Transformation to observe normal distribution.

Table 5. Multivariate Analysis Physician Characteristics and Survey Factors

Physician Characteristics	Enhancement	Understanding	Social Factors	Career Factors**	Values	Protective**
	Coef (95% CI)	Coef (95% CI)	Coef (95% CI)	Coef (95% CI)	Coef (95% CI)	Coef (95% CI)
Specialty						
No Primary Care	REF	REF	REF	REF	REF	REF
Primary Care	-1.05 (-4.2, 2.0)	0.51 (-1.9, 2.9)	0.19 (-2.4, 2.8)	-0.06 (-0.28, 0.17)	0.71 (-0.7, 2.09)	0.08 (-0.1, 0.30)
Length of Practice						
≤ 16 years	REF	REF	REF	REF	REF	REF
>16 years	-2.19 (-5.1, 0.74)	-1.72 (-4.1, 0.61)	-1.52 (-4.0, 0.98)	-0.28 (-0.50, -0.07)*	0.23 (-1.1, 1.50)	-0.11 (0.3, 0.08)
Work Hours per Week						
≤ 50 hours	REF	REF	REF	REF	REF	REF
>50 hours	-1.06 (-4.0, 1.9)	-1.90 (-4.2, 0.46)	-3.38 (-5.9, -0.82)*	-0.22 (-0.44, -0.01)*	0.39 (-0.9, 1.71)	0.06 (-0.13, 0.30)
Volunteering Location						
Clinical	2.20 (-0.83, 5.2)	2.20 (-0.21, 4.6)	2.09 (-0.50, 4.7)	-0.15 (-0.07, 0.37)	1.64 (0.31, 2.91)*	0.10 (-0.09, 0.30)
Educational	2.14 (-1.1, 5.4)	0.86 (-1.7, 3.5)	1.45 (-1.3, 4.3)	0.21 (-0.03, 0.45)	-1.27 (-2.8, 0.21)	0.09 (-0.12, 0.30)
Other	1.24 (-2.2, 4.7)	-0.67 (-3.44, 2.1)	1.19 (-1.73, 4.1)	-0.02, -0.27, 0.23)	0.67 (-0.88, 2.21)	0.01 (-0.20, 0.20)

Multivariate Analysis adjusting for all other covariates via Linear Regression

*Denotes p<0.05

REF = Reference

Discussion

The data presented in this study sheds light upon the different factors that contribute to a physician's decision of whether or not to volunteer at a clinical or educational setting. The 100 physicians we surveyed represent a wide variety of specialties in order to eliminate any bias a certain specialty might have with regards to volunteerism.

When surveyed the barriers to volunteerism, the top three answers were "lack of time" (84%), "financial costs" (25 %) and "unaware of opportunities" (22%). Even though none of the variables showed statistical significance in terms of number of volunteer hours, "language barrier" and "expectation of inefficiency/disorganization at site" came close, P-values of 0.091 and 0.1, respectfully. This data reveals multiple areas where medical schools and clinics could possibly improve their recruitment efforts. They could focus on advertising the efficiency and organization of a certain volunteer experience and the presence of interpreters when needed. Furthermore, they could make the volunteer activity less time consuming and minimize financial cost to physicians.

With respect to the VIF survey components, the "Values" category showed the highest mean score of 30.38 out of a possible 35 points, while the "Career" factor observed the lowest score of 14.09 (Table 3). This would indicate that organizations could benefit by advertising the altruistic and humanitarian nature of the volunteer activity.

When these VIF survey components are used to conduct a multivariate analysis adjusting for all other VIF survey factors, the data shows that a 1% increase in the aggregate score of the "Career" and "Protective" factors, rendered a 27% and 28 % increase in the number of volunteer hours, respectfully. When adjusting for all VIF factors and other potential biases such as expectation for inefficiency, language barrier, financial cost, and volunteerism at a clinical or "Other" site, the data shows that a 1% increase in the aggregate score of the "Career" and

“Protective” factors, rendered a 6.5% and 8% increase in the number of volunteer hours, respectfully. Even though the increase in volunteer hours did drop after adjusting for potential biases, “Career” and “Protective” factors still remained the top two factors that are associated with increase in volunteer hours. This indicates that even though physicians overall rated “Career” factors as low in importance when it comes to volunteerism, as demonstrated by the lowest mean score (Table 3), “Career” factors still remains an important motivator to volunteerism. This especially holds true with physicians who have been in practice for less than 16 years as the data shows a statistical difference in “Career” factors when compared with their counterparts who have been working for more than 16 years. This would indicate that if an organization is trying to recruit younger physicians to volunteer, they could benefit by advertising ways in which this certain volunteer activity can help advance the physician’s career in one way or another.

Limitations of our study include the fact that all of the physicians surveyed reside in the state of Arizona. There exists the possibility that motivations and barriers to volunteerism could differ between different states and countries. Furthermore, most of the data reported did not achieve statistical significance. This could be due to the limited number of physicians surveyed in this study (100 physicians).

Future Directions

Physicians across the country should be surveyed to more reliably determine the motivation and barriers to physician volunteerism in the United States. This could be done utilizing listservs that belong to national physician organizations. Furthermore, free clinics and medical schools across the country could use the information presented in this study to recruit physician volunteers more efficiently. It would also be helpful to see if organizations are more successful in recruitment because of the data presented in this study.

Conclusions

Medical schools and free clinics across the world rely heavily on physician volunteers to educate future physicians and provide health care to the uninsured. Therefore, understanding the reasons why physicians volunteer their time and the barriers to their volunteerism can possibly improve recruitment efforts in those organizations. As the data presented in this study shows, medical schools and clinics could possibly improve their recruitment efforts by making it less time consuming for physicians to volunteer and by minimizing the financial costs to physicians. They could also benefit by advertising the altruistic and humanitarian nature of the volunteer activity. Furthermore, organizations trying to recruit younger physicians to volunteer could benefit by advertising ways in which the volunteer activity can help advance the physician's career in one way or another.

References

1. Kaiser Family Foundation. Key Facts about the Uninsured Population. Kaiser Family Foundation Website. <https://www.kff.org/uninsured/fact-sheet/key-facts-about-the-uninsured-population>. Updated November 29, 2017. Accessed November 29, 2017.
2. Becker's Hospital Review. Caring for the Uninsured: How Free Clinics, Hospitals Can Partner to Treat a Community's Most Vulnerable. Becker's Hospital Review Website. <http://www.beckershospitalreview.com/news-and-analysis/caring-for-the-uninsured-how-free-clinics-hospitals-can-partner-to-treat-a-communitys-most-vulnerable.html>. June 11, 2013. Accessed November 29, 2017.
3. Hitt E. Free Clinics in the United States Serve Millions Each Year. Medscape Website. <http://www.medscape.com/viewarticle/723562>. June 15, 2010. Accessed November 29, 2017.
4. Isaacs S, Jellinek P. Is There A (Volunteer) Doctor In The House? Free Clinics And Volunteer Physician Referral Networks In The United States. Health Affairs Website. <https://www.healthaffairs.org/doi/full/10.1377/hlthaff.26.3.871>. June, 2007. Accessed November 29, 2017.
5. Vath BE, Schneeweiss R, Scott CS. Volunteer Physician Faculty and the Changing Face of Medicine. *Western Journal of Medicine*. 2001; 174(4): 242-246.
6. Peccoralo LA, Callahan K, Stark R, et al. Primary care training and the evolving healthcare system. *Mount Sinai Journal of Medicine*. 2012; 79(4): 451-463.
7. Liaison Committee on Medical Education. Functions and Structure of a Medical School: Standards for Accreditation of Medical Education Programs Leading to the M.D. Degree. *Liaison Committee on Medical Education*. 2012.
8. Ryan MS, Vanderbilt AA, Lewis TW, et al. Benefits and Barriers Among Volunteer Teaching Faculty: Comparison Between Those Who Precept and Those Who Do Not in the Core Pediatrics Clerkship. *Medical Education Online*. 2013; 18: 1-7.
9. Newman MK. Why Doctors Don't Volunteer at a Community-Sponsored Free Health Clinic. *North Carolina Medical Journal*. 2014; 60(4):193-197.
10. Makhni MC, Milao D, Zurakowski D, et al. Are Academic Orthopedic Surgeons Interested in Global Health? *The American Journal of Orthopedics*. 2014; 43(3): 37-42.

11. Clar EG, Snyder M, Ridge RD, et al. Understanding and Assessing the Motivations of Volunteers: A Functional Approach. *Journal of Personality and Social Psychology*. 1998; 74(6): 1516-1530.
12. Marta E, Guglielmetti C, Pozzi M. Volunteerism During Young Adulthood: An Italian Investigation into Motivational Patterns. *Voluntas: International Journal of Voluntary and Nonprofit Organizations*. 2006; 17(3): 221-232.
13. Fredericks MA, Mundy P, Kosa J. Willingness to serve: The medical profession and poverty programs. *Social Science & Medicine*. 1974; 8(1): 51-57.