In Clinical Optometric Education, Does Extern Outreach Training Produce Outreach Providers?

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Abstract

In an effort to determine if clinical optometric outreach training impacts the practice patterns of its graduates, survey responses were compared from graduates of an optometric college with mandatory senior clinical outreach externships (Group II) and graduates of the same institution prior to the implementation of outreach rotations (Group I). Group II donated more hours of benevolent optometric care per week compared to Group I. Group II reported higher levels of comfort and preparedness for community outreach work when compared to Group I. It is therefore concluded that outreach rotations do influence the practice patterns of their graduates.

Key Words: *outreach, underserved, uninsured, practice patterns, clinical healthcare education, health disparities*

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Background

Community outreach and engagement are missions established by many healthcare educational institutions across our nation. Outreach services involve provisions given to groups in society who might otherwise be neglected. Training students to become effective providers in underserved communities is a goal with significant potential public health benefits. These potential assets, however, never become realities if the graduates do not go on to provide outreach services in their own professional careers.

Currently, an estimated 46.3 million individuals living in the United States have no health coverage.[1] Many of these individuals have access to minimal to no preventive healthcare interventions, which leads to a reliance on emergency rooms and healthcare safety-net programs for episodic healthcare concerns. This lack of continuity of care tends to result in less than optimal health behaviors as well as exponentially higher overall healthcare costs.[2]

With the passage of the 2010 healthcare reform bill, the Affordable Care Act, 32 million of the currently uninsured Americans will soon become eligible for healthcare coverage.[3] The long-term uninsured population will bring with it unique health challenges that will require in-tune health professionals to effectively address its issues.

Despite the enlarging umbrella of insurance coverage, the nonpartisan Congressional Budget Office estimates that 23 million people will remain uninsured by the year 2019. Seven million will be undocumented immigrants and 16 million will be individuals who are not required or chose not to purchase insurance as well as those who believe they cannot afford to purchase insurance.[4] Therefore, the demand for healthcare providers who are prepared and willing to provide community outreach will be ongoing.

Historically, in urban and rural settings, the uninsured have benefited from healthcare providers who have been willing to provide donated services to those who could not afford to pay. Several studies in 2006 estimate that there

may have been more than $50 billion/year in uncompensated medical care provided in the United States that year.[5] This healthcare safety net relies on providers who are willing and are competent to deal with the health issues of the uninsured. As profit margins continue to narrow in the healthcare market, finding providers who are committed to community service is essential to keeping the volunteer network alive.

The Ohio State University, along with approximately 50 other state-supported universities was created as a result of the Congressional Land-Grant Act signed by Abraham Lincoln in 1862. Land-grant institutions were founded to be "the people's universities," encouraging extension of knowledge beyond the boundaries of campus walls. Over the years, the phrase "teaching, research and public service" has become synonymous with the missions of most land-grant universities.[6]

At The Ohio State University College of Optometry (TOSUCO), a mission of community outreach and engagement has been translated into efforts to educate optometric students who are prepared and willing to take on the challenges of optometric practice in all aspects of society. To that end, in 1995, TOSUCO instituted a Primary Care Externship program geared toward exposing senior optometry students to practice modalities away from the campus in private and group optometric practices. In 2001, that concept was expanded to include outreach facilities that incorporated various community-based optometric settings. These settings included homeless shelters, "house calls," mental hospitals, nursing homes, The Central Ohio Blind School and outreach clinics established in underserved communities.

The premise for incorporating the outreach element into the senior externship curriculum was threefold: 1) to enrich the students' clinical experiences, exposing them to more complex health issues and varied diagnoses; 2) to help the optometric students become more culturally competent, sensitive and aware of the diverse types of patients they may encounter in their future careers; and 3) exposing students to the benefits of community service allows them to witness the positive impact they can make on the overall health of a community and gives them the opportunity to experience the "good feelings" that can be associated with involvement in benevolent activities.

The purpose of this investigation was to attempt to determine if the second and third objectives were met and to determine if outreach education influences the level of delivered outreach care. The following questions were the basis of this study:

- Do the graduates of TOSUCO who have been exposed to the clinical outreach programs implemented in 2001(Group II) go on to provide outreach care?
- Is there a difference in the outreach delivery rates after graduation between those who rotated through the outreach rotations (Group II) and those who did not (Group I)?
- Is there a difference between the graduates' perceptions of their clinical education in the realm of understanding health disparities and the needs of the underserved?

Methods

A literature search was completed to determine if any previous studies had been done on this topic. Although there were no studies specifically comparing outreach exposure vs. no outreach exposure, several medical and dental school retrospective studies investigated potential predictive factors influencing graduate practice decision-making.[7-9] Several questions asked in these studies were incorporated into the instrument developed for this investigation.

The questions asked in the survey were developed through consultation with various current and previous members of the faculty at TOSUCO. Most notably, the current and previous Extern Coordinators at the College gave insight into the history of the program and the rationale behind the expansion of the outreach component.

A total of 734 questionnaires were mailed to TOSUCO graduates between the years of 1995 and 2006 (1995-2000 n=365 surveys; 2001-2006 n=369 surveys). No pilot pre-testing was done. Stamped return envelops were included with each questionnaire. The instrument used was designed to gather the desired information with a minimum amount of time and effort required of the alumni being polled. Because of The Ohio State University Institutional Review Board's requirement of respondent anonymity, the survey was mailed only once. Re-mailing of the instrument to nonresponders would have required knowledge of the identity of the initial responders.

Demographic information was collected through survey questions related to the sex and ethnicity of the doctor, year of graduation, type of practice modality and percent time spent in the various practice types.

Ten outreach questions were asked using a five-level Likert response scale. Three questions asked for approximate percentage levels of patients seen with no insurance, Medicaid and Medicare. One question requested the number of hours per week donated to underserved populations. (**Appendix 1**)

Likert responses of Strongly Agree and Mostly Agree were recorded as positive responses. Strongly Disagree and Mostly Disagree responses were tallied as negative responses. Unpaired two-sample T-tests were performed to determine whether differences existed between the two groups of alumni.

Results

A total of 309 questionnaires were returned resulting in a return rate of 42.1%. Five questionnaires that were returned were missing pertinent data such as date of graduation, which rendered them unusable. There were 145 usable surveys from alumni who graduated in the years of 1995-2000 (70 females and 75 males) (Group I) and 159 usable questionnaires from the group of graduates from the years of 2001-2006 (80 females and 79 males) (Group II).

About 80% of doctors with outreach externship experience expressed that they felt well-prepared to deal with patients from different socioeconomic backgrounds compared to about 67% of those without outreach externship

training. (p=0.013) (**Figure 1**). When it came to working with patients from different ethnic/racial backgrounds, 79.5% of those with outreach experience felt prepared compared to 61% of those without the outreach training (p=0.0002) (**Figure 2**). Group II alumni responded positively to their preparation to work with disabled patients at a rate of 70.5% compared to 49.3% from Group I (p=0.0001) (**Figure 3**).

Group I alumni were more likely to respond negatively when asked if their education had made them aware of healthcare disparities. Almost 23% of the earlier graduates' responses indicated that they felt that their education did not make them aware of existing disparities in health care for individuals in underserved populations compared to 12.6% of the later graduates (p=0.00005) (**Figure 4**).

There was no significant difference between the positive or negative responses of the two groups in the questions related to the practice of treating patients from diverse backgrounds. Both groups perceived themselves equally as positive influences in their communities (p=0.844). There was also no significant difference between the percentages of Medicaid (p=0.164) or Medicare (p=0.68) patients in the practices of either group. The two groups were virtually equal in their responses to the question about their desire to provide care

Figure 1
"My optometric education prepared me well to treat patients from different socioeconomic backgrounds."

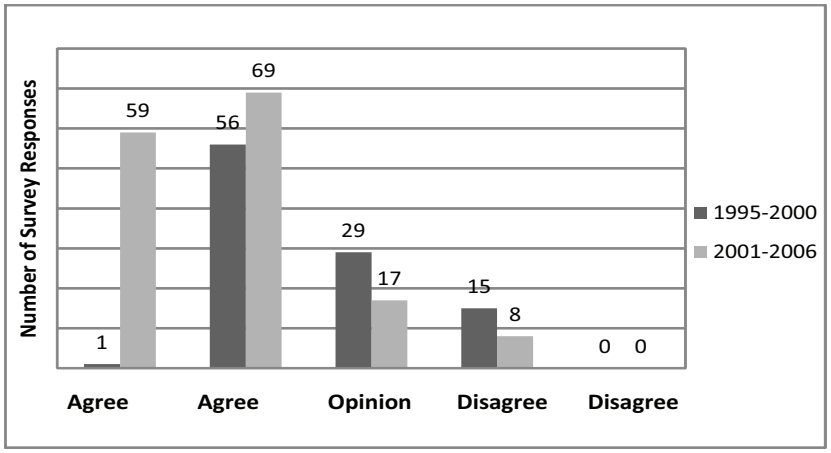


Figure 2
"My optometric education prepared me well to treat patients from different ethnic/racial backgrounds."

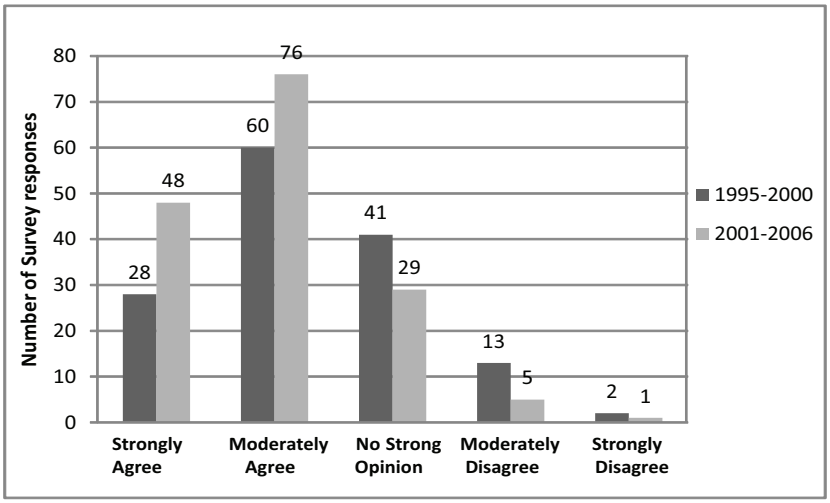


Figure 3
"My optometric education prepared me well to treat patients with disabilities."

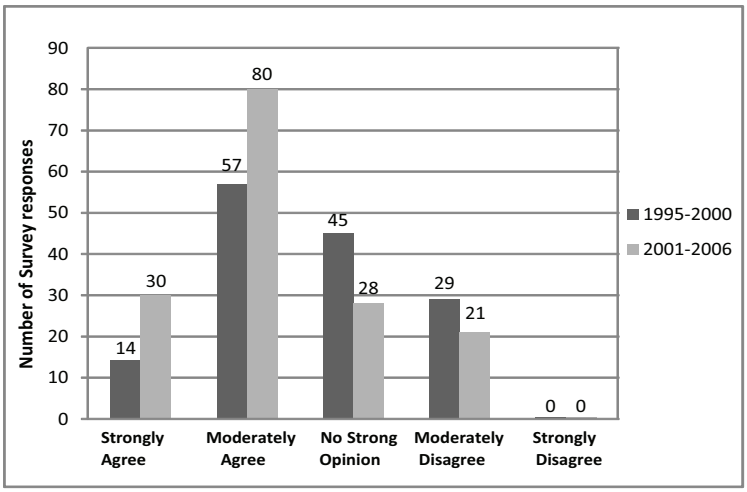
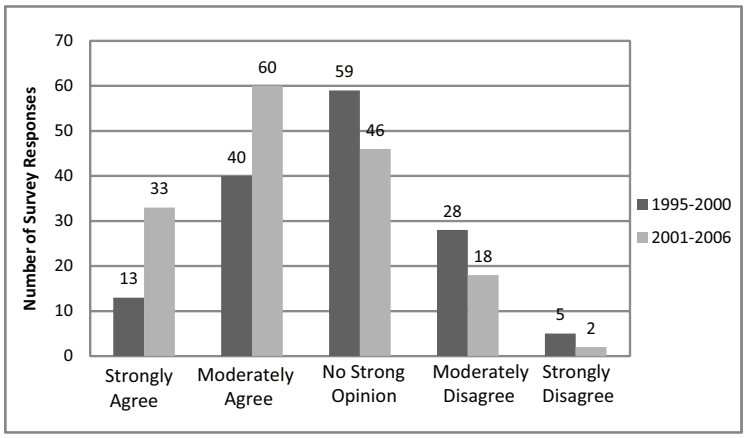


Figure 4
"My optometric education made me aware of existing disparities in health care for individuals in underserved populations."



to the underserved while in optometry school (p=0.242) (**Figure 5**).

The only significant differences in practice modalities were found in the number of doctors practicing in corporate and residency settings (**Figure 6**). Older graduates reported higher levels of corporate work compared to their younger counterparts (p=0.0002). The newer graduates were exclusively involved in residency programs.

The question "What approximate % of your patients has no vision or health insurance?" was determined to be flawed because respondents interpreted it in more than one way. Some respondents interpreted the question to mean that the patients are indigent and cannot afford vision or health insurance. On the other hand, several doctors added comments on this question, indicating that they do not accept any type of vision or health insurance in their practice, which would require all of their patients to pay cash for their services. Because of these two opposing interpretations, the results from this question were not included in this analysis.

The level of donated care given per week was higher for outreach-trained doctors compared to those without the outreach experience. Group II reported a mean of 3.0 hours per week compared to Group I's mean of 1.55 hours per week (p=0.04) (**Figure 7**). The range of donated care for Group I extended from 0-14 hours per week, while Group II's donated care ranged from 0-45 hours per week.

Conclusions

TOSUCO outreach extern rotations appear to have been successful in influencing the graduates' perceptions of their outreach readiness. Alumni who completed the outreach rotations indicated that their optometric education had prepared them to be comfortable and confident providing care to patients from diverse socioeconomic, ethnic/racial and disability backgrounds and to understand the complexities of health disparities.

Group II graduates were very positive about the quality of their optometric education in the realm of the treatment of special populations. They were aware of health disparities, and they felt they

Figure 5

"During my optometric education, I had a strong desire to provide vision care to underserved individuals."

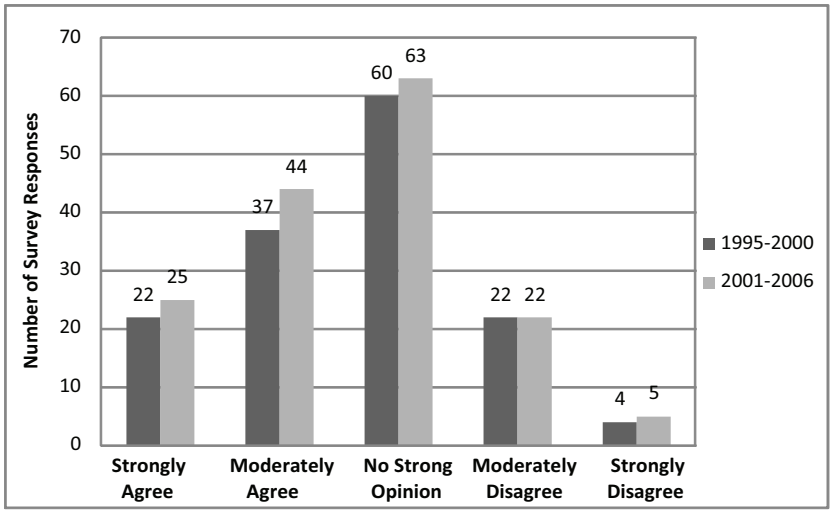


Figure 6

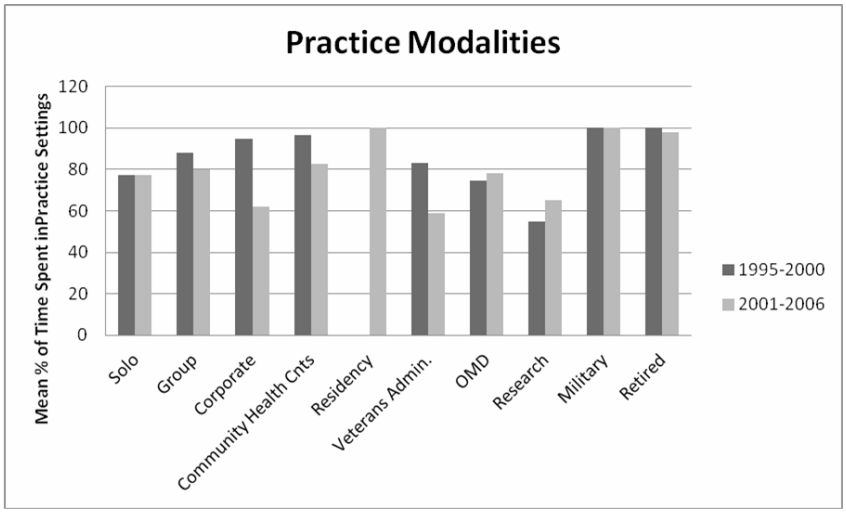
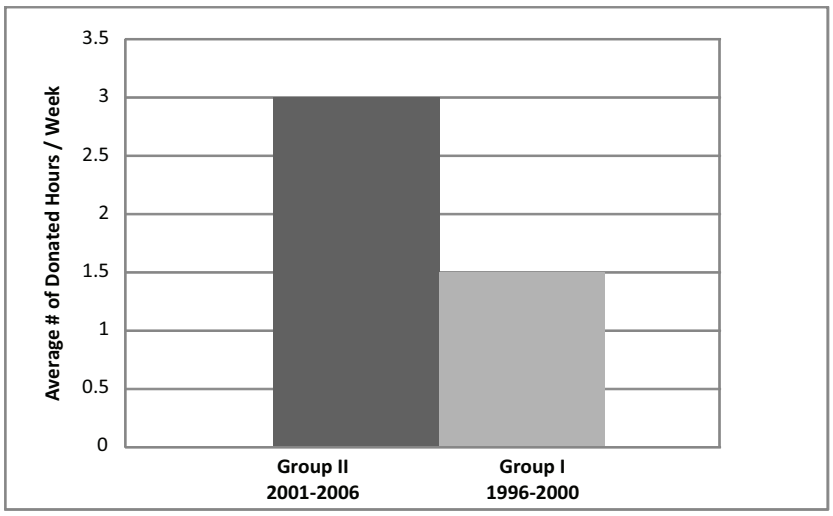


Figure 7

"How many patient care hours do you donate to underserved populations per week?"



had received sufficient guidance in addressing the issues of those special populations.

At the same time, Group I graduates relayed negative responses regarding perceived deficiencies in their optometric education in the area of health disparities. They felt they had not received an appropriate amount of instruction on this topic.

It was found that the TOSUCO outreach program did influence the benevolent practice patterns of its graduates. Survey respondents reported an average of 1.55 donated hours per week for Group I and 3.0 hours per week for Group II. Using a metric of 30 minutes per patient per examination time, this could be extrapolated to suggest that outreach-trained doctors donated care to 156 more underserved patients per year than nonoutreach trained doctors.

This argument is strengthened by the fact that there was no significant difference between the groups when questioned about their desire to provide care to the underserved while they were in optometry school. Therefore, if they began with equal levels of interests in community care, something in their education likely fostered the difference between the groups. It is quite possible that the outreach experiences gained during the senior year encouraged graduates to provide benevolent care as they began their careers and made them more comfortable in doing so. It is possible that there were other factors that may have augmented the differences between the two alumni groups. There may have been didactic coursework added into the curriculum that supplemented the issues addressed by the clinical outreach efforts. No such curriculum additions have been documented, but classroom discussions are not always thoroughly reflected in course outlines. It is also possible that generational and societal influences may have affected their practice decisions.

It is important to note that there are limitations to the ability to generalize the results of this study. The nonrespondents to this survey may have had very different responses from those who did complete and return this instrument. Nonrespondents may have had a more neutral or negative opinion of the value of the education received at TOSUCO.

It is probable that economics is another strong factor influencing the level of donated care offered by optometric practitioners. Despite the fact that many new graduates have significant levels of indebtedness in the forms of professional school loan repayments, they may not have established other large financial commitments such as home mortgages, practice purchase loans, equipment leases and children's school tuitions during their early post-graduation years. The doctors in the 1995-2000 group may be experiencing some or all of those pressures.

It is also possible that newer graduates have more free time in their work schedules, which they are able to fill with donated care. This variable was not pursued by this study, but it is a factor that warrants further investigation. If length of time in practice is a strong confounding variable, it would be expected that the number of hours donated would decrease the longer an alumni was in practice, but that was not the case for either group (**Figure 8**).

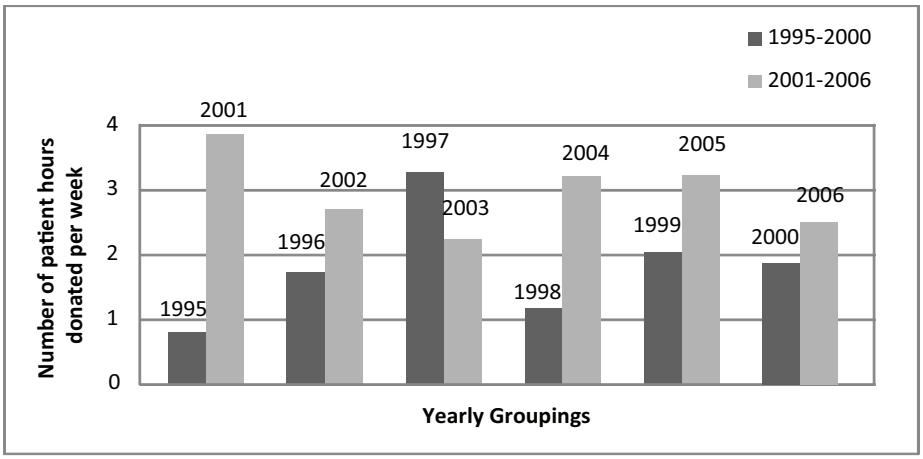
Despite the difference in the outreach training of the two groups, both groups were very positive about the fact that they do treat patients from diverse walks of life. Seventy-four percent of the responses from both groups were either Strongly Agree or Moderately Agree on this inquiry. This reflects quite positively upon the graduates as a whole in their desire to provide care to a variety of patient groups. This finding is in line with the American Optometric Association's 2006 Scope of Practice Survey in which 73.7% of respondents reported that they donated some of their time and talents to local charitable organizations.[10] This demonstrates that optometrists as a group tend to be civic-minded professionals who are willing to offer help to those in need.

It should be noted that donated care is not the only way an optometrist can provide community service. Acceptance of low-reimbursing state and federal insurance plans can be of tremendous benefit to low-income communities. Involvement in public health education programs, screenings and charitable contributions to healthcare agencies are all valid avenues of community health promotion.

This study has found that rotations through optometric outreach externship programs do foster the awareness for the need for civic responsibility. This heightened awareness appears to translate into practitioners who do go on to provide outreach care in their communities.

Figure 8

"How many patient care hours do you donate to underserved populations per week?"



As the current tough economic climate continues to foster uninsured or underinsured families, optometric educational institutions should be preparing their graduates to address such public health shortcomings. This study suggests that implementing or expanding optometric clinical outreach curriculum is worthy of investigation.

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Appendix 1

The following fourteen questions were asked. The same five-level Likert response scale was used for the first ten questions.

1. My optometric education prepared me well to treat patients from different socioeconomic backgrounds.

1	2	3	4	5
Strongly Agree	Moderately Agree	No Strong Opinion	Moderately Disagree	Strongly Disagree

2. My optometric education prepared me well to treat patients from different ethnic/racial groups.
3. My optometric education prepared me well to treat patients with disabilities.
4. My optometric education made me aware of existing disparities in health care for individuals in underserved populations.
5. During my optometric education, I had a strong desire to provide vision care to underserved individuals.
6. Currently, I treat a diverse patient population.
7. Currently, I treat patients from all socioeconomic backgrounds.
8. Currently, I treat patients with disabilities.
9. Currently, I volunteer some of my services to underserved patients.
10. Currently, I make a positive influence on public issues in my community.
11. What approximate % of your patients has no vision or health insurance? _____%
12. What approximate % of your patients has a type of Medicaid insurance? _____%
13. What approximate % of your patients has Medicare insurance? _____%
14. How many patient care hours do you donate to underserved populations per week? _____%