Impacts of Medical Clinic or Educational Event Participation on Medical Student Perception of Underserved Populations

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ABOUT H.O.M.E

WHO

Student run club at the Arizona College of Osteopathic Medicine

WHAT

Health Outreach Through Medicine and Education

WHERE

Central Arizona Shelter Services, United Methodist Outreach Ministries, and Vista Colina Shelters

WHY

To provide quality, free medical care to underprivileged individuals residing in shelters in the Phoenix-metro area while also educating health care students on patient care

H.O.M.E. Course:

All second-year medical students at AZCOM participate in a course associated with H.O.M.E in which they are required to either participate in a student-run free medical clinic or develop and lead an educational presentation for underserved clients. During this time students also complete several training modules that provide an overview of social determinants of health as well as learn how to better communicate with and care for unhoused individuals.

Clinic Events:

- Set-up mobile acute care clinic space and equipment
- Perform comprehensive medical histories and physical exams
- Provide over the counter and prescription medications for infections, asthma, and diabetes, etc.

Education Events:

- Identify a topic to improve client health literacy
- Design an informative and engaging presentation
- Deliver presentation and answer client questions

INTRODUCTION

With the osteopathic profession's long history of community involvement and primary care, osteopathic medical schools are uniquely positioned to train physicians dedicated to fulfilling society's healthcare needs.[1] The Arizona College of Osteopathic Medicine (AZCOM) has risen to this call through student involvement in H.O.M.E.

Upon literature review, the authors identified a study involving a similar student-run free clinic and course at the University of California San Diego School of Medicine. The study found that medical students enrolled in this program reported increased understanding, skills, attitude and interest in working with underserved populations following their participation.[1] This project intends to determine if a similar effect is observed in AZCOM students enrolled in the H.O.M.E. course through their participation in a clinic event and if these results are also seen with those who fulfilled their course requirement by developing an education event.

METHODS

Pre & Post-course survey data for Questions 2 and 5 from 2020-2024 H.O.M.E. course participants

Extracted 996 responses from Canvas & de-identified by course coordinator

Original participant responses converted to a Likert scale

Removed 254 unpaired survey responses

- *104 who did not participate in either event*
- *7 who participated in both events*

Question 2	Homeless and other low socioeconomic people make me feel:				
Assessing attitude towards	1	2	3	4	5
Pre-course survey	Scared or disgusted	Kind of uncomfortable, nervous	I'm not sure how I feel or how I should feel	People are people; they aren't any different from anyone else	They hold a special place in my heart, I hope to work with them in the future.
Post-course survey	Scared or disgusted	Ind of uncomfortable, nervous	I'm not sure how I feel – or how I should feel	People are people, no different from anyone else	They hold a special place in my heart, I hope to work with them more
Question 5	**I can determine when people have unstable mental health, social problems and/or substance abuse issues:**				
Assessing student knowledge of caring for	1		2		3
Pre-course survey	No. I really don't know how to tell		Yes, with the assistance of screening tools		Absolutely! I'm very good at reading people.
Post-course survey	Didn't get it before, don't get it now	Not really any difference	Yes, I think so, with the assistance of screening tools	Yes, I think I can remember many of the mnemonics	Absolutely! I want to be a psychiatrist now!

FINAL DATA

- Education Event, N = 306
- Virtual Clinic Event, N = 166
- In-Person Clinic Event, N = 166
- Education & Clinic Event, N = 7

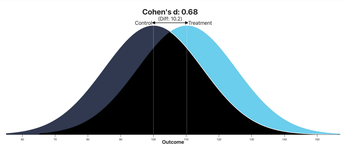
DATA ANALYSIS

- SAS: Descriptive Statistics
- Cohen's d

RESULTS

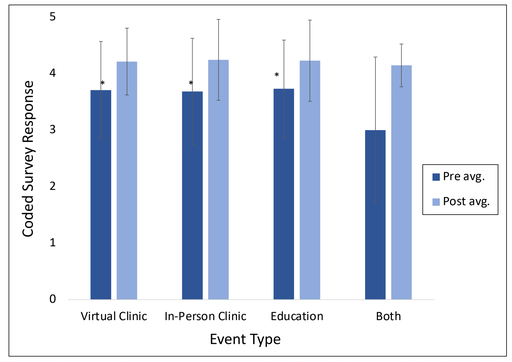
Figure 1. Cohen's d values of all groups and graphical representation of Cohen's d for Virtual Clinic group of Question 2.

Event Type	Question 2	Question 5
Virtual	0.68	0.07
Clinic	0.67	-0.2
Education	0.63	-0.03
Both	1.20	-0.22



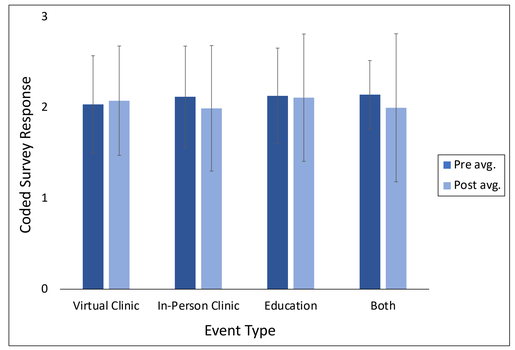
Note. Cohen's d statistic measures effect size to compare the means of two groups. It is typically interpreted as 0.2 for small, 0.5 for medium, and 0.8 for large effect size. Cohen's d was calculated by dividing the post minus pre-survey group difference of means divided by the groups' pooled standard deviation ($\sqrt{(SD1^2 + SD2^2)/2}$).

Figure 2. Pre and Post-event survey response averages for all groups on Question 2.



Note. The mean difference in pre and post-event response significantly increased for Question 2: 0.4967 (95% CI 0.4007, 0.5928, p-value <0.0001) in the education group, 0.5602 (95% CI 0.4280, 0.6925, p-value <0.0001) in the clinic group, and 0.5060 (95% CI 0.3745, 0.6375, p-value <0.0001) in the virtual clinic group. A significantly positive response to Question 2 was found in all three groups with t-test p values of 2.00×10^{-21}, 1.23^{-1}, and 1.068×10^{-12} for the Education, Clinic and Virtual Clinic groups respectively.

Figure 3. Pre and Post-event survey response averages for all groups on Question 5.



Note. For Question 5, there was no significant mean difference nor difference in pre and post-survey responses for all three groups.

DISCUSSION & CONCLUSIONS

This study found that involvement in the H.O.M.E. course and associated clinic or education event resulted in improved student attitude towards underserved populations (Question 2), but did not significantly increase student knowledge in caring for these patients (Question 5). The findings support continuation of the HOME program and offer insight to how the experience can be better tailored to improve student skills in this area.

LIMITATIONS

- Variation in wording between pre and post-course survey answer options
- Question 5 was converted into only a 3-point Likert scale compared to 5-point for Question 2 due to the wording of Question 5 (3 pre-course and 5 post-course choices)
- The study excluded class members who did not complete their survey

REFERENCES

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2. Phillips-Madson R, Dharamsi S. Osteopathic Medical Education and Social Accountability. *J Am Osteopath Assoc*. 2016;116(4):202-206. doi:10.7556/jaoa.2016.044
3. Smith SD, Yoon R, Johnson ML, Natarajan L, Beck E. The effect of involvement in a student-run free clinic project on attitudes toward the underserved and interest in primary care. J Health Care Poor Underserved. 2014;25(2):877-889. doi:10.1353/hpu.2014.0083