

Enhancing Acquisition of Graduate Medical Competencies through Engagement in Experiential Learning

Liana Gefter MD[†], Nancy Morioka-Douglas MD MPH[†], Ashini Srivastava MBBS MPH[‡], Eunice Rodriguez DrPH[‡]

[†]Division of Primary Care and Population Health, Stanford University School of Medicine [‡]Division of General Pediatrics, Stanford University School of Medicine



Introduction

Enhancing medical providers' cultural competencies using community engagement activities can help them better understand and meet the needs of patients from ethnically diverse and low-resource communities, which in turn could contribute to reducing health inequalities.

Objectives:

1. Explore whether participation in the Stanford Youth Diabetes Coaches community engagement program (SYDCP) contributes to competency acquisition by medical trainees
2. Determine whether amount of time spent in community engagement activities affects acquisition of competencies

Stanford Youth Diabetes Coaches Program

60 medical trainees* from five residency programs participated in the SYDCP teaching an 8 week course in low resource high schools in San Jose, CA, Philadelphia, PA, Cincinnati, OH, Ann Arbor MI, and Huntsville, AL, in 2014-16.

They trained at-risk high school students to become self-management coaches for family members with diabetes with coaching skills as well as basic diabetes and health knowledge using the SYDCP Curriculum.

*Participant medical trainees consisted of:

- 43 Family Medicine residents (including 1 attending)
- 6 medical students
- 10 pharmacy students

Method

Trainees completed online surveys including retrospective post-then-pre questions designed to assess how program participation affected their confidence in meeting specific General Physician competencies as described in Table 1. Additionally, they also responded to Likert style questions and open ended questions to further assess their experience with the program.

TABLE 1: Examples of Competencies and Milestones Assessed with Survey Questions

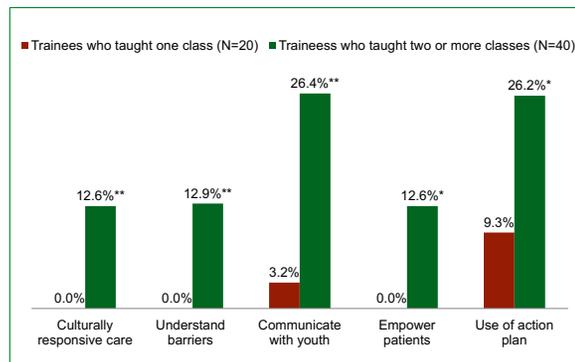
Competency Evaluated ^a	Milestone Evaluated ^b	Type of Survey Question
Patient care	Patient care-3	Retrospective post then pre question
Knowledge for practice	Medical knowledge-2 Communication -2 Professionalism-3	Retrospective post then pre question
Practice based learning and improvement	Systems-based practice -3 Patient care-3	Likert style questions
Interpersonal and communication skills	Communication -2	Retrospective post then pre question and Likert style questions
Professionalism	Systems based practice-3 Professionalism -3	Retrospective post then pre question and Likert style questions

Results

Table 2. Demographics of participant medical trainees in Stanford Youth Diabetes Coaches Program (SYDCP) 2014-2016, N=60

	Taught one class N=20	Taught two or more classes N=40
Gender		
▪ Female	16 (80%)	28 (70%)
▪ Male	4 (20%)	12 (30%)
Ethnicity/ Race		
▪ Hispanic	0	2 (5%)
▪ African American	1 (5%)	5 (12.5%)
▪ American Indian	0	1 (2.5%)
▪ Asian	9 (45%)	10 (25%)
▪ White	9 (45%)	24 (60%)
▪ Other	1 (5%)	0
Training program		
▪ Local (San Jose, CA)	12 (60%)	16 (40%)
▪ Remote (Philadelphia, PA, Cincinnati, OH, Ann Arbor MI, Huntsville, AL)	8 (40%)	24 (60%)

Figure 1: Percent change in mean scores of trainees' self-ratings before and after program participation (retrospective post-then-pre competency-based questions). Results of linear regression model by number of classes taught, controlling for gender, race (white and others) and place of residency (local and remote). N=60



Score range from 1-5 with 1=novice, 2= advanced beginner, 3=competent, 4= proficient, 5=expert
*P value < 0.05, ** P value<0.01

Results

- Trainees who taught two or more classes reported statistically significant improvements in confidence to provide culturally responsive care, understanding barriers faced by patients, ability to communicate with diverse youth, ability to empower patients, and intention to use action planning.
- This finding was further validated by analysis of Likert style questions where trainees who taught two or more classes were significantly more likely to report that program participation contributed to community health and gave them an opportunity to practice interpersonal and communication skills with diverse youth.

Sample Trainee Responses to Open-ended Questions

"Teaching not just diabetes management but life skills to these youngsters. At first I didn't think they really cared or were interested, but I was really impressed at the end how much they had retained. Forming connections with the students was also pretty awesome."

"I really enjoyed interacting with the students! And learning more of their lifestyles and how eating healthy is a struggle."

Conclusions

Participation in structured and rigorous community engagement programs such as the Stanford Youth Diabetes Coaches Project can significantly enhance medical residents' cultural competencies. Those who participated in two or more sessions of the SYDCP reported significant increases in the competencies and milestones evaluated.

Funding Sources and References

Funding Sources: California HealthCare Foundation, Goldman Sachs Gives, Private Anonymous Donor

1. Bodenheimer T, Chen E, Bennett HD. Confronting the growing burden of chronic disease: can the US health care workforce do the job? *Health Aff (Millwood)*. 2009;28(1):84-74.
2. May AL, Kulkarni EV, Yoon PW. Prevalence of cardiovascular disease risk factors among US adolescents, 1999-2008. *Pediatrics*. 2012 Jun;129(6):1035-41.
3. Bouwmeester LE, Cooper LA, Rafter LE, LaVeist TA, Powe NR. Race and trust in the health care system. *Public Health Rep*. 2003;118(4):326.
4. Gefter L, Rosas LG, Rodriguez E, Morioka-Douglas N. Training At-Risk Youth to Become Diabetes Self-management Coaches for Family Members: Partnering Family Medicine Residents With Under-served Schools. *Diabetes Educ*. 2014 Sep 10.
5. Gefter L, Rosas LG, Morioka-Douglas N, Rodriguez E. Service-Based Learning for Residents: A Success for Communities and Medical Education. *Fam Med*. 2015 In Press.
6. Reference List of General Physician Competencies, *Acad Med*, Vol. 88, No. 8 pgs 1091-1092 (domains taken from ACGME, General Competencies and Common Program Requirements)
7. The Family Medicine Milestone Project. A Joint Initiative of the ACGME and the ABFM, October 2015