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Innovations in Family Medicine Education

Joshua Freeman, MD
Feature Editor

Editor's Note: Send submissions to jfreeman3@kumc.edu. Articles should be between 500–1,000 words and clearly and concisely present the goal of the program, the design of the intervention and evaluation plan, the description of the program as implemented, results of evaluation, and conclusion. Each submission should be accompanied by a 100-word abstract. Please limit tables or figures to one each. You can also contact me at Department of Family Medicine, KUMC, Room 1130A Delp, 3901 Rainbow Boulevard, Kansas City, KS 66160. 913-588-1944. Fax: 913-588-1910.

A Multidisciplinary, Learner-centered, Student-run Clinic for the Homeless

Dana L. Clark, MD; Allegra Melillo, MD; David Wallace, PharmD;
Stephen Pierrel, PhD; David S. Buck, MD, MPH

Background and Objectives: *Houston Outreach Medicine Education and Social Services teaches students, in multidisciplinary teams, using the learner-centered model, to provide primary health care to the homeless.* **Description:** *The founding and operational aspects of this educational intervention are presented.* **Evaluation:** *Student response to this service-learning program is assessed in terms of educational value using a survey and an analysis of student reflections. Clinical service activities are measured to demonstrate program efficacy.* **Conclusions:** *Student participants, especially basic science medical students, value the program due to its contributions to their professional and personal education, as well as their increased understanding of biopsychosocial issues. Learners develop empathy, compassion, and heightened social awareness.*

(Fam Med 2003;35(6):394-7.)

Goal/Design of the Intervention

Jordan Cohen, the Association of American Medical Colleges president, has called for curricula in medical education that stresses caring, compassion, and commitment.¹ Branch and colleagues have discussed methods for teaching altruism or humanism in medicine.²

Other work has demonstrated that a student-run clinic is an innovative educational tool that can combine student autonomy under the learner-centered model³ with care for indigent populations, using community service-based^{4,5} multidisciplinary education⁶ to help students develop empathic attitudes⁷ toward medically underserved populations.

The educational goals of Houston Outreach Medicine Education and Social Services (HOMES), a student-run free clinic for homeless clients, are to teach family medicine and the care of underserved people

in multidisciplinary teams. The teaching environment is supportive of student values and nurtures their compassion and empathy. Its mission is to “provide quality, accessible health care to all area homeless residents in a learning environment that promotes the dignity of all participants.”⁸

Description of the Program

The founders integrated HOMES with a local nonprofit health care organization for the homeless, Healthcare for the Homeless-Houston (HHH) ([---

From the Department of Family and Community Medicine, Baylor College of Medicine \(Drs Clark, Melillo, Pierrel, and Buck\); and the University of Houston College of Pharmacy \(Dr Wallace\).](http://www.homeless-</p>
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healthcare.org). Medical and social work students performed an assessment of homeless health care resources and needs under the supervision of the founding faculty physician. To design the “ideal” student-run clinic, a symposium and small-group discussions were held among students, community leaders in the field, and homeless persons. Potential consumers of care, students, interested faculty preceptors, and leaders of HHH later finalized the mission, philosophy, and operational methods of HOMES. Formal academic partnerships were then initiated by HHH.

HOMES differs from its inspirational model, the student-run clinic program at the University of California, San Diego, in three major ways: (1) a community-based organization (HHH) oversees its operation, (2) academic leaders (eg, an assistant dean) from each of the participating institutions (two medical schools, a school of pharmacy, a school of social work, and a school of public health) mentor the student leaders, thereby giving them opportunities to gain experience in clinical and academic leadership and (3) the reflection component.

The HOMES clinic opened in January 2000 and operates every Sunday. The students providing services come from Baylor College of Medicine, the University of Texas-Houston Medical School, the University of Houston College of Pharmacy, and the University of Texas School of Public Health. Students participate at the clinic by volunteering or being enrolled in one of the elective courses at participating schools (Table 1). HHH oversees a team of faculty advisors, one from each school.

The program has three components—social, clinical, and reflection. The first involves a social hour when approximately 16 students eat breakfast with 120 homeless parishioners of a local church and interact on a personal level, while the student manager (often a public

| Type | Quantity |
|--|----------|
| Medical student participants* | 221 |
| Preclinical elective** | 110 |
| Clinical selective*** | 35 |
| Research elective† | 1 |
| Pharmacy student participants | 122 |
| Special problems pharmacy elective†† | 14 |
| Clinical pharmacy resident training††† | 4 |
| Social work student participants§ | 9 |
| Public health student participants§ | 11 |
| Total | 363 |

HOMES—Houston Outreach Medicine Education and Social Services

* Clinical medical students and preclinical medical students from Baylor College of Medicine and the University of Texas-Houston Medical School have participated nearly equally.

** The curriculum includes three visits to the HOMES clinic, visits to homeless outreach sites, participation in formal lectures, and small-group learning on homeless health care issues. Eight students may participate every 12 weeks.

*** Students participate in the clinic 10 times and conduct an annual homeless health care needs assessment as interviewers. They also visit various homeless outreach sites and teach students in the preclinical elective. Ten to 15 students may participate per year.

† Students participate in primary care research on the homeless. They choose a research topic and receive mentorship.

†† Each student attends the HOMES clinic for 16 Sundays. The purpose is to enhance clinical training and to deepen the understanding of working with underserved populations. They participate in clinical teams, have discussions at their school, design a special project, and write a paper.

††† All four residents have attended the HOMES clinic for a total of 16 Sundays. The residents are trained in clinical pharmacy by participating as members of teams.

§ These groups of students participated multiple times to form multi disciplinary teams.

health student) signs up 12 patients to receive medical services.

The second component is a 3-hour clinic run by the student manager. There are four teams, each composed of a clinical medical student, a preclinical medical student, a pharmacy student, and a graduate social work student. The teams are supervised by a volunteer physician faculty member who emphasizes psychosocial issues and compassionate care. The team formulates a history, physical, and assessment

and treatment plan for two to three patients. A volunteer clinical pharmacist faculty member supervises the dispensing of medications.

As the third component, a clinical psychologist facilitates a reflection period after the clinic is closed. The students discuss their experiences, impressions, and views of the homeless, as well as the health care delivery system and how their experience affects them as providers. They develop an awareness of what is learned and benefit from the

insight and validation of their colleagues. In addition, a journal is available for written reflections.

Evaluation Methods

To evaluate student response to the program in terms of educational value, a convenience sample of students was surveyed, and an analysis of student reflections was performed. Program efficacy was determined by measuring clinical service activities over a 2.5-year period.

A questionnaire with four statements using a 5-point Likert scale and a section for students to note the most significant thing learned and suggest program improvements was administered one time to all students who participated on eight Sundays from January 3 through March 3, 2002.

The clinical psychologist reviewed approximately 3,000 verbal and 500 written student reflections compiled over 2.5 years. He identified relationships and determined that four distinct themes occurred most frequently. His findings were crosschecked verbally with two physicians through their review of written reflections and participation in more than 40 sessions and through meetings with 30 students and one physician who had participated in multiple sessions. This tri-

angulation process confirmed the accuracy of the recurrent patterns.

Results

Table 2 lists the questionnaires' Likert scale mean values for each statement from students grouped by discipline. The Likert scale mean value for all four ranked evaluation statements by the 49 students equals 4.6. Respondents listed homelessness, patient care, a multidisciplinary team approach, and acquiring clinical teaching skills as the most important things learned and suggested increased clinical operating efficiency, more social resource referrals, a wider medication selection, and more preceptors as program improvements.

Four Reflection Themes

(1) Social awareness: "I never knew the difficulties a homeless person faces in simply getting a job."

(2) Compassion and empathy: "I never just talked to a homeless person and came today thinking I was going to give but received much more."

(3) Teamwork: "I enjoy being part of a team, learn so much from other students, and value being able to teach others."

(4) Confidence building: "I was surprised when our patient said I did

an excellent job and encouraged me to keep studying."

Table 3 illustrates the measured clinical service activities.

Conclusions

The students we surveyed value the HOMES program's contribution to their professional and personal education as well as their understanding of biopsychosocial issues. They would participate in the program again, suggesting there is interest in family and underserved medicine. The program was valued most by preclinical medical students, possibly because clinical exposure is limited at this stage, and they appreciate the opportunity to provide patient care. The sample size of the public health students was too small to allow comparisons, although representative of the small number of student participants.

The content of the recurrent reflection themes suggest that students are developing compassion, empathy, and social awareness. A valid, reliable survey is being designed to better measure these qualitative characteristics.

Analysis of the program's clinical service activities demonstrates its measurable impact on student education and the health care of the local homeless community.

Table 2

Results of Likert Scale Means Ranking on Student Evaluation*

| Statements | Preclinical Students (n=18) | Clinical Students (n=16) | Pharmacy Students (n=12) | Public Health Students (n=3) |
|---|--------------------------------|-----------------------------|-----------------------------|---------------------------------|
| The HOMES program has contributed to my professional growth. | 4.8 | 4.6 | 4.6 | 3.3 |
| The HOMES program has contributed to my personal growth. | 4.8 | 4.4 | 4.4 | 4.7 |
| The HOMES program has increased my understanding of biopsychosocial issues. | 4.8 | 4.6 | 4.5 | 3.7 |
| I would participate in the HOMES program again. | 4.8 | 4.6 | 4.5 | 4.7 |

* n= 49

Table 3

Clinical Service Activities Since the Inception of the HOMES Program

| Type | Quantity |
|---|----------|
| • Client encounters | 1,001 |
| • Donated volunteer preceptor hours | 1,496 |
| • Homeless medical services cards printed and issued | 10,000 |
| • Clinic program and referral guide printed and distributed | 250/208 |
| • Entries into the electronic medical records system | ~ 300 |

The HOMES Web site can be accessed at www.homeless-healthcare.org/homesprogram/index.htm and has been available for access since November 1999. Site visits have been tracked since May 2000 and total 3,500.

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HOMES was founded by Allegra Melillo, MD, a medical student who is currently in residency training at the University of California, San Francisco and David S. Buck, MD, MPH, who continues to lead the efforts of this program. We thank Pamela Tice, ELS (D) for editing the manuscript.

A description of the HOMES program and a listing of its clinical service products was presented at the Society of Teachers of Family Medicine 2001 Predoctoral Education Conference in Long Beach, Calif. The title of the presentation was "Empowering Students to Develop a Learner-initiated, Multidisciplinary, Multi-institutional Free Clinic for the Homeless."

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