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The Effect of an Interdisciplinary Community Health Project on Student Attitudes Toward Community Health, People Who Are Indigent and Homeless, and Team Leadership Skill Development

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Abstract:

This study examined whether students' attitudes about community health practice, attitudes toward people who are indigent and homeless, and perceived leadership skills changed after participation in a planned interdisciplinary community health experience with an urban homeless or formerly homeless population. Data were collected from medicine, nursing, occupational therapy, physical therapy, and social work students who participated in the community health experiences and from students in these disciplines who did not participate in this curriculum. The interdisciplinary community health curriculum and practicum experiences, based on the Community Health Empowerment Model (CHEM), were designed and implemented by a coalition of community and academic partners. Students in the CHEM project self-selected into the curriculum and initially showed more positive attitudes about community health and indigent and homeless people than their peers not participating. Despite the CHEM students' positive initial attitudes, data from pretests and posttests revealed a significant positive change in their attitudes toward community health practice at the completion of the curriculum.

Today's complex and evolving health care system challenges health professionals to develop the broad array of knowledge and skills that are necessary to practice more efficiently and effectively to achieve the ultimate goal of improving the health of individuals and the United States as a whole. Numerous references in the health care literature are related to interdisciplinary training and education. The 1998 Pew Commission Report updated their list of competencies for health professions education and training to reflect the characteristics and needs of the health care system for the 21st century. Several of these competencies relate directly to knowledge, awareness, and skills that health professionals need to improve the health of individuals and communities, including (1) incorporating the multiple determinants of health into clinical care, (2) partnering with communities in health care decisions, (3) rigorously practicing preventive care, (4) improving access to health care for individuals with unmet health needs, (5) working with interdisciplinary teams, and (6) being advocates for public policy that promotes and protects the health of the public.¹

With shorter hospital stays, disparities in health care, and more health care services in the community, health professionals need to have educational opportunities to prepare them for the updated Pew Commission competencies. Many of these competencies related to community health in general and are met directly or indirectly through interdisciplinary practice. More specifically, these competencies can have an impact on the goals and objectives of Health People 2010.²

This article describes an interdisciplinary community health project, based on the Community Health Empowerment Model (CHEM), for graduate students in nursing, medicine, occupational therapy, physical therapy, and social work. Student outcomes, including students' attitudes about community health practice, attitudes toward people who are indigent and homeless, and leadership skills, are discussed.

Community Health Empowerment Model

The CHEM project started in November 1999 through a grant awarded by the Bureau of Health Professions, Health Resources and Services Administration (ID37AH00674).³ It was developed in recognition of the growing number of individuals and communities who are underserved and have complex health needs. The project was designed to prepare health professions' students to provide comprehensive care and become leaders in interdisciplinary, community-based care. The goal was to establish a CHEM model that integrated the education of health profession students with direct service and research to advance a community-based integrated health care approach to urban, underserved populations. The actual CHEM model was depicted as an integration of community health principles of partnering with communities and empowerment of individuals, organizations, faculty, and students. Students were assigned to either a homeless shelter or a transitional housing site to develop, implement, and test knowledgeable and culturally competent public health interventions as members of an interdisciplinary team, mentored by a faculty member.

Community Health Empowerment Model Curriculum

At the beginning of the project, a coalition was formed that included members of the project team, students, city policymakers, and representatives from the staff and residents of each practicum site. This coalition oversaw all phases of the CHEM project. Members of the coalition, working with an interdisciplinary faculty team, developed the community health interdisciplinary curriculum and clinical practicum placements for students. A major component of the curriculum was an elective course, "Interdisciplinary Team-Based Health Services for Underserved Populations." The course provided didactic and practicum experiences in theories of epidemiology, community health, behavioral change, and leadership. Guest speakers presented information on mental health issues, drug and alcohol abuse, violence, and homelessness. The practicum sites were at three homeless shelters or transitional housing facilities where faculty or students had collaborated on previous project over a 2- to 3-yr period.

Pilot Study

This pilot study examined the student outcomes of the CHEM project. Specifically the purpose was to determine whether the course had an impact on student attitudes and leadership skills. The study employed a one-group pretest/posttest design with dependent *t*-tests. The research questions were as follows: After participation in the CHEM program: (1) Do students' attitudes toward community health improve? (2) Do students' attitudes toward people who are indigent and homeless improve? (3) Do students'

perceived leadership skills improve? A comparison group of similar students was used to determine whether students in the CHEM program initially had significantly better attitudes than students not participating. An independent *t*-test was used to compare the two groups.

Twenty-two CHEM students completed the program. They completed the pretest measure during their first CHEM class session and the same measures as a posttest during the last class session, 15 weeks later. A control group consisted of 69 students taking an interdisciplinary graduate research course that was a core curriculum requirement. These students were similar to the CHEM students (i.e., nursing, occupational therapy, physical therapy). The control group completed the same measures on attitudes toward community health and indigent and homeless people.

Instrumentation

The Attitudes toward Community Health scale was adapted from Selby and Tuttle's⁴ Attitude toward Research scale. It is a 20-item attitude scale scored on a Likert scale from 1 to 5 (strongly agree to strongly disagree). The total score was obtained by adding all item scores after appropriate reverse scoring was completed. A higher score indicated more positive attitudes toward community health practice. The Attitudes toward Research scale from which the Attitudes toward Community Health scale was adapted was tested for content validity by a panel of three doctorally prepared faculty and was tested for reliability using a 2-week test-retest design with a 94.4% agreement. The Attitudes toward Community Health scale was not tested for validity or reliability. The tool is exactly the same as the Attitudes toward Research scale, however, except that where the word *research* appeared the words *community health* were substituted. Although this is a limitation to the study, members of the project team with expertise in community health reviewed the instrument and believed that it had adequate content validity for the pilot study.

Attitudes toward the indigent and the homeless were measured via the Public Attitudes toward Homelessness (PATH) scale.⁵ The authors reported that the PATH scale was shown to be high in internal reliability ($\alpha = 0.74$), and in construct validity, with significant correlation with other items. There were five items for the attitudes toward poor people scale and five items for the attitudes toward homeless people scale with a Likert scale from 1 to 5 (strongly agree to strongly disagree). The scores for each scale were summed, with a higher score indicating more positive attitudes.

The Student Leadership Practices Inventory-Self (LPI)⁶ is a 30-item scale that measure self-reported frequency in leadership behaviors and actions. The Student LPI has been tested for reliability and validity. Posner and Kouzes,⁷ with a sample of 1,255, showed test-retest reliability at levels greater than 0.91 correlation. Concurrent validity was shown through studies of the relationship between KPI scores and variables such as team cohesion, member commitment and loyalty, satisfaction, upward influence, and credibility. The behaviors and actions on the survey appear with a Likert scale from 1 to 5 (seldom or rarely, once in a while, sometimes, fairly often, and very frequently). The

scores for each of the individual behaviors were grouped together for each of the five leadership practices and summed to attain a perceived leadership practice score.

Analysis and Results

The dependent *t*-test results of the CHEM students' pretest and posttest scores on attitudes toward community health, attitudes toward poor people and homeless people, and perceived leadership skills appear in Table 1.

TABLE 1. CHEM Students' Attitudes Scales (n = 22)

	Mean Change Score	<i>t</i>	<i>p</i>
Attitude toward community health	+6.14	2.98	0.007
Attitude toward the indigent	+0.72	1.46	0.15
Attitude toward the homeless	+0.52	1.21	0.24
Perceived leadership skills	+7.61	1.80	0.09

As can be seen from Table 1, students who completed the CHEM program showed significant improvement in their attitudes toward community health and only marginally improved attitudes toward the indigent and the homeless. There was no significant improvement in perceived leadership abilities. The pretest scores on leadership and each of the attitude dimensions were very high, however, leaving little room for improvement. This fact makes the significant improvement in attitude toward community health even more noteworthy, particularly because students self-selected into the CHEM program, many with prior experience working with underserved populations in a volunteer capacity.

The CHEM students' pretest score versus the control group scores on the attitudinal measure and independent *t*-test results appear in Table 2.

TABLE 2. CHEM Students (n=22) and Control Students (n = 69) Pretest Mean Attitude Scores

	CHEM	Control	<i>t</i>	<i>p</i>
Attitude toward community health	73.86	67.39	-3.21	0.002
Attitude toward the indigent	18.21	16.06	-4.14	0.0003
Attitude toward the homeless	16.59	15.66	-2.09	0.0003

As seen in Table 2, the pretest attitudes of the CHEM students toward community health and the indigent and the homeless were significantly higher than the attitudes of the control group. Despite the CHEM students beginning with significantly higher scores than their peers, they still improved significantly on their attitudes toward community health.

In addition, CHEM students answered open-ended evaluation questions. The most commonly occurring responses to what the students learned most from the course were teamwork and cooperation with different disciplines, more knowledge and respect for

homeless people, and how to interact with underserved populations. Students consistently believed that the strengths of the course were the opportunity to reach out to the community, interdisciplinary teamwork, faculty, hands-on experience, and the team project. In response to the question of which aspects of the course they thought most influenced their community health and interdisciplinary knowledge, attitudes, and skills, they reported learning about the wants and needs of homeless people, fieldwork, interacting with community, and guest speakers.

Summary and Discussion

The CHEM program integrated information compiled from current literature related to interdisciplinary education, academic/community partnership, and experiences that addressed the 1998 Pew Commission Report on competencies for health professionals.¹ The faculty team was interdisciplinary, was enthusiastic, and modeled the interdisciplinary philosophy. The program included a shared experience in which students of various disciplines participated in a common practicum experience to develop public health interventions for an underserved population.^{8,9}

Because of limitations of this study, the findings cannot be generalized. The sample size was small, students self-selected into the project, and all tools had not been tested for reliability and validity. The CHEM students who participated reported strengths of the project and perceptions of having learned about community and interdisciplinary teamwork. The study findings plus the existing literature reporting on the importance of interdisciplinary activities support the continued need for interdisciplinary practice applications in health professions' academic curricula. In addition to the opportunity to practice and interact in community settings, the CHEM students benefited from a systematic approach to developing skills in community health and interdisciplinary approaches to health care that they could apply with any target population in any community-based setting. Further studies are needed to confirm this.

The primary goal of the CHEM project was to provide community health and interdisciplinary knowledge, skills, and experiences to encourage future health care professionals to provide integrated community-based health care to underserved populations. Health professions' students traditionally are provided with information requisite to caring for individuals in the health care system. If they are to meet the challenge of a changing health care environment, future practitioners must be prepared with additional skills that allow them to practice as members of interdisciplinary teams, understand community health, and develop a respect and understanding of people who are underserved.

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