

Research at Ohio State shows that service-learning curricula can improve health care, give back to the community, and help medical students grow personally and professionally.

Twenty Years of Experience in Service-Learning at The Ohio State University College of Medicine

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The profession of medicine is grounded in the provision of exemplary service to the patient and the practice of effective teamwork (Institute of Medicine, 2001). The typical pre-clinical curriculum for medical students, however, tends to focus on the intellectual pursuit of basic science knowledge and rewards individual achievement in this area of study. Service-learning, defined as a structured experience that combines service in a community setting with reflective learning, can offer an effective curricular balance in keeping with the values of the profession (Seifer, 1998).

The purpose of this paper is to describe 20 years of experience with a required service-learning curriculum, entitled the “Community Project” (CP), at The Ohio State University College of Medicine (OSU COM). The authors consist of the program director for a four-year clinical skills course that houses our service-learning curriculum (Post), a program coordinator for this course (Kundt), a program manager for Medicine Administration who is a former program coordinator for this course (Mehl), the associate director of Medical Education (Hudson), the associate dean of Student Affairs (Stone), and the director of our service-learning curriculum (Banks). Our group has a long-standing commitment to and enthusiasm for this type of educational activity for medical students. We believe that through service-learning curricula we can improve health

care, give back to the community, and help students grow personally and professionally early in their careers. This article addresses the following components: 1) a historical perspective on service-learning education at the OSU COM; 2) a description of the CP; 3) lessons we have learned over time; 4) outcome data associated with this educational activity; and 5) potential future directions.

Service-Learning and the Medical Profession

Medical schools are increasingly incorporating service-learning activities into their curricula. Service-learning is defined as a combination of community service and preparation/reflection, an activity in response to community needs, in which students learn about the service context, their roles in the community, and the connection between their academics and service-learning activities (Eyler, 2002). Reflection has been defined as “the intentional consideration of experience in light of particular learning objectives” (Hatcher & Bringle, 1997, p. 153). Reflective practice requires active engagement by the learner in his or her learning. Evidence suggests that combining academic study with extensive reflection leads to positive outcomes, including a deeper understanding of problems and enhanced cognitive development (Batchelder & Root, 1994; Eyler & Giles, 1999).

The Pew Health Professions Commission

(PHPC), the Liaison Committee on Medical Education (LCME), and the Institute of Medicine (IOM) have addressed the multiple advantages that can be gained from a service-learning curriculum (O'Neil, E. H., & PHPC, 1998; LCME, 2007; IOM, 2004). These organizations exert tremendous influence on health care policy and medical education. Collectively, these organizations assist health care professionals, health profession schools, health care delivery organizations and public policy makers respond to the challenges of improving the health of individuals and their communities. The LCME is recognized as the official accreditation body by physician licensure boards of all U.S. states and territories, the Canadian provinces, and the U.S. Department of Education. The IOM provides evidence-based recommendations to a variety of constituents, including policy makers, health care providers, and the public.

In a service-learning curriculum, students can learn about their social and public roles in the community, and hands-on learning activities may help develop professional values while improving community health. The academic institution can achieve community goodwill through demonstration of the university's service mission and enhancement of campus-community partnerships. In addition, the promotion of medical students' professionalism and future civic involvement through service-learning can benefit societal health. Recognizing these benefits, the LCME has recently adopted a new accreditation standard for U.S. medical schools: "Medical schools should make available sufficient opportunities for medical students to participate in service-learning activities, and should encourage and support student participation" (LCME, 2008).

Typically, service-learning programs support underserved populations, tend to be elective opportunities, and are offered both within and outside of required coursework. Outcome data indicate high student satisfaction with service-learning education associated with fulfillment of unmet community health needs, although effects on academic performance have been mixed (Averill et al., 2007; Blue, Geesey, Sheridan, & Basco, 2006; Burrows, Chauvin, Chehardy, & Lazarus, 1999; Elam et

al., 2003). We believe educators at other medical and health professional schools can adapt components of our CP model and create or enhance service-learning opportunities at their own institutions.

Background

In the mid 1980s, the OSU COM developed the Medical Humanities and Behavioral Sciences (MHBS) course, designed to be a comprehensive approach to social and behavioral science education applicable to the practice of medicine. One full day per week of the first-year curriculum was dedicated to this required course. The course and its components are fully described elsewhere (Post et al., 2008).

A decision was made to incorporate a community learning experience into the MHBS curriculum during the 1988-89 academic year. The overall goal was to introduce first-year medical students to the wide variety of health and social service agencies that impact the health of individuals and families residing in the community. In addition, rather than working with attending physicians, the originators of the CP believed it was important to expose students to training from nurses, social workers, and other medical and social service providers who work in community settings. The original premise was that our medical students needed to experience the broader spectrum of health care and learn from professionals other than physicians.

The implementation of the CP has evolved over time, mostly in response to student feedback. In the original design of the curriculum, first-year students were scheduled to complete their community experience over three consecutive weeks. They were randomly assigned to agencies and learning took place primarily through observation and interviewing clients and staff, rather than through the provision of direct service.

During the early years of CP, evaluations revealed that a substantial number of students wanted to provide active service and work with an agency of their choice. In response to this feedback, "The Community Service Project Option" program was implemented as a pilot project in 1995 (Banks & Heaney, 2000). Twenty-four students submitted written

proposals for their service activity to the co-directors of the project. The service requirement was set at 12 hours minimum. Evaluation data indicated student enthusiasm for the service component; however, many felt it was difficult to identify and make contact with an appropriate agency.

This led to the formation of a Community Project Fair. This initiative, more fully described below, began in 1996. That year, representatives from 29 agencies presented their service opportunities to all first-year students at the OSU COM and recruited student volunteers. At this same time, the structure of the pilot “Community Service Project Option” was expanded and developed into a required educational activity for all first-year students. Both of these changes were highly successful and remain intact today.

During the 2002-03 academic year, the CP was awarded a \$5,000 service-learning course development grant from the Service Learning Initiative (SLI) at The Ohio State University (service-learning.osu.edu/). This university organization provides training and assistance to enhance courses in service-learning across the university, offers grants for course development and provides awards for student and faculty excellence in service-learning activities. The grant was written to address student feedback regarding inconsistency in the quality of learning experiences across agencies, as well as to fulfill our need to enhance communication with the agencies.

The grant funded two incoming second-year medical students to contact and interview community agencies over the summer months. Incoming second-year students were selected because they had recently completed their Community Service Project. They reviewed medical student evaluations of agency sites from previous years. Based on the numbers of students who partnered with an agency, the nature of evaluation comments, and length of commitment to the program by the community partner, 20 agencies were chosen to be interviewed. The purpose of the interview was to receive feedback from the agencies regarding the quality of our program, gather information regarding how we could better address their needs, and use their feedback to

improve program effectiveness. Written reports on each agency were completed and an agency assessment template (Table 1) was developed.

Each academic year, the completed assessments are made available for review to first-year students during our Community Project Fair as well as on the restricted access course website.

Description of Community Project

The CP currently consists of several components: the Community Project Fair, the performance of community service, and the completion of several assignments designed to promote student reflection on their service activities.

The Community Project Fair

The Community Project Fair takes place early in the academic year. Community agencies are invited to present their mission and services to all first-year medical students. Agencies usually bring brochures and distribute “freebies” such as pens, markers, and other promotional material to students who express interest in volunteering with them.

The CP program has a large database of actively participating agencies that work with our students. Since all community agencies that participate in CP are not able to attend the Fair, students are encouraged to review other agencies from the CP agency database and to initiate contact on their own. The work of our community agencies ranges from area student mentorship programs, to state-subsidized and privately-owned public health programs, to addressing diversity-related issues of the local population. Our criterion for acceptance of new agencies includes a strong mission orientation towards a health and/or social service goal, as well as the ability to provide meaningful service-learning projects for our students. The Community Project leadership team reviews agencies that express an interest in participating in our program; almost all are approved. In addition, students are allowed to create their own agency. Several student-led initiatives continue to be active and effective after several years of involvement. Agencies have remained loyal, very few have ceased involvement over

Table 1. Community Project Agency Assessment Sheet, 07/08

1. Student name _____
2. Name of organization _____
3. Supervisor name _____
4. Phone number _____
5. Brief description of what you did at the agency _____ _____ _____
6. Time commitment _____
7. Travel time/distance _____
8. Was it easy to establish contact with your agency? Y ____ N ____ N/A ____
9. Was agency flexible with your time commitment? Y ____ N ____ N/A ____
10. Were there training/orientation sessions? Y ____ N ____ N/A ____
11. If yes, was there a cost involved? Y ____ N ____ N/A ____
12. Was it easy enough to gather the information you needed for your assignments? Y ____ N ____ N/A ____
13. Was the agency responsive if you had trouble with your assignment and/or wanted to be involved with something else? Y ____ N ____ N/A ____
14. Was your experience rewarding (did you make an impact)? Y ____ N ____ N/A ____
15. Were the clients responsive to your efforts? Y ____ N ____ N/A ____
16. Would you recommend this agency to next year's students? Y ____ N ____ N/A ____
17. Briefly describe why you would or would not recommend the agency to next year's students. _____ _____ _____
18. Any additional comments _____ _____ _____

time, and each year they express appreciation for our students' efforts. The OSU COM provides funding for the Community Project Fair and supports the efforts of the CP leadership team in creating a quality service-learning curriculum. Funding for the Fair is approximately \$1,400, and includes costs for food and beverages, set-up (tables/chairs, tablecloths, balloons, etc.), and parking tokens for our community agency representatives.

Community Project Assignments

The various learning activities associated

with CP are listed below:

1. Project Proposal: Within one month after the Community Project Fair, students are required to submit a proposal stating where they intend to complete their CP, what they will be doing and contact information for the agency representative with whom they will be working.

2. Community Agency Report: Three months after students complete CP proposals, they are expected to write a community agency report. Students respond to a series of questions (Table 2) that address the mission, staffing, finance, and organizational structure of the agency. They also describe their service activities and critically assess and reflect on the agency's effectiveness.

3. Patient/Client Interview: The patient/client interview is due one month after the community agency report. Students assess the agency's services and the quality of these services as perceived by patients or clients. They respond to a series of questions (listed in Table 2) that address the type of services received, assessment of services, barriers to access of services, suggestions for improvement, and agency qualities that were appreciated by the patient/client.

4. Minimum of 12 Service-Learning Hours over 9 Months: Students track their agency service hours over the course of the academic year and record these on a tracking form. Their community agency representative signs off on the same form to verify hours provided.

5. Project Presentation: Each student is required to make a 10-15 minute reflective presentation to a group of 11 other students and a facilitator regarding their CP experience. In the clinical skills

course that houses the CP, 12 students and a physician facilitator meet approximately once a week in three-hour small group sessions over the entire academic year. The CP presentations take place during one of these small group sessions towards the end of the academic year. Students must also complete a one-page description of their agency and distribute this to peers prior to beginning their talk. In past years, presentations primarily addressed the nature of the students' volunteer activities, as well as the staffing and organization of each agency. Recently, we shifted the focus from recounting activities and tasks to the sharing of a reflective narrative. This change resulted from discussions among the CP leadership team regarding the benefits of reflection. Our group believes that medical education can be a transformative experience through a process of critical reflection (Mezirow, 1991). These presentations provide students with opportunities to reflect on their volunteer experiences and how these may have changed their perspective on community service and their role as future physicians in the community. Students who participated in the same service activity often present projects together. Presentations are evaluated by the small group facilitator using a structured checklist.

6. Agency Assessment Sheet: These are collected by facilitators to assure complete records for future classes. As previously described, the agency assessment sheet is designed to assist first-year students with their agency decision, as well as to enhance quality control of the CP program. This form is listed in Table 1.

Table 2. Patient/Client Interview and Agency Report Questions

Patient/Client Interview Questions

- What kinds of services does the patient/client receive from this organization?
- What is the patient/client assessment of these services?
- What does he/she especially appreciate?
- Is there anything about the services that the patient/client would like to see changed?
- Has the patient/client experienced any barriers obtaining these services?
- Do you have any additional comments or observations?

Agency Report Questions

- Describe the agency's mission and how it contributes to the health of the community.
- Describe its staffing, including professional providers and support personnel.
- Describe how the agency is financed.
- Describe the agency's organizational structure. What are its lines of authority? Who reports to whom?
- Relate one incident or encounter that significantly impressed you, either positively or negatively.
- Describe in some detail your service activities.
- Critically assess the agency and its effectiveness in providing health or social services.
- Do you have any suggestions regarding how the agency could improve its work?

Scoring weights for student performance on the different CP components are listed below.

Project Proposal: 10%

Community Agency Report: 20%

Patient/Client Interview: 20%

Completion of a minimum of 12 service-learning hours: 10%

Project Presentation: 30%

Agency Assessment Sheet: 10%

Each of the above written assignments is graded by the director of the Community Project, who also provides feedback to students on the quality of their reflections.

Methods

We have used a variety of measures to investigate the impact of the Community Project program. To assess student involvement in this activity, we track the total number of hours students devote to service-learning projects. Most students submit their hours by completing a one-page form which requires the agency contact information, a brief description of their service-learning activities, the number of hours contributed, and the signature of their supervisor at the agency. Some students,

Table 3. Community Project Program Evaluation for Agencies, 2009

Name of contact _____

Agency _____

Please answer the questions below concerning the Community Project. This data will be used to provide us with valuable feedback on how the Community Project works for you and your agency/organization as well as for future presentations/publications (without identifiers!). You can fill in the circle next to the response choices; however, please feel free to comment on any of the items.

1. The CP was beneficial to me/my agency/organization.
☐ Strongly Agree ☐ Agree ☐ Neutral ☐ Disagree ☐ Strongly Disagree

2. The students were eager/happy to volunteer with me/my agency/organization.

☐ Strongly Agree ☐ Agree ☐ Neutral
☐ Disagree ☐ Strongly Disagree

3. In general, how would you evaluate the performances of OSU Medical students who have been assigned to your organization?

☐ Strongly Agree ☐ Agree ☐ Neutral
☐ Disagree ☐ Strongly Disagree

4. Please explain your rating. _____

5. What is (are) the strength(s) of the Community Project?

6. What is (are) the weakness(es) of the Community Project?

7. How would you rate your experience at the Community Fair?

☐ Excellent ☐ Good ☐ Fair ☐ Poor
☐ Very Poor ☐ N/A

8. Please explain your rating. _____

9. How would you rate your experience at today's luncheon?

☐ Excellent ☐ Good ☐ Fair ☐ Poor
☐ Very Poor ☐ N/A

10. Please explain your rating. _____

11. I would recommend the Community Project to other agencies/organizations.

☐ Strongly Agree ☐ Agree ☐ Neutral
☐ Disagree ☐ Strongly Disagree

12. Why or why not? _____

13. How would you recommend the CP be improved or changed?

14. Do you plan on participating in the Community Project next year?

☐ Yes ☐ No

15. If you would like to make any general comments about the Community Project, please do so in the space provided below.

Thank you for your time to take this survey and provide us with valuable feedback. Hope you have a great summer and we hope to see you in the fall for the Community Project Fair!

particularly those who volunteer outside of the Central Ohio region, have their agency representative send the CP coordinator an e-mail with the information as outlined above. This information is then entered into an excel database.

In order to obtain feedback from students regarding the quality of their CP experience, they are asked to complete an evaluation of their service-learning curriculum during the end-of-year Community Project presentation

session. Using a five-point scale, ranging from poor (1) to excellent (5), students are asked to rate the quality of the various components of CP, including the Community Fair, the agency report and patient-client interview assignments, the end-of-year presentation, as well as their overall experience.

This academic year, we invited agency representatives to a spring recognition luncheon for the first time. The purpose of this program was to recognize the community agencies

for their valuable contributions to student education and to secure their input regarding the quality of the program. Representatives who attended the luncheon were asked to complete an evaluation form. Using a five-point scale, ranging from poor (1) to excellent (5), agency representatives were asked to rate the quality of the CP from their perspective. The form is listed in Table 3.

The Medical School Graduation Questionnaire (GQ) is a national questionnaire administered by the Association of American Medical Colleges (AAMC). It has been administered annually since 1978 to U.S. graduating medical students. The GQ consists of two parts. Part 1, the Program Evaluation Survey, includes questions related to the student's medical school experiences, student support programs, and potential problems, including mistreatment. Part 2, the Student Survey on Priorities in Medical Education: Diversity, Career Aspirations, and Indebtedness, includes questions related to educational and non-educational debt, specialty choice, and the medical school's cultural environment.

One of the questions on the GQ asks: "Do you believe that the time devoted to your instruction in the following areas was inadequate, appropriate, or excessive?" (Lockwood, Sabharwal, Danoff, & Whitcomb, 2004). Under the Population Based Medicine section, the questionnaire assesses student opinion regarding their education in the role of community health and social service agencies. All fourth-year students are requested by the OSU COM to complete the GQ during the month of February.

Findings

We began to track students' CP hours during the 2003-04 academic year. Over the past three academic years, the total number of service hours has increased from 3,497 to 5,665 hours, a 62% increase. Our first-year students currently average 27 hours of service to their agencies, more than double the 12-hour requirement.

For the 2007-08 academic year, the response rate for student completion of the CP evaluation form was 74% (148) out of a class of 200. Descriptive statistics were used to

calculate means and confidence intervals for each of the survey items. The mean rating of students' overall CP experience was 3.83 out of a possible 5.0 (95% CI = 3.70-3.96). Results for each item on the evaluation form are listed in Table 4. Both mean scores and comments listed on the evaluation form indicated a higher rating by students of experiential learning activities, including the Community Fair and the actual service component of CP, as compared to those designed to promote reflection. Students often mentioned increasing service hours while decreasing or eliminating written assignments in their comments regarding improvement of their CP experience (Table 4).

Starting in 2004, the yes/no responses on the agency assessment sheet (Table 1) for three consecutive academic years were summarized. Corresponding percentages for yes/no answers by students are listed in Table 5.

We invited 39 community agency representatives to our recognition luncheon, and 14 (36%) were able to attend. All attendees completed the agency evaluation form. Although the sample size was small, we did get a 100% response rate from attendees at the luncheon. The evaluation form listed a variety of questions concerning the effectiveness of our students and the CP for their organization. Both mean scores and comments listed on the evaluation form indicated a high rating by agency representatives. Results for each item are listed in Table 6.

Table 7 compares responses of OSU COM students to responses by a national group of medical students over the past 10 years on the AAMC Medical School Graduation Questionnaire's Population Medicine section. Return rates for this questionnaire have averaged 74% over the past eight years. Results of a 2x3 chi-square analysis revealed that on average, over the past 10 years, OSU COM students believed the time devoted to their education in the role of community health and social service agencies was significantly more appropriate, as compared to the national group of students ($p < .001$).

Discussion

Educating medical students on the use of community resources is a high-priority

Table 4. Student Evaluation of Service-Learning Curriculum, The Ohio State University College of Medicine, 2007-08

Activity	Mean	95% CI
The Community Fair	4.04	3.91-4.17***
The Agency Report	3.26	3.09-3.43***
The Patient/Client Interview	3.37	3.19-3.55***
The End-of-Year Presentation	3.54	3.36-3.72***
Overall Rating of Community Project	3.83	3.70-3.96***

* Rating scale = 1 (poor) to 5 (excellent)

** N = 148, total = 200, response rate = 74%

*** Significant at $p < 0.05$

Table 5. Average Student Responses on Agency Assessment Sheet 2004-07

	Yes (%)	No (%)	N/A (%)
1. Was it easy to establish contact with your agency?	91.6	7.0	1.4
2. Was the agency flexible with your time commitment?	91.8	5.4	2.8
3. Where there training/orientation sessions?	68.1	29.8	2.1
4. If yes, was there a cost involved?	07.7	67.6	24.7
5. Was it easy enough to gather the information you needed for your assignments?	93.9	4.7	1.4
6. Was the agency responsive of you had trouble with our assignment and/or wanted to be involved with something else?	66.9	5.6	27.5
7. Was your experience rewarding (did you make an impact)?	90.2	7.2	2.6
8. Were the clients responsive to your efforts?	90.4	2.3	7.2
9. Would you recommend this agency to next year's students?	91.6	7.2	1.2

Note: Over 3 years, N = 429, total = 617, response rate = 69.53%

in the Central Ohio community to enhance patient care. Our program exceeds the LCME recommendation of encouraging participation by requiring all first-year students to complete a service-learning curriculum. We fall somewhat short, however, of fulfilling the recommendations of the PHPC to require a significant amount of work in community service settings and to actively involve agencies in building service-learning programs. The recognition luncheon we offered this past spring is a positive step towards more actively involving our community partners. We are planning to offer this function again next year and will more actively recruit the agencies with whom we work to attend. Increasing the number of minimum service-learning hours would bridge the gap between our current requirement and the PHPC recommendation.

Evaluations from students and agency representatives, as well as the number of hours students commit beyond their requirement, for the most part indicate a very positive response to our service-learning curriculum. Regarding the higher ratings by students of experiential learning activities, the literature on service-learning indicates that service loses meaning without reflective practice (Eyler, 2002). Perhaps incorporation of alternative reflective learning activities would enhance students' experiences in this area and subsequently improve evaluation scores (Epstein, 1999).

We believe the greatest

recommendation (Institute of Medicine, 2004). Through the Community Fair, the provision of services to a self-selected community agency, and the end-of-year presentations to their peers, medical students at The Ohio State University are taught about resources that are available

strengths of our program include the following: 1) required participation by future physicians in a service-learning curriculum (identical to required participation in a basic sciences curriculum); 2) offering students a diverse

Table 6. Agency Evaluations of the Community Project, 2009

Question	Mean	95% CI
The CP was beneficial to me/my agency/organization	4.71	3.79-5.63***
The students were eager/happy to volunteer with me/my agency/organization.	4.57	3.30-5.84***
In general, how would you evaluate the performances of OSU Medical students who have been assigned to your organization?	4.71	3.79-5.63***
How would you rate your experience at the Community Fair?	4.60	3.23-5.97***
How would you rate your experience at today's luncheon?	4.82	4.03-5.61***
I would recommend the Community Project to other agencies/organizations.	4.83	4.07-5.59***

* Rating scale = 1(poor) to 5(excellent)

** N = 14, total = 14, response rate = 100%

*** Significant at $p < 0.05$

choice of educational experiences through a community fair or similar program; 3) student self-selection of their desired learning environment; and 4) active student participation in curriculum design and continuous quality improvement efforts. Weaknesses include the relatively passive involvement of the community in building and improving the curriculum, an area we are currently addressing. Obstacles we have encountered include the relatively large class size at the OSU COM and associated administrative difficulties. In addition, we have been struck by the variability in

student attitudes towards this type of curriculum. We have discovered, however, that increasing student participation in the process has helped diminish the negative attitudes towards service-learning work. Each breakthrough in the curriculum has been a result of listening to students' concerns and constructively responding to their suggestions.

There are a few limitations that warrant discussion. Limitations include the relatively narrow outcomes we have examined up to this point. The next step involves an investigation into how a service-

Table 7. AAMC Medical School Graduation Questionnaire Results 1998-2007

Population Based Medicine: Role of community health and social service agencies

Do you believe that the time devoted to your instruction in the following areas was inadequate, appropriate, or excessive?

Year	OSU Nat'l	Inadequate %	Appropriate %	Excessive %	Count	% Total OSU Grad.
2007	OSU	23.1	76.9	0	143	N=143
	Nat'l	33.86	64.4	1.8	12,525	TN=194
	%				1.60	73.70%
2006	OSU	30.2	67.9	1.9	53	N=53
	Nat'l	32.5	65.5	2	11,412	TN=202
	%				0.50%	26.20%
2005	OSU	20	78.8	1.3	80	N=80
	Nat'l	33.1	64.9	2	9,444	TN=211
	%				0.80%	38.00%
2004	OSU	29.1	69.7	1.1	175	N=175
	Nat'l	33.4	64.5	2.1	10,712	TN=198
	%				1.60%	88.40%
2003	OSU	30.7	69.3	0	176	N=176
	Nat'l	34.5	62.9	2.6	13,653	TN=188
	%				1.30%	93.60%
2002	OSU	29.5	70	0.5	207	N=207
	Nat'l	36.5	61.4	2.1	14,177	TN=211
	%				1.50%	98.10%
2001	OSU	26.2	73.8	0	191	N=191
	Nat'l	36.7	60.9	2.4	14,159	TN=196
	%				1.30%	97.50%
2000	OSU	34.6	60.7	4.7	191	N=191
	Nat'l	41.6	55.1	3.3	14,094	TN=193
	%				1.40%	99.00
1999	OSU	28.6	69.8	1.6	192	N=192
	Nat'l	41.6	55.4	3	12,680	TN=209
	%				1.50%	91.90%
1998	OSU	45.2	52.2	2.5	157	N=157
	Nat'l	45.8	51	3.3	13,863	TN=206
	%				1.10%	76.20
Aver.	OSU	29.9	68.8	1.4	N=1556	N=1556
	Nat'l	37	60.5	2.5	TN=122,621	TN=2,008
	%	1.30%	77.50%			

learning curriculum may impact broader outcomes, including medical school graduates over time, the agencies and clients/patients served by the agencies, and the health of the communities we serve. A second limitation involves the self-report nature of most of our outcomes, and the bias that may result.

Lessons Learned

1. Graded Course Requirement

We have learned a number of lessons over the 20-year existence of CP. The first has been to establish a graded course requirement and allot protected time in the curriculum for completion of service-learning activities. From its inception during the 1988-89 academic year, the CP has been a required educational activity for first-year students. Three weeks of the behavioral science course schedule are devoted to CP and no other course activities are scheduled in order to give students protected time to work with their agencies. This stems from our belief that all medical students should experience the educational benefits associated with community involvement as part of their professional education. This requirement sends students the message that the learning associated with the CP is valuable and that community service is an important professional responsibility.

However, until fairly recently, performance on the CP did not count for a grade. During the 2002-03 academic year, we decided to change our system of grading so that CP performance would count for 10% of the overall grade in the first-year behavioral science course. As part of this effort, we determined how much weight to allocate to the various CP components in the overall grading scheme. These percentages have been previously described.

Two years later, we decided to create deadlines for assignments and consequences for turning in late assignments. Prior to this change, many students ignored assignment deadlines and turned in late work at the end of the academic year, without penalty. For example, only 57 students (28% of the class) completed and returned their agency assessment sheet during the 2004-05 academic year. When the new policy was enacted, 181 students (93%) completed this assignment on time. Making

CP part of the overall course grade and creating consequences has led to significant changes in student behavior.

2. Variety and Flexibility in Service-Learning Opportunities

A second lesson involves the development of a wide variety of service-learning opportunities and adaptability to students' personal choices. We believe in the value of offering students a diverse choice of service-learning options and support students working with agencies who have not been part of the CP program in the past. Our students typically enter medical school with strong service backgrounds and many desire to continue their previous agency affiliations. Some of these agencies do not participate in the Community Project Fair. We review non-participating agency requests and almost all are approved. This flexibility of choice is widely appreciated by the students.

3. Student Involvement and Leadership

A third lesson involves tapping into the valuable contributions of our students. This has been most apparent in the growth and support of student leadership efforts over time, a change best exemplified by the establishment of two recent student-directed projects, Medical Students for Kids and MD Camp.

Medical Students for Kids was originally created under faculty leadership through grant funding. When funding ended, students formed a non-profit entity and have maintained the project since 2003. Second-year students direct the program; first-year students mentor local elementary students who attend school in underserved areas. Some of the first-year students who complete the program move into leadership positions during their second year, sustaining the program over time.

MD Camp was created in 2004 by a first-year medical student for his CP. It is a summer program for local high school juniors and seniors from groups that are under represented in medicine. This program was designed to inform such students about career opportunities in the field of medicine. The medical student received grant funding and donations for the program and also recruited other first-year

students to staff it. With faculty help, student organizers wrote a curriculum and recruited under-represented high school students. This past summer, over 20 local secondary students attended MD Camp. This program recently received an Alpha Omega Alpha Student Service Grant.

Over the past five years, student involvement in all aspects of medical education has become a hallmark of the OSU COM medical curriculum. The umbrella organization that provides opportunities for student ideas to flourish is Project Professionalism, created by students in conjunction with the associate dean for Student Affairs (Stone, 2007). Project Professionalism is a student-driven initiative fully supported by the service-learning culture of the College of Medicine. The Project serves as an incubator for student initiatives that reach out to members of the medical center, the local community, and the global community. The Project consists of 15 student activities, including Humanism in Medicine, which highlights humanistic behaviors of the medical team; MedServe, which brings students into an on-going relationship with a local clinic that serves the underserved; MedPaws, which trains owners of cats and dogs in therapy techniques; the graduation class oath project; and Podemos, our Honduras global health initiative. The Project provides an environment for students to be innovative and to work with other students who share similar goals. A CP working group within Project Professionalism was created by students in 2003 with the intent of improving students' service-learning experiences. The medical student chair and co-chair of this group collaborate with CP academic leadership to help meet this goal.

4. Rewarding Excellence

A fourth lesson involves our growing awareness of the importance of rewarding excellence. During the 2003-04 academic year, we began to participate in an award program sponsored by SLI at Ohio State. At the end of each academic year, several awards are presented at a university-wide recognition ceremony sponsored by the SLI, titled the "Celebration of Excellence in Community Scholarship and Service Awards Presentations."

Past awardees associated with our service-learning curriculum include the CP director for the past 12 years (Banks), who received the Faculty Award for Excellence in Community-Based Teaching. This award recognizes one faculty member across the entire university who demonstrates outstanding leadership in service-learning education. During the 2003-04 academic year, three medical students received the Award for Excellence in Volunteer Service for participation in more than 100 hours of service-learning activity. Over the next four academic years 6, 24, 20, and 26 students received this award.

In addition, the student who originated the MD Camp concept was honored with the OSU Distinguished Diversity Enhancement Award. One person at Ohio State received this award each year, and it carries a \$1,200 honorarium. We believe this public recognition of excellence benefits the students, the College of Medicine and the university, and supports the culture of professionalism and service for which we continuously strive.

Conclusions

We believe OSU COM students have benefited from our 20-year history with service-learning education. A number of future directions are currently in either the planning or early implementation stages.

We are exploring the potential value of establishing a group of faculty physician mentors for the CP. Faculty mentors would have established relationships with specific agencies (i.e., serve as a member of the board of directors of the Ohio American Cancer Society or Columbus Aids Task Force) or possess a passion for service-learning work (i.e., provide service to a homeless shelter, be involved in local charity organizations). This framework could provide valuable role models for students and further contribute to a service-oriented culture in the OSU COM.

In addition, a student group within Project Professionalism is currently researching the organizational structures of other medical schools' community service and service-learning programs. Their goal is to assess the feasibility of a college-staffed community service administrative office. Potential benefits of

this initiative to the college include increased service-learning opportunities for students, expansion of services to the community, and coordination of grant funding activities.

Another potential future direction involves extension of this initiative into the second, third, and fourth years of medical school. Working with student representatives of the COM Professionalism Council, an integrated, longitudinal professionalism curriculum for undergraduate and graduate medical education is being developed. The underlying philosophy is that a professional approach to education and standards of professionalism should be taught from the first day of medical school and continued over the entire course of medical school and into residency. The service component of the CP is a natural bridge to this framework.

Finally, we are discussing the potential for using the CP to help establish relationships with students from other health sciences disciplines. Students from medicine, veterinary medicine, optometry, dentistry, nursing, pharmacy, allied medicine and public health could cooperate to provide team-oriented, service-learning work to community agencies. This mechanism could provide the education regarding teamwork and interdisciplinary collaboration often lacking in the medical school environment. Working as a team to provide meaningful service would require learners to identify needs and formulate action while transcending cultural differences in various professions (Vella, 1994). An inter-professional approach to service-learning could benefit students' transitions into the team environment of the clerkship years and introduce them to differing perspectives on service work and clinical care (Mareck, Uden, Larson, Shepard, & Reinert, 2004).

Various components of our service-learning curriculum can be adapted by other institutions to help meet the new LCME accreditation standard. In addition, it would benefit other institutions if programs with successful service-learning curricula could disseminate their experiences through panel discussions at medical conferences or joint publications. This type of dialog would help other medical schools consider curricular options and determine if and how to follow suite. The creation and

improvement of service-learning curricula can provide substantial benefits to communities, students, institutions of higher education, society, and the patients we serve.

References

- Averill, N.J., Salee, J. M., Robinson, J.T., McFarlin, J.M., Montgomery, A.A., Burkhardt, G. A., Schulz-Baron, M.D., & Elam, C. (2007). A first-year community-based service-learning elective: Design, implementation, and reflection. *Teaching and Learning in Medicine, 19*(1), 47-54.
- Banks, F.R., & Heaney, C.A. (2000). Service-learning opportunities at The Ohio State University: The community medicine rotation and the Community Project. In S.D. Seifer, K. Hermanns, & J. Lewis (Eds.), *Creating community responsive physicians: Concepts and models for service-learning in medical education* (pp. 69-75). Washington D.C: American Association for Higher Education in cooperation with Community-Campus Partnerships for Health.
- Batchelder, T.H., & Root, S. (1994). Effects of an undergraduate program to integrate academic learning and service: Cognitive, prosocial cognitive, and identity outcomes. *Journal of Adolescence, 17*, 34-1356.
- Blue, A.V., Geesey, M.E., Sheridan, M., & Basco, W.T. (2006). Performance outcomes associated with medical school community service. *Academic Medicine, 81*(Suppl. 10), S79-S82.
- Burrows, M., Chauvin, S. W., Chehardy, P., & Lazarus, C.J. (1999). Required service-learning for medical students: Description and evaluation. *Teaching and Learning in Medicine, 11*, 223-231.
- Elam, C. L., Sauer, M. J., Stratton, T.D., Skelton, J., Crocker, D., & Musick, D.W. (2003). Service-learning in the medical curriculum: Developing and evaluating an elective experience. *Teaching and Learning in Medicine, 15*, 194-203.
- Epstein, R.M. (1999). Mindful practice. *Journal of the American Medical Association, 282*, 833-39.
- Eyler, J. (2002). Reflection: Linking service and learning – Linking students and communities. *Journal of Social Issues, 58*(3), 517-34.

Eyler, J. & Giles, D.E. Jr. (1999). *Where's the learning in service-learning?* San Francisco: Jossey-Bass.

Hatcher, J.A. & Bringle, R.G. (1997). Reflection: Bridging the gap between service and learning. *College Teaching*, 45 (4), 153-158.

Institute of Medicine. (2001). *Crossing the quality chasm: A new health system for the 21st century*. Washington, D.C.: National Academies Press.

Institute of Medicine. (2004). *Improving medical education: Enhancing the behavioral and social science content of medical school curricula*. Washington, DC: National Academies Press.

Liaison Committee on Medical Education. (2007). *Functions and structure of a medical school*. Retrieved January 3, 2008, from <http://www.lcme.org/functions2007jun.pdf>.

Liaison Committee on Medical Education. (2008). *Accreditation standards: New standard on service-learning*. Retrieved January 3, 2008, from <http://www.lcme.org/standard.htm#servicelearning>.

Lockwood, J.H., Sabharwal, R.K., Danoff, D., & Whitcomb, M.E. (2004). *Quality improvement in medical students' education: the AAMC medical school graduation questionnaire*. *Medical Education*, 38(3), 234-236.

Mareck, D.G., Uden, D.L., Larson, T.A., Shepard, M.F., & Reinert, R J. (2004). Rural interprofessional service-learning: The Minnesota experience. *Academic Medicine*, 79(7), 672-676.

Mezirow, J. (1991). *Transformative dimensions of adult learning*. San Francisco: Jossey-Bass.

O'Neil, E.H., & the Pew Health Professions

Commission. (1998). *Recreating health professional practice for a new century: The fourth report of the Pew Health Professions Commission*. San Francisco, CA: University of California, Pew Health Professions Commission.

Post, D.M., Stone, L.C., Knutson, D.J., Gutierrez, T.L., Sari, F., & Hudson, W.A. (2008). Enhancing behavioral science education at The Ohio State University College of Medicine. *Academic Medicine*, 83(1), 28-36.

Seifer, S.D. (1998). Service-learning: Community-campus partnerships for health professions education. *Academic Medicine*, 73(3), 273-277.

Stone, L.C. (2007). Project professionalism: A student-driven initiative. *The Ohio Family Physician*, 59(3), 39-43.

Vella, J.K. (1994). *Learning to listen, learning to teach: the power of dialogue in educating adults*. San Francisco: Jossey-Bass.

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