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INSTRUCTIONAL DESIGN AND ASSESSMENT

A Collaborative Approach to Combining Service, Teaching, and Research

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Objective. To describe a faculty-student collaborative model and its outcomes on teaching, service, and scholarship.

Design. A Medicare Part D elective course was offered that consisted of classroom and experiential learning where pharmacy students participated in community outreach events to assist Medicare beneficiaries with Part D plan selection. The course training was expanded to include medication therapy management (MTM) and the administration of immunizations. At the completion of the course, students collaborated with faculty members on research endeavors.

Evaluation. During the first 6 years of this course, the class size more than doubled from 20 to 42 students, and all students participating in the course met the IPPE requirements for community outreach. Over that same period, the number of beneficiaries receiving assistance with their Part D plan grew from 72 to 610; and with the help of students starting in 2011, faculty members had 28 poster presentations at national conferences, 7 invited podium presentations at national/international meetings, and published 8 manuscripts in peer-reviewed journals.

Conclusion. Through collaborative efforts, this model took an elective course and provided classroom and experiential learning for students, needed health services for the community, and opportunities to pursue wide ranging research projects for faculty members and students.

Keywords: service-learning, community-engaged scholarship, promotion and tenure, faculty development, experiential learning

INTRODUCTION

Achieving promotion and tenure in academia requires demonstration of excellence in teaching, scholarship, and service. With increased pressure to fulfill scholarship obligations, efforts and contributions to the service and teaching components may become unbalanced.¹ The shift in priorities toward scholarship may create new issues for academic institutions, such as less-focused teaching, an ambiguous definition of scholarship, increased time constraints, and increased competition for external funding of research endeavors.¹⁻⁴ While most faculty members face some of these challenges for achieving promotion and tenure, health science practice faculty members have the added demand of providing patient care in clinical practice settings.^{1,5} Rewarding or compensating quality and innovative instruction and expanding service-learning and community-engaged scholarship are a few examples of movements to restore a more balanced evaluation of

teaching, service, and scholarship.^{2,6,7} While there have been many recommendations to support and secure pharmacy scholarship opportunities, 1 report promoted the development of new faculty positions that foster various types of scholarship and clinical practice; acceptance of expanded definitions of scholarship, especially in the emerging area of community-engaged scholarship; and support from the accrediting bodies and the universities themselves.^{1,6,8}

Community-engaged scholars have the potential to perform research as well as fulfill their patient-care responsibilities in the community setting. Doing so promotes the profession of pharmacy and the college or school by establishing mutually beneficial relationships and partnerships in the community.⁷ The mutual benefit is simple: patients receive affordable/accessible care, and with carefully constructed research methods, data may be obtained to fuel scholarly endeavors. Additionally, pharmacy students benefit from the experiential and service-based learning environment.⁹ The cultivation of interpersonal skills in students performing community service is a perceived benefit.⁶ To promote community-engaged scholarship,

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the National Institute of Health has made more money available and may become more financially supportive of scholars developing community-engaged scholarship best practices.^{1,6}

The Accreditation Council for Pharmacy Education (ACPE) and Center for the Advancement of Pharmacy Education have encouraged collaboration between health-care professions and pharmacy by building the skills and confidence of students to optimize patient care and services.^{10,11} They also encourage that pharmacy programs “strive to meet community needs” and evaluate faculty members for their service contributions to the community.¹⁰ Given that emphasis on service, teaching, and research are hallmark evaluation metrics of all institutional programs, conformance is necessary to develop pedagogical models that are adoptable.^{10,11}

There is undoubtedly a call and well-documented need for pharmacy educators to combine teaching, scholarship, and service.¹² Much of the literature in pharmacy education provides examples of models that combine 2 of the 3 essential components for promotion and tenure through either service-learning courses or community-engaged scholarship.¹³⁻¹⁵ Although there may be existing models that integrate all 3 components (ie, teaching, service, and scholarship), no publications regarding such models, their implementation, and resultant outcomes were found. Although community-engaged scholarship is well-supported by the literature, challenges facing the model make it difficult for all faculty members and institutions to adopt.^{6,7,16} While models may provide insight into opportunities for community-engaged scholarship and how recognition and adaptation can benefit tenure-seeking faculty members, community-engaged scholarship relies heavily on experiential teaching and learning. The current model includes a classroom teaching component that not only addresses concerns about persuading institutions and the academy to accept experiential teaching for promotion, but also benefits tenure-track faculty members.

Because of its complexity, there is a well-recognized need for Medicare Part D community outreach. The pharmacy profession, including pharmacy colleges and schools, are in an appropriate position to meet this increased public health need.^{9,13,17-20} The curriculum at our institution offered a Medicare Part D elective course for select students, and through its outreach events, students from the entire class were given the opportunity to obtain introductory pharmacy practice experience (IPPE) hours as part of the core curricular requirement. Faculty members initiated a collaborative model focused on this course and its outreach component entitled the STAR model (Service Teaching And Research). This model incorporated (1) educational and clinical service; (2) classroom

and experiential teaching; and (3) research fueled by patient data collected at outreach events and by student assessment to support the scholarship of teaching and learning (SoTL). The primary objective of this paper is to describe the STAR model, define its components, and report the longitudinal outcomes throughout its development and implementation.

DESIGN

The design of the STAR model included 3 components, including classroom and experiential teaching, community outreach service and research. The STAR model was centered on a Medicare Part D elective course. As a team-taught course for both the classroom and experiential components, it provided services to Medicare beneficiaries in the form of Part D plan assistance and medication therapy management (MTM). Data-collection tools were designed to capture student learning and patient information. Institutional Review Board approval was obtained by course faculty members at the University of the Pacific to collect data from student surveys and learning outcomes as well as patient data during outreach events. Upon completion of the course, students were presented with the opportunity to collaborate with faculty members in various scholarship endeavors.

For the teaching component of the model, 3 faculty members collaborated to design and implement this course in 2007. In 2010, 2 additional faculty members joined the team. One faculty member with expertise in Medicare Part D took the lead in delivering most of the material in the classroom setting and served as the point person between the university and facilities at which the outreach events were held. Other course faculty members used their varied expertise to enhance the course through guest lecturing, event coordination, subcommittee leadership, and precepting during the experiential outreach events. The collective areas of faculty expertise included geriatric care, cardiovascular and diabetes disease-state management, immunizations, MTM delivery, and the science of teaching and learning.

The course itself was elective, totaling 3 units of credit spanning 2 semesters. Successful completion of the first semester was required to continue on to the second semester. Placement of this course within the curriculum was based on the need of the experiential component to occur during the Medicare Part D open-enrollment period (October 15 to December 7) as well as for students to complete Practicum 1, during which they became certified to administer vaccinations through the American Pharmacist Association certificate program, and perform patient screenings and assessment. Student enrollment in the Medicare course was capped and students were chosen

through a competitive process, which used a detailed entry application that was evaluated by 3 course faculty members and 2 other practicing pharmacists. The limited enrollment (between 20-45 students) ensured that each student would have extensive real-world patient encounters during which their learned knowledge and skills would be applied. The first semester is solely classroom based (2 to 3 hours per week), and the second semester consists of 3 hours per week in the classroom for 7 weeks, followed by a 4-week period of scheduled community outreach events during the Medicare annual election period.

In-class instruction focused on introducing essential concepts about Medicare, in-depth examination of the structure of the Part D prescription drug benefit, and the economic implications of Part D on Medicare beneficiaries. Course objectives are presented in Table 1. The course focused on helping students understand the eligibility, structure, financing, and administration of the Medicare benefit in preparation to assist beneficiaries in choosing the Part D plan with the lowest out-of-pocket costs based on their prescription medications and other personal preferences (eg, preferred pharmacy). The classroom pedagogy served as a learning platform to set the foundation for these concepts prior to the experiential learning component. Teaching modalities included traditional lectures, student-centered and team learning, reading assignments, use of audience response systems, and simulated cases. Simulated cases, utilizing blinded data from previously assisted beneficiaries, were developed for students to

practice using the Medicare Plan Finder Tool (PFT) while also performing MTM activities. A portion of class time was designated to committee work during which students participated in 1 of 7 student-run, faculty-supervised committees. Committees were responsible for the organization, advertising and marketing, and implementation of the outreach events. Student committee work was essential to meet the course objective for developing leadership skills and for the overall delivery of events.

For the service component of the model, community outreach events were held throughout the Northern/Central California region during the Medicare open enrollment period. In addition to providing assistance in choosing the most appropriate Part D drug plan, a service that has been offered since 2007, MTM and the administration of vaccines were provided by students in this course beginning in 2010. If severe medication-related issues were identified, a fax was sent to the prescriber with a description of the problem and recommendation. The most recent expansion to the outreach events included the offering of screening services for a cadre of health conditions, thus creating a comprehensive service-based, healthcare-outreach event at each site. The screening services were not provided by students enrolled in the course but rather by trained students from the student body as part of committees and organizations under the school's Academy of Student Pharmacists. Further description of these services is therefore beyond the scope of this paper. Faculty and volunteer pharmacists from the community

Table 1. Objectives of a Faculty-Student Collaborative Elective Course on Medicare Part D

Understand demographic and epidemiological trends among elderly patients in the United States.
Learn the structure, complexities, and consequences of Medicare Part D.
Develop an understanding of the current state of research with regard to Medicare Part D
Describe the late-enrollment penalty, its calculation, and interpretation.
Understand Medi-Cal and Low-Income Subsidy qualification criteria and a beneficiary's medication costs, depending on the type of subsidy received.
Understand Pharmaceutical (Patient) Assistance Programs and eligibility criteria for qualified beneficiaries.
Assist Medicare-eligible beneficiaries understand their prescription drug plan coverage options under the Part D benefit.
Effectively navigate and retrieve all relevant information from the Medicare Plan Finder Tool.
Describe the available Medicare Part D prescription drug plan options for an individual beneficiary based on his/her specific needs (eg, current medication profile, pharmacy preference).
Identify the most appropriate (cost-minimization) Medicare Part D prescription drug plan for a given patient utilizing the Medicare Plan Finder Tool.
Apply clinical knowledge, principles of health literacy, and effective patient communication to help Medicare-eligible patients understand their Part D prescription drug plan options.
Identify common problems and misconceptions a Medicare patient may face with his/her Part D benefit through the use of patient-based cases/scenarios.
Identify medication-related issues and help in the resolution of such issues through the provision of medication-therapy management services.
Communicate intelligibly with patients about Medicare Part D and Part D prescription drug plans.
Develop leadership skills through subcommittee work and participation in the delivery of outreach events.

served as preceptors and oversaw the students' provision of all the above services.

Each student enrolled in the course was required to attend a minimum number of outreach events, ensuring that they had at least 40 hours of direct patient interaction. As part of the overall pharmacy curriculum, students were required to complete 40 hours of IPPE in a healthcare-outreach setting. The Medicare outreach events provided all of the required healthcare outreach IPPE hours for students enrolled in the Medicare Part D course.

At each outreach event, data were collected from assisted beneficiaries by means of a Beneficiary Outcomes Survey (BOS), which collected demographic, interventional, and MTM data. Verbal informed consent was obtained from each beneficiary prior to any data collection. For some beneficiaries, pharmacy students contacted the prescribers or referred beneficiaries to urgent-care facilities based on the information collected.

Data collected from multiple sources, including the BOS form, MTM interventional and clinical data, student surveys, and assessments, fueled the research efforts. Before the course began each year, course faculty members attended a retreat to discuss the research agenda for the upcoming year. Research questions of interest were posed in each area of faculty specialty and/or interest and then the process needed to answer the question was determined. Research ideas related to the Medicare population as well as SoTL were generated. For research ideas related to the Medicare population, targeted questions were developed, vetted, and eventually added to the BOS form for the upcoming year. The BOS form consisted of different sections, which contained questions about general patient information, patient satisfaction with their Part D plan and/or provider information collected through the PFT, potential eligibility for a low-income subsidy, and the ultimate result of the Part D intervention. For the MTM section, questions were asked about an individual's social history (eg, smoking and alcohol intake), use of nonprescription medications, vaccinations, chronic conditions, drug therapy, and identification of medication-related problems. For research relating to SoTL, sources of data used included student pretest and posttest surveys. An assessment of students' attitudes, beliefs, confidence, and knowledge of Part D, immunization, and MTM delivery was administered on the first day of class, last day of class, and after completion of the experiential component. Students were assessed on their knowledge of Medicare, specifically Medicare part D and given case studies to assess knowledge of using the PFT. Students also completed detailed self-reflections at the completion of the course.

Following the outreach events, each faculty member took the lead on a scholarly project in his/her respective area of expertise and was a co-contributor on the other projects. Students were given the opportunity to participate in a research project after completion of the course. Students self-selected a research topic of interest and worked with the faculty lead on the project. Work was done in an independent manner within the confines of a structured timeline for the completion of outlined tasks. Weekly meetings with faculty leads were held to offer guidance, assess progress, and provide feedback. Each team had the goal of presenting 2 projects at a national/international meeting and submission of a paper to a peer-reviewed journal. Students participating in research understood that they were making a 1-year commitment. No additional course credit was awarded for scholarly work by students.

ASSESSMENT AND EVALUATION

Descriptive statistics of the Medicare Part D class profile are shown in Table 2. Over 6 years, the applicant pool of students interested in participating more than tripled from 27 to 94 students and the limit on enrollment more than doubled, increasing from 20 to 42 enrolled students. The effectiveness on student learning outcomes was evaluated by means of a precourse and postcourse assessment. Using 2011 data, the mean percentage of correct answers related to Part D knowledge increased from 12% at the beginning of the course to 81% ($p < 0.01$) at the completion of the classroom and outreach components. In response to a Likert scale assessment item regarding their confidence in providing Part D plan assistance to beneficiaries, the percentage of students expressing that they somewhat or strongly agreed increased from 3% to 100%. Students enrolled in the 2012 class far exceeded the 40-hour community-outreach requirement, obtaining an average of 56 IPPE hours per student through this course alone.

The impact of the outreach events on the community since 2007 can be found in Table 3. Pharmacy students and faculty members conducted 59 outreach events in 15 different sites, and assisted 2,224 beneficiaries with their Part D plans. The estimated total out-of-pocket savings to beneficiaries as a result of student Part D plan interventions since the program's inception was nearly \$1.6 million. Cost savings were calculated as the estimated amount of money saved for each patient for the following year by switching plans to the lowest cost plan, as identified by the Medicare PFT, compared with continuation on their current plan. Additionally in 2010, influenza vaccinations were offered and 208 vaccines were administered. In 2011, when immunization offerings were expanded to

Table 2. Class Profile for Faculty-Student Collaborative Elective Course on Medicare Part D

Year	Class Applicants, No.	Students Selected for the Class, No.	Outreach Hours at Medicare Events Completed by Class Members, No.	Students from the Previous Year's Class Returning to Provide Assistance, No.
2007	27	20	284.0	NA
2008	37	21	483.5	2
2009	39	25	510.5	9
2010	56	33	764.5	7
2011	99	40	1,619.0	22
2012	94	42	2,383.0	23

include pneumococcal and shingles vaccines, the number of vaccinations more than doubled to 429.

Research endeavors were initiated in 2008 and until 2010 were solely faculty-driven. Beginning in 2011, students were given the opportunity to collaborate with faculty members and participate in scholarly endeavors (Table 4). In 2011, 55% (22 students) in the Medicare Part D class chose to participate in research. That percentage increased to 61% (25 students) the following year. In this 6-year period, with the help of students starting in 2011, faculty members collectively had 28 poster presentations at national conferences, 7 invited podium presentations at national/international meetings, and 8 manuscripts published in peer-reviewed journals.

DISCUSSION

The STAR model integrated various components from effective pedagogical approaches and conformed to the guidelines of the ACPE.¹⁸ Integrating outreach and community-engaged scholarship into the curriculum helped achieve institutional goals through collaboration with the community, improving the knowledge of student pharmacists, and developing professional competencies.^{6,17,21} The STAR model provided junior faculty members a means to build a balanced portfolio by combining the elements essential for promotion and tenure, with favorable attention toward community-engaged scholarship. The Medicare Part D elective course and its

incorporation into the STAR model offered a unique experience for students and faculty members. In each area of teaching, service, and scholarship, there was tremendous growth in numbers and quality associated with the integrated improvements. Classroom and experiential components of the course facilitated students applying their acquired knowledge in a real-world setting, while faculty members were able to teach using a variety of pedagogies to achieve learning outcomes. The outreach events provided needed services to local communities, while enabling learning opportunities for students and research and service venues for faculty members.

Developing students through classroom learning combined with an opportunity to apply knowledge and skills in a real-world setting cultivated our students' confidence and interpersonal skills. Given that such skills are difficult to develop in a classroom setting; community-based IPPEs benefited our students prior to their advanced practice experiences. With an average of 55 outreach hours per student, the Medicare Part D students in our setting had ample opportunities to apply in practice what they learned in the classroom. First-hand experience in organizing, planning, and implementing outreach events emphasized teamwork and leadership required for a successful career. Involvement in the execution of events enabled students to gain the confidence and sense of pride in their efforts, a commitment to their patients and community, as well as the ability to plan and participate in

Table 3. Community Outreach Impact of Faculty-Student Collaborative Elective Course on Medicare Part D

Year	Outreach Events, No.	Beneficiaries Assisted with Part D, No.	Immunizations Administered, No.	MTM Interventions, No.
2007	5	72	NA	NA
2008	9	315	NA	NA
2009	11	286	NA	NA
2010	9	401	208	NA
2011	13	540	429	543
2012	12	610	583	583

Abbreviation: MTM=medication therapy management.

Table 4. History of Medicare Part D Research Endeavors Following 2007 Initiation of a Faculty-Student Collaborative Elective Course on Medicare Part D

	2008	2009	2010	2011	2012
Posters presentations at national/international meetings	2	2	4	9	11
Podium presentations	1	1	0	3	2
Papers published	1	2	0	3	2
Number of students participating in research	NA	NA	NA	22	25
Number of students presenting their research at a conference	NA	NA	NA	21	23

events after graduation. These outcomes have been evident in the number of alumni returning to volunteer, showing their dedication to the successful outcomes of the outreach events. Although small class size was in part responsible for the successes of the course, it restricted our ability to open the course to more students, limiting full incorporation into the required courses. An advantage of the STAR model was that it gave students an opportunity to plan and execute effective community outreach. Incorporating additional student-run screenings and services enabled the whole student body to participate in and earn IPPE hours through our large outreach events.

The service aspect of this model achieved 2 important outcomes: meeting the needs of the community and collecting data documenting the impact of pharmacists providing these services. The STAR model enabled the profession of pharmacy and the university to establish an image of health service leadership in the general public. In just 5 years, there was a combined estimated savings of nearly \$1.6 million reaching 2,224 Medicare Part D beneficiaries at 15 different sites. The services provided by pharmacists and pharmacy students highlighted and quantified the value of just 1 of the many services the profession of pharmacy can deliver. Pharmacists continue to be challenged by not being recognized as providers by health-care regulations and, therefore, often being underutilized. Through public recognition, documentation, and research proving its value, community-engaged scholarship can be prioritized and critical progress for the profession achieved.¹² These outreach events reinforced pharmacists' roles in a service-learning environment, and the positive impact was quantitatively assessed through the data collected and presented, allowing for opportunities for collaboration in scholarly endeavors.

With the myriad of expertise of faculty members involved, the research agenda is both extensive and diverse, including public health issues and the scholarship of teaching and learning. As most new pharmacy faculty members have limited experience or training in conducting research, collaboration with more experienced colleagues can help foster the skills, knowledge, and confidence in their scholarly endeavors. Along with scholarly endeavors, quality

improvement of the course and outreach events can be simultaneously accomplished through the use of assessment data and the data collection instrument. Moreover, the STAR model is highly adaptable to a myriad of community outreach endeavors, providing unlimited opportunities for community-based scholarship. The addition of screening services to the outreach events in our setting enabled us to connect patient clinical outcomes to the provision of MTM in the community setting, providing data for abundant research initiatives. This STAR model also provided the unique opportunity for students to collaborate in the research agenda and to gain experience through data collection, entry, interpretation, presentations at national meetings, and journal publications.

While this model presented many opportunities for success, there were several obstacles to consider before implementation. The STAR model was a resource-intensive endeavor. Financially and administrative planning, coordination, organization, and support were of utmost importance and required a great amount of time and dedication from faculty members. Devoted colleagues combined with college or school and departmental support were fundamental in the development, advancement, and sustainability of the model; thus, identifying those who share the same vision was crucial. Access to funds and grants may be a barrier for some institutions. Several years were required to expand this course to its current state at our institution. Support from the dean, key faculty members, and community pharmacists who volunteered to precept students during events were essential to our success.

California state law requires that there be 1 registered pharmacist for every 2 interns performing direct patient-care activities. Therefore, participation by faculty members, alumni, and local pharmacists was essential. While the local pharmacists could supervise many of the services offered, only faculty members trained in Medicare Part D were allowed to sign off on Part D plan changes. This was an elective course in which approximately 40 students were selected from a class of over 200. Smaller universities may not have a critical mass of students needed to draw upon to conduct these large events. Most of the planning was accomplished by faculty members

who were involved with the Medicare course and by student committees in the course that they oversaw. To plan these events, meetings were held in the evenings or on the weekends. Although planning 12 to 14 events in 1 month could have placed strain on students, faculty and volunteer preceptors, all parties involved considered it worthwhile as we continued to sustain and improve the events year after year.

SUMMARY

The STAR model can serve as a platform for the initiation of collaborative efforts in fostering the growth and development of both faculty and students while serving the needs of the community. Students actively learned and provided health services to the community while obtaining elective credit and fulfilling their IPPE hour requirement. Students used their classroom learning in a real-world setting and obtained research experience. Faculty members were able to stimulate different modes of learning through classroom and experiential education while providing community service. Faculty members were also able to pursue their scholarly aspirations through collaboration with students and other faculty members, yielding high-impact results and professional growth. The community and beneficiaries not only realized economic savings but also received needed health services. The STAR model can be adopted and molded to other courses and institutions as a means of ensuring professional growth for faculty members and students while concurrently addressing the institution's goals and the health needs of the community.

REFERENCES

1. Smesny AL, Williams JS, Brazeau GA, Weber RJ, Matthews HW, Das SK. Barriers to scholarship in dentistry, medicine, nursing, and pharmacy practice faculty. *Am J Pharm Educ.* 2007;71(5):Article 91.
2. Chalmers D. Progress and challenges to the recognition and reward of the scholarship of teaching in higher education. *High Educ Res Dev.* 2011;30(1):25-38.
3. Boyer EL. *Scholarship Reconsidered: Priorities of the Professoriate.* New York, New York: John Wiley & Sons; 1990.
4. Robles JR, Youmans SL, Byrd DC, Polk RE. Perceived barriers to scholarship and research among pharmacy practice faculty: survey report from the AACP scholarship/research faculty development task force. *Am J Pharm Educ.* 2009;73(1):Article 17.
5. Levinson W, Branch WTJ, Kroenke K. Clinician-educators in academic medical centers: a two-part challenge. *Ann Intern Med.* 1998;129(1):59.
6. Nemire RE, Brazeau GA. Making community-engaged scholarship a priority. *Am J Pharm Educ.* 2009;73(4):Article 67.
7. Piercy F, Stoudt D, Asselin S, Tilley-Lubbs K. White paper: engaged scholarship in promotion and merit reviews. 2011. http://www.clahs.vt.edu/Outreach/pdf/White_Paper_Engaged_Scholarship.pdf. Accessed January, 15th, 2013.
8. Pickard AS. Towards supporting scholarship in research by clinical pharmacy faculty. *Pharm Pract.* 2006;4(4):191-194.
9. Michael J. Where's the evidence that active learning works? *Adv Physiol Educ.* 2006;30(4):159-167.
10. Accreditation Council for Pharmacy Education. Accreditation standards and guidelines. <https://www.acpe-accredit.org/standards/default.asp>. Published 2012. Updated 2012. Accessed July, 07, 2012.
11. American Association of Colleges of Pharmacy. 2004 CAPE educational outcomes. www.aacp.org/resources/education/cape/Pages/default.aspx. Updated 2013. Accessed January, 06, 2013.
12. Lang IV WG. Improving the public's health through teaching, service, and research: the advocacy agenda for academic pharmacy. *Am J Pharm Educ.* 2004;68(2):Article 53.
13. Barnett M, Silver PT, Grundy TS. Implementing service-learning pedagogy: a case example. *J High Educ Outreach Engagem.* 2009; 13(4):117-134.
14. Globe DR, Johnson K, Conant L, Frausto S. Implementing a community-based health promotion program into the pharmacy curriculum: The USC FUENTE initiative. *Am J Pharm Educ.* 2004;68(2):Article 32.
15. Kearney KR. A service-learning course for first-year pharmacy students. *Am J Pharm Educ.* 2008;72(4):Article 86.
16. Community-Campus Partnerships for Health. Community-engaged scholarship. <http://depts.washington.edu/ccph/scholarship.html>. Updated 2013. Accessed January, 07, 2013.
17. Stubbings J, Durley SF, Lin SJ, et al. Implementing the medicare drug benefit in a diverse inner-city community. *Am J Health-Syst Pharm.* 2007;64(2):193-199.
18. Lai CJ, Smith AR, Stebbins MR, Cutler TW, Lipton HL. Promoting interprofessional collaboration: Pharmacy students teaching current and future prescribers about medicare part D. *J Manag Care Pharm.* 2011;17(6):439-448.
19. Zagar M. Preparing PharmD students to participate in medicare part D education and enrollment. *Am J Pharm Educ.* 2007;71(4): Article 77.
20. Truong HA, Layson-Wolf C, de Bittner MR, Owen JA, Haupt S. Perceptions of patients on medicare part D medication therapy management services. *J Am Pharm Assoc* (2003). 2009;49(3):392-398.
21. Wong P, Rasu RS, Kovac K, Knell ME. Pharmacy student involvement in a pilot study for a Medicare part D fair results in patient satisfaction and an opportunity to develop professional competencies. *Int J Pharm Pract.* 2010;6(1):1-17.