Evaluation of Student Outcomes After Participating in a Medicare Outreach Program
Joshua C. Hollingsworth, Benjamin S. Teeter, and Salisa C. Westrick

Abstract
This article describes the development of a service-learning project and analysis of student pharmacists’ participation therein. Using a mixed-methods approach, this study analyzed student pharmacists’ knowledge and attitudes after volunteering in the inaugural Medicare Outreach Program, a collaboration between the School of Pharmacy and State Health Insurance Assistance Program (SHIP) in which certified student pharmacists assisted Medicare beneficiaries with Part D plan evaluation and selection. Although results did not show a statistically significant difference in knowledge gained by students who volunteered \( (n = 71) \) compared to those who did not \( (n = 72; p = 0.57) \), thematic analysis of volunteering students’ reflections did reveal that they found their volunteering efforts to be meaningful learning experiences. Six major themes were identified overall showing that the program, which was designed to benefit SHIP and the community, also had a positive impact on students’ attitudes. Accordingly, the program’s sustainability plan is also discussed.

Introduction
Service to society has been the core value of land-grant institutions in the United States, which have a historical mandate for openness, accessibility, and service to people dating back to the 1960s (Association of Public and Land-grant Universities, 2012). One way higher education institutions can continue the tradition of public service is through service-learning. Service-learning is a pedagogical method linking community service and instructional activities (Ehrlich, 1996). Felten and Clayton (2011) stated that the collaboration between community (external constituents) and university creates a strong connection between academic context and public concerns. It is important that organized service activities are developed to address community needs.

Reflection is a key component of service-learning. It provides opportunities for students to consolidate learning and to identify unresolved issues in the community (Bringle & Hatcher, 1995; Eyler, 2002). Students engaged in a service-learning activity should reflect on the experience to gain a further understanding of course con-
tent, a broader appreciation of the discipline, and an enhanced sense of civic responsibility (Bringle & Hatcher, 1995).

Past research has demonstrated benefits of service-learning in terms of students’ performance, critical thinking skills, communication skills, and awareness of societal problems. Markus, Howard, and King (1993) found that students in an undergraduate political science course that incorporated service-learning had significantly higher academic achievement than their non-service-learning counterparts. Service-learning students were also significantly more likely to self-report performing up to their potential, learning to apply principles taught in the course to new situations, and developing a greater awareness of societal problems (Markus et al., 1993). DeLuca, Andrews, and Hale (2004) found that incorporating elderly-focused service-learning into nursing courses helped students develop sensitivity to issues of aging and improve their communication skills when dealing with the elderly. Other studies have also found that enhanced communication skills result from service-learning (Cohen, Johnson, Nelson, & Peterson, 1998; Hales, 1997). Finally, when service-learning was used, there was a significant enhancement in students’ motivation, civic skills, problem-solving abilities, and appreciation of diversity (Levesque-Bristol, Knapp, & Fisher, 2010).

**Purpose**

Despite a recent increased level of interest in service-learning among health professions students (Curtin, Martins, & Schwartz-Barcott, 2014; Leung et al., 2012; Nuffer & Duke, 2014), additional research is needed to evaluate the impact of service-learning on this cohort. Our research sought to evaluate student pharmacists’ knowledge and attitudes after participating in the Medicare Outreach Program described below. Specifically, the study had two objectives: (a) to assess differences in knowledge between students who participated and those who did not participate in the program, as measured by test scores, and (b) to describe themes that emerged from participating students’ reflections on their experience.

**Medicare Outreach Program**

The Medicare Outreach Program was designed to assist beneficiaries in selecting Medicare Part D prescription drug plans. Medicare beneficiaries include people 65 years of age and older as well as younger adults with permanent disabilities or medical conditions. Under Medicare Part D, private insurance providers offer
a wide range of prescription drug plans that vary in terms of costs and benefits. The typical beneficiary must choose among nearly 40 plans and is encouraged to reevaluate plan options annually to ensure that their plan best meets their medication and financial needs.

Studies have found that many beneficiaries pay unnecessarily high out-of-pocket Part D costs for various reasons. For one, knowledge deficits can lead to difficulties selecting plans (Polinski, Bhandari, Saya, Schneeweiss, & Shrank, 2010). Further, many beneficiaries neglect to reevaluate their plans annually due to the complex plan selection process. As a result, beneficiaries spend an average of $368 more per year than if they had purchased the least expensive plan (Jackson & Axelsen, 2008; Walberg & Patel, 2009; Zhou & Zhang, 2012). Additionally, low computer literacy and lack of access to computers or the Internet may prevent beneficiaries from choosing plans that best fit their needs (Wright & Hill, 2009). Therefore, one-on-one assistance to help beneficiaries choose appropriate Medicare Part D plans is needed.

**Program description and collaborator.** The Medicare Outreach Program was developed to assist Medicare beneficiaries with Part D plan selection, a needed service in which student pharmacists can play an integral role (Cutler, Stebbins, Smith, Patel, & Lipton, 2011; Patel et al., 2009). Auburn University Outreach Office provided funding to support the first-year implementation of the program. The specific aim of the program was to have student pharmacists apply concepts learned through coursework and additional training in order to assist beneficiaries in Part D plan evaluation and selection at events held in the community. The program was a collaboration between the School of Pharmacy and the Alabama State Health Insurance Assistance Program (SHIP). Located in the Southeast, the School of Pharmacy offers a 4-year doctor of pharmacy (PharmD) degree, with approximately 150 students enrolled in each year of the program. The curriculum includes a service-learning component made up of 1,800 hours of pharmacy practice experience, giving students experience with patient care in various settings. The Medicare Outreach Program described herein, however, was voluntary, was not part of the compulsory practice experience, and was not meant to meet any curriculum requirements.

Alabama SHIP, which is a partnership between the Administration for Community Living (ACL), the Alabama Department of Senior Services, and the Area Agencies on Aging, is the key public organization that offers free and unbiased assistance to Medicare beneficiaries throughout the year. During the Part D
open enrollment period, SHIP coordinators experience increased service demands and rely heavily on volunteers. Volunteers must complete a training program to become certified SHIP counselors prior to assisting Medicare beneficiaries. Before the start of the Medicare Outreach Program, the research team met with SHIP personnel to discuss event logistics, mutual goals, the certification process for student pharmacists, and the expectations for students at open enrollment events. An expedited review by the Internal Review Board (IRB) was secured under federal regulation 45 CFR 46.110(5). An additional meeting was held after the last event to discuss project outcomes, areas for improvement, and plans for sustainability.

Students’ training and their roles. Although first- through fourth-year student pharmacists were encouraged to volunteer, this service-learning project was primarily incorporated into the Pharmacy Practice Development, Management, and Evaluation I course taken by second-year student pharmacists. In this required course, students learn about Medicare and use the online Medicare Plan Finder tool through didactic and case-based strategies. Additional training required for SHIP certification consisted of three training modules and corresponding quizzes offered online via Canvas, the learning management software used by the School of Pharmacy. The modules and quizzes were developed by participating SHIP coordinators and complement the Medicare information covered in the Pharmacy Practice course. Second- through fourth-year student pharmacists could enroll in the training modules, while first-year students were limited to conducting beneficiary intake and assisting with a beneficiary satisfaction survey. To become certified SHIP counselors, students had to complete the modules and earn 80% or higher on the quizzes.

At the enrollment events, second- through fourth-year students who were SHIP certified worked alone or in pairs; they sat with one beneficiary at a time and entered the information from the intake form into the Medicare Plan Finder tool. A plan search was then executed, and the students helped the beneficiary interpret the costs and benefits of the available prescription drug plans. It was up to the beneficiary whether they wanted to keep their current plan or enroll in a new plan. Student pharmacists could also print plan summary information for the beneficiary to take home for further consideration. Students spent 15 to 45 minutes interacting with each beneficiary. At least one program staff member from the School of Pharmacy and one regional SHIP coordinator
were present at each enrollment event to answer students’ questions and handle complex questions from beneficiaries.

**Program evaluation and outputs.** A total of 17 events across 10 counties in Alabama were delivered in October–November 2013. Four of these communities are in rural and traditionally underserved regions of Alabama. In total, 86 certified student counselors served 147 beneficiaries. In addition to students’ knowledge and attitudes reported in this article, an evaluation of the program in terms of beneficiaries’ satisfaction, cost savings, and total number of beneficiaries served was conducted. These findings informed the funder of the success of the initial launch and identified areas for improvement for the School of Pharmacy and SHIP.

**Methods**

We utilized a mixed-methods design consisting of a quasi-experimental design (nonequivalent control groups posttest only) to evaluate differences in test scores (Objective A) and a cross-sectional design to describe students’ attitudes (Objective B). The study utilized both qualitative and quantitative data (Johnson & Onwuegbuzie, 2004). For the first objective, an independent t-test was used to determine differences in knowledge as assessed by test scores on the Pharmacy Practice course final exam between second-year students who volunteered and those who did not. The five questions analyzed were related to Medicare, Medicare Advantage plans, the online Plan Finder Tool, and interpretation of plan search results. To describe student attitudes (Objective B), student volunteers were asked to provide anonymous reflective feedback about their experience at the end of each enrollment event. Each student was given a sheet of paper with the following prompt:

> In a paragraph, please reflect on your experience participating in the Medicare Outreach Program. For example, how useful was the project to your own learning? What surprised you the most from patient encounter(s)? What was the major takeaway? Do you see yourself doing a similar activity in the future? Etc.

Reflections were collected from students before they left the event and were transcribed verbatim. Following the guidelines laid out by Braun and Clarke (2006), a realist thematic analysis of the dataset was conducted as described below.

First, two researchers independently read over the entire dataset, noting initial thoughts and ideas for codes. Next, utilizing a
data-driven approach, each researcher independently open-coded half of the dataset to generate initial codes. The researchers then met to compare and identify codes for the next phase of analysis. Using the agreed-upon codes, the researchers independently recoded the entire dataset. Another meeting was then held to address any major discrepancies and to collate codes into potential themes using an inductive approach. The identified themes were reviewed to verify their consistency with corresponding codes and with the dataset overall. Finally, the themes were refined to ensure that each theme had a clear, distinct name and definition. All coding was performed in Atlas.Ti, a qualitative data analysis and research software program. Krippendorff’s alpha was calculated using the Coding Analysis Toolkit to determine the interrater reliability between coders.

**Results**

**Students’ Knowledge**

On average, second-year student pharmacists who volunteered at an enrollment event \((n = 71)\) correctly answered 3.28 ± 1.00 of the 5 questions pertaining to Medicare Part D on the Pharmacy Practice course final exam, whereas those who did not volunteer \((n = 72)\) answered 3.18 ± 1.13 of these questions correctly. This difference was not statistically significant \((p = 0.57)\).

**Student Attitudes After Volunteering**

Seventy-nine students who participated in the program also provided a reflection. A total of 6,792 words, or 27.17 pages of text, were coded and analyzed. The two researchers identified six overarching themes in the data with good interrater reliability overall (Krippendorff’s α = 0.795) and for each theme individually (Krippendorff’s α ranged from 0.733 to 0.880). Excerpts demonstrating these themes are found in Table 1.

<table>
<thead>
<tr>
<th>Theme</th>
<th>Excerpt Demonstrating Theme</th>
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<tbody>
<tr>
<td>Aspirations for Future</td>
<td>“I would really like to volunteer at future enrollment events.”</td>
</tr>
<tr>
<td>Participation</td>
<td>“I will absolutely do this again in the future.”</td>
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<tr>
<td></td>
<td>“I will definitely continue this in the future and offer this service at whatever pharmacy I work at.”</td>
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| Self-Reported Learning Experience | “Despite the lectures on the various Medicare plans, I believe I learned the most working with this project.”
“I feel a little guilty because I learned more than I was able to help!”
“I found that participating in the event was one of the better ways to learn about these programs.” |
| Ability to Help Patients | “I was able to see first-hand how beneficial the event was to people seeking help with their insurance.”
“The major takeaway for me was to be able to help out someone in the community.”
“The project reminded me of the real reason I do pharmacy; personal interactions with patients in hope to help them.” |
| Rewarding Experience | “It was an amazing feeling to help people save money and educate them on what determines the cost of insurance plans.”
“It was very rewarding to show people different ways to save money and how to apply for extra help benefits.”
“Participating in the Medicare Outreach Project has been extremely rewarding.” |
| Realization of Community Need | “I was surprised to know how little the patients know about their current insurance coverage and even their medications. I think these projects are extremely helpful to educate patients on their current coverage as well as other options available to them.”
“The patient encounters were an eye-opening experience. So many people wouldn’t know where to begin if this project didn’t exist.”
“What surprised me the most was how much help the patients needed.” |
| Real-World Application of Class Material | “It was great taking what I learned in class and actually applying it to real-life situations.”
“It is one thing to learn this stuff in class but to see it in action with real people and real outcomes gives it a whole new perspective.”
“I was able to apply my knowledge from the classroom in a meaningful way to help a patient save $5000 on prescription medications.” |

**Aspirations for future participation.** Aspirations for future participation was defined as a student pharmacist stating interest in participating in the program in the future. Students repeatedly mentioned interest in participating in future enrollment events or implementing a similar activity in their future practice. Many students indicated that they enjoyed the interaction with patients, and this influenced their aspirations for future participation. This theme was mentioned most frequently, with coder A identifying 63 mentions and coder B identifying 64.
**Self-reported learning experience.** This theme was defined as a student pharmacist stating that participation in the program enhanced his or her learning. A majority of students who participated in the enrollment events mentioned that they felt they learned a lot as a result. Many specifically mentioned that participating increased their understanding of the complexities of Medicare Part D. Students also frequently stated that they gained knowledge participating that was above and beyond what they gained from course lectures. Self-reported learning experience was identified 53 times by coder A and 44 times by coder B.

**Ability to help patients.** This theme was defined as a student pharmacist stating that he or she was able to help patients. Through participation in the events, students realized the extent to which their knowledge helped patients evaluate and select Medicare Part D plans. Many mentioned that the events reminded them of the underlying reason that they are interested in becoming pharmacists: to help people. Additionally, students mentioned realization of the impact a pharmacist can have on an individual’s life just by taking the time to talk with them. Coder A identified 57 statements and coder B 51 statements for this theme.

**Rewarding experience.** *Rewarding experience* was defined as a student pharmacist stating that he or she enjoyed participating in the enrollment event and that the experience was a positive one. Many students noted how good it felt to help patients. Not only did the program help patients choose a Medicare Part D plan, it also resulted in students feeling good about what they were doing in the community. This theme was identified 49 and 42 times by coders A and B, respectively.

**Realization of community need.** *Realization of community need* was coded when a student pharmacist mentioned that many individuals were uneducated on their Part D plan options or that the community could benefit from enrollment events. Students were surprised to find out how little patients knew about the enrollment process. Additionally, student pharmacists questioned what these patients would do if not for the enrollment events. Students credited participation in the enrollment events to their realization of the community need for education on Medicare Part D. Coder A coded 41 instances of this theme, and coder B coded 37.

**Real-world application of class material.** This theme was defined as a student pharmacist mentioning his or her experience applying what was learned in the classroom during the enrollment events. Students felt participation in the program was a great way to
apply what they learned in the Pharmacy Practice course in a real-world setting. Students mentioned that no amount of change to the course assignments could fully prepare them for the complexities of real patients. Additionally, students felt volunteering was helpful to reinforce the basic principles of the enrollment process learned in class while also getting an in-depth experience that could be gained only through participation in the events. Coder A coded this theme 40 times and coder B 35 times.

Discussion

Students’ Knowledge

There was no significant difference in the number of correctly answered exam questions between students who volunteered and those who did not. One possible reason for this result is that in-class instruction may have provided the knowledge necessary to correctly use the Plan Finder Tool and accurately interpret the results. Although this may be true, additional knowledge beyond what was taught in class may have been gained by volunteering students that was not captured by the exam. For example, one student described in their reflection that they learned how to help a beneficiary apply for the Low-Income Subsidy but, because this was not taught in class, it would not have been fair to ask a question about this process on the exam. Additionally, valuable knowledge was gained as illustrated through students’ recognition that programs like this are needed in the community. Volunteers gained counseling experience that nonvolunteers did not, and analysis of the reflections suggests that their knowledge related to patient counseling on Medicare Part D may have also increased. Future studies will attempt to measure the knowledge gained as a result of participation in more innovative ways. One possibility is the use of a standardized patient or student role-play activity. This process would require that students assist patients through the Medicare Part D enrollment process. The interaction could be videorecorded and subsequently graded for completeness of information provided to the patient about their options, correct interpretation and explanation of the Plan Finder results, and comfort in counseling the patient. This type of evaluation would be more likely than simple multiple-choice questions to show knowledge gained as a result of volunteering in the enrollment events.
Student Attitudes After Volunteering

The themes identified in students’ reflections are consistent with the findings from previous service-learning projects. The themes “realization of community need” and “ability to help patients” indicate a greater awareness of societal problems, which has been cited as a benefit of service-learning (DeLuca et al., 2004; Markus et al., 1993). Another benefit often cited is that students learn to apply principles taught in the classroom to new situations. This was observed in our study, captured by the themes “real-world application of class material” and “self-reported learning experience” (DeLuca et al., 2004; Markus et al., 1993). Deluca et al. (2004) also found that feeling personal satisfaction was an important benefit of service-learning, which we coded as a rewarding experience.

The six themes identified in our study can be divided into two broad groups. Themes that have an internal focus can be classified as “benefits to self,” and those with an external focus can be classified as “benefits to others/the community.” Three of the six themes (“self-reported learning experience,” “rewarding experience,” and “real-world application of class material”) clearly focus on the internal benefits that student pharmacists themselves received from their volunteer efforts. The theme “aspirations for future participation,” which suggests that students found enough utility in their experience volunteering that they aspire to do it again in the future, can also be placed in the “benefits to self” group. The remaining two themes (“realization of community need” and “ability to help patients”) focus on the usefulness of the program to the beneficiaries and communities served and therefore belong to the “benefits to others/the community” group.

A potential limitation of the thematic analysis performed is that both the “aspirations for future participation” and the “self-reported learning experience” themes may have come about due to the wording of the paragraph used to prompt the reflection. However, students were aware that their reflections would be anonymous and would not impact their grade. Given this, students could have easily indicated the opposite (i.e., that they had no aspiration for future participation or that they did not learn anything), if this were the case.

The Importance of Collaboration

Consistent with the findings of Felten and Clayton (2011) regarding the importance of collaboration with external constituents, collaboration with Alabama SHIP was crucial to the suc-
cess of the program. The partnership began in the planning phase and brought about multiple benefits. First, because SHIP is a state agency and is known to provide unbiased information to the target clients, the partnership legitimized the program and increased the program’s credibility. Second, the collaboration introduced students to the real-world problems of seniors in the community. Assisting real Medicare beneficiaries in the program provided a memorable experience, which is evident from students’ reflections. We found that students had meaningful learning experiences and a sense of civic engagement. We feel our results are generalizable to schools of pharmacy that want to implement a similar program. In fact, the Medicare Outreach Program was highlighted in the SHIP national newsletters as a success, and these newsletters urged other state SHIP programs to reach out to schools in various health disciplines to create similar partnerships.

What’s Next?

Several lessons were learned from the first year of the program and can be classified into event logistics, students’ preparation, and student assessment. For one, the distance that students must travel to an event has an impact on their willingness to volunteer. This led to an overabundance of student volunteers for events close to the school but too few volunteers for the more distant events. In the future, events will be held no more than 50 miles from the School of Pharmacy. Also, the number of student volunteers per event will be limited to four per 2-hour block to ensure that all students get to interact with beneficiaries. Regarding students’ preparation, we recognized that students had limited knowledge of the Low-Income Subsidy programs. Therefore, a 1-hour lecture was added to the Pharmacy Practice course to introduce students to these programs. We also noticed that some students were overwhelmed initially and became more comfortable the longer they volunteered. This was mainly due to the significant amount of paperwork in addition to assisting beneficiaries. To address this issue, we plan to revise and streamline the workflow that students will engage in at events, including the paperwork. We also plan to add an online video to the training module detailing the workflow and paperwork, which should give students more familiarity with the process prior to an event. Finally, in terms of student assessment, multiple-choice exams may not capture the benefits gained from volunteering. In the future, assessment of students’ confidence and skills will be added to determine outcomes of the program. Students’ confidence level can be captured through a validated questionnaire, and skills
can be captured through assessment using standardized patients or role-play activities.

**Program Sustainability**

The Office of the Vice President for University Outreach at Auburn University funded the first year of the program. Moving forward, a long-term plan for sustainability has been established. Both Alabama SHIP and the School of Pharmacy recognize the value of the program, and the program will therefore be continued with shared resources from both partners. During the second year of implementation, Alabama SHIP funded one graduate project assistant and travel costs, and the School of Pharmacy provided faculty to oversee the program and students to participate. Due to limited resources for students’ travel reimbursement and the complexity of students’ and SHIP coordinators’ schedules, it is not feasible at this time to provide volunteer opportunities for all students. Therefore, student participation will continue on a voluntary basis. Additionally, we have identified and secured a source of funding to support the program for the next 3 years. We will continue to measure both the short- and long-term outcomes of the program and communicate with all stakeholders, as this is a critical component of sustainability. Short-term (annual) outcomes include students’ confidence, skills, and experiences through participation; Medicare beneficiary satisfaction and cost savings; and number of beneficiaries assisted by student volunteers. Long-term outcomes include students’ continued service activities with SHIP, number of beneficiaries who are repeat clients and new clients, and expansion of the original program. SHIP and the School of Pharmacy are planning to expand the program into new regions by utilizing fourth-year students on clinical rotations as well as licensed pharmacists throughout the state of Alabama.

**Conclusion**

Healthcare educators have recently shown an increased interest in service-learning opportunities for their students. Our study illustrates the benefits of service-learning in pharmacy education. Although our analysis did not show a statistically significant difference in the knowledge gained by student pharmacists who volunteered in the Medicare Outreach Program compared to those who did not, volunteering students did report that their efforts were meaningful and worthwhile. Students’ reflections revealed that they gained a deeper understanding of beneficiaries’ needs as well
as the complexity of Medicare Part D plan selection and increased their ability to help patients with this process. Students also felt that volunteering was a rewarding and meaningful learning experience. In order to more accurately analyze knowledge and skills gained by volunteering students, future plans may utilize innovative methods to measure these constructs, such as videorecording and critiquing students as they assist a standardized patient with Part D plan selection. The Medicare Outreach Program has a viable plan for sustainability, with both SHIP and the School of Pharmacy committing resources for future implementation.

References


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