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INSTRUCTIONAL DESIGN AND ASSESSMENT

Impact of an Elective Course on Pharmacy Students' Attitudes, Beliefs, and Competency Regarding Medicare Part D

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Objective. To determine the impact of an elective course on pharmacy students' perceptions, knowledge, and confidence regarding Medicare Part D, medication therapy management (MTM), and immunizations.

Design. Thirty-three pharmacy students were enrolled in a Medicare Part D elective course that included both classroom instruction and experiential training.

Assessment. Students' self-reported confidence in and knowledge of Part D significantly improved upon course completion. End-of-course student perceptions about the relative importance of various aspects of MTM interventions and their confidence in performing MTM services significantly improved from those at the beginning of the course. Students' confidence in performing immunizations also increased significantly from the start of the course.

Conclusion. A classroom course covering Medicare Part D with an experiential requirement serving beneficiaries can improve students' attitudes and knowledge about Medicare Part D and their confidence in providing related services to beneficiaries in the community.

Keywords: Medicare Part D, medication therapy management, student attitudes, experiential learning

INTRODUCTION

The passage of the Medicare Modernization Act (MMA) in 2003, followed by the implementation of the Medicare Part D benefit in 2006, greatly increased prescription drug access for many of the nearly 47 million Medicare beneficiaries.^{1,2} However, with increased use of prescription medications comes the increased risk of medication-related issues. The MMA partly addressed this issue by requiring each Part D plan to provide medication-therapy management (MTM) services.

Since the inception of the benefit and despite concerted efforts by the Centers for Medicare & Medicaid Services, beneficiaries have demonstrated significant difficulty understanding the intricacies of Part D.³ Early on, healthcare providers complained that the program was too complex and difficult for the targeted population to understand, and this was confirmed by research.^{4,5} Beneficiaries complained of having too many Part D plans from which to choose and expressed fear that if they changed plans, they might not make the optimal choice.⁶ This fear caused many to simply "make do" with their current plan.⁷

Studies focusing on the experiences of beneficiaries dealing with the Part D benefit have shown that although most were satisfied, many were unwilling to change plans for fear of undertaking the complex procedure.⁸ In a 2008 national telephone survey, 574 (80%) of the 718 respondents age 65 years and older found Part D to be too complicated, and 539 (75%) wanted a reduction or simplification in the number of Part D plans offered.⁹

Not only have beneficiaries reported being overwhelmed,¹⁰ but counselors assisting beneficiaries with plan enrollment have also remarked on the difficulties.¹¹ Many Medicare beneficiaries have limited financial resources and are not confident in making decisions on matters with which they are unfamiliar.¹⁰ Beneficiaries' lack of knowledge and understanding of Part D may contribute to selection of suboptimal plans and result in higher out-of-pocket costs.^{12,13}

Medicare's online Plan Finder Tool may optimize beneficiaries prescription drug benefit by generating the estimated annual cost based on beneficiary-specific information. However, only 26% of people over 65 years of age use the Internet.¹⁴ Moreover, the Plan Finder Tool has proven difficult to navigate, even for the most Internet-savvy seniors.¹⁵ Accordingly, such an elaborate process calls for beneficiary advocacy, which presents a unique opportunity for pharmacists and pharmacy students.

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As challenging as navigating the Part D benefit may be for beneficiaries, pharmacists have also found it difficult. In 1 study, 17 faculty members from 6 different colleges and schools of pharmacy received training on the Part D benefit. Their Part D knowledge and confidence in using the Plan Finder Tool were evaluated before and after the training program. Prior to receiving training, only 47% of faculty members were able to correctly use the Plan Finder Tool to compare prescription drug plans. This percentage increased to 100% post-training.¹⁶

The Accreditation Council for Pharmacy Education (ACPE) guidelines reflect the increasing importance of training pharmacy students to provide patient-centered care. For example, a specific objective of the ACPE guidelines is for students to work interprofessionally to promote health and wellness in communities. Medicare Part D has created unique opportunities in pharmacy education, such as MTM training, that will require students to master these professional competencies.

A study at University of California, San Francisco, found that training resulted in a significant improvement in second-year pharmacy students' ability to correctly determine the name and associated cost of the least expensive Part D plans (47% vs 74% before and after training, respectively).¹⁸ Another study found that pharmacy students who learned about Part D in the classroom setting better understood the complexities of the benefit and empathized with beneficiaries regarding the challenges it poses.¹⁹ In addition to assisting beneficiaries with the Part D benefit, pharmacists are ideally positioned to provide invaluable services in the area of MTM and vaccinations, including improved economic and health outcomes for patients through pharmacist-led MTM efforts.²⁰

In an elective course on MTM created and implemented at South Carolina College of Pharmacy, students received both classroom and experiential education on the provision of MTM services. A pre- and post-test were administered at the end of the classroom education and again after the experiential component, but no significant difference were found in students' responses in regard to meeting course objectives.²¹ Although patient cases, group discussions, and actual direct patient interaction have been shown to improve pharmacy students' preparedness and confidence to provide real-world services, such as MTM and vaccinations,^{21,22} there is room for improvement. Urmie and colleagues found that pharmacy students need to be better prepared to initiate MTM services.²³ While the importance of classroom and experiential learning has been illustrated, combining these teaching modalities has not been explored and assessed.^{18,24}

Prior to implementation of the elective Medicare Part D course, other courses had provided only basic patient screening and assessment, communication skills, and clinical skills

in the therapeutics modules; none provided thorough exposure to Medicare Part D. The fundamental skills taught in the elective Medicare Part D course facilitated students' ability to provide basic services and patient assessment and to assist patients with Part D plan selection.

The current study sought to assess pharmacy students' attitudes, beliefs, and competency with regard to the Medicare Part D elective course, to determine their self-confidence in delivering MTM services and vaccinations, and to evaluate how these various metrics changed as a result of classroom education and experiential training. Study hypotheses were that: (1) students' self-reported confidence will increase when providing Part D plan help, MTM, and immunizations; (2) students' perceptions of the relative importance of MTM services will change; (3) students' knowledge of Medicare Part D will improve; and (4) student's efficiency in using the Plan Finder Tool will improve.

DESIGN

Medicare Part D is a 2-credit hour elective course offered in the fall to second-year pharmacy students at the Thomas J. Long School of Pharmacy and Health Sciences. Placement of this course within the curriculum was based on a need for the experiential component to coincide with the Medicare Part D open-enrollment period (November 15 – December 31, 2010). It was offered only to second-year students to ensure that they had obtained the required prerequisites including Practicum 1, which encompasses the immunization-certificate program. Thirty-three students enrolled in the course, which included classroom and experiential components (3 hours per week in the classroom for 10 weeks, followed by a 2-week period of scheduled community-outreach events). The experiential component occurred toward the end of the semester, strategically timed to take place during the Medicare Part D open-enrollment 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 economic implications of Part D on Medicare beneficiaries. Three hours of class time covered MTM, explaining the purpose and basic skills on how to perform it. Practice cases were completed by the students throughout the course to prepare them to perform MTM at the outreach events. The objectives developed for this course can be found in Table 1. The class met once a week for 3 hours, with the first 2 hours allocated to traditional lecture and the last hour to active learning and committee work. The classroom pedagogy served as a learning platform to set the foundation of these concepts prior to the experiential-learning component. A traditional lecture format was

Table 1. Objectives of a Classroom and Experiential-Learning Elective Course on Medicare Part D

Explain the historical context of Medicare Part D and differentiate between other parts of Medicare.
Describe the standard Part D benefit and applicable terminology.
Examine available Part D drug plan options for an individual beneficiary based on patient-specific factors.
Select the most appropriate Part D drug plan for a given patient case using the PFT.
Predict common problems and misconceptions a Medicare patient may face through the use of patient-based cases/scenarios.
Create Medicare Part D educational material through a variety of formats and media.
Structure and arrange the implementation of a community healthcare outreach project.
Recommend and explain using clinical knowledge, principles of health literacy and effective patient communication to patients their Part D plan options and MTM intervention recommendations
Appraise the impact that the service outreach had on your own learning as well as those you served (eg, How were your skills improved? Your ability to relate to others, etc.)

Abbreviations: PFT = plan finder tool; MTM = medication-therapy management.

combined with active-learning assignments to ensure that students understood how to apply their knowledge. Mock cases were developed for students to practice using the Plan Finder Tool and performing MTM. Appendix 1 illustrates a sample case along with problems students were asked to work through. Problem-based learning activities presented students with opportunities to prepare for and address frequently asked questions that could be expected from patients. As a prerequisite of the course, students completed the American Pharmacist Association immunization certificate program in their first semester of pharmacy school. This course provided students a 2-hour review as well as the opportunity to practice administration techniques for immunizations such as influenza, pneumococcal, and zoster that were being provided during outreach.

Additionally, a portion of class time was designated for committee work, during which students participated in 1 of 6 student-run committees overseen by faculty members. Committees were responsible for the organization, marketing, and implementation of the outreach events. The instructor felt it was beneficial for students to have first-hand experience in the development of these events with the expectation that they would gain confidence and competence in implementing their own outreach events after graduation.

A shift from a pedagogical to an andragogical model occurred as students entered the experiential component of the course. The objective of this shift was to provide students first-hand experience assisting patients to foster their ability to identify with and value the commitment of pharmacists to improve the health and well-being of patients. Nine community-outreach events were held throughout the Northern California region. In addition to providing assistance in choosing the most appropriate Part D drug plan, students also performed comprehensive MTM, and, when appropriate, administered influenza vaccines. Each student was required to complete a minimum of 15 hours of community outreach.

Approximately 25 hours of class time were spent teaching students about Medicare Part D and the use of the Plan Finder Tool. The remaining 5 hours of lecture time were focused on MTM and a refresher on vaccination-related topics. One faculty member delivered the course material in class; 4 additional faculty members provided oversight of the weekly committee work at the end of class and served as preceptors during outreach events.

Nine outreach events were held in 5 different cities across Central/Northern California. At each event, students worked in pairs in which 1 student provided the Part D plan assistance while the other performed the MTM intervention. Either student could administer the influenza vaccine. All student activities were performed under the supervision of licensed pharmacists. In addition to the faculty members helping with the class, community pharmacists volunteered to precept students. The University of the Pacific Institutional Review Board approved the study.

EVALUATION AND ASSESSMENT

Using a pre- and post-test design, a survey instrument was administered on the first and last day of class and at the completion of outreach events. The survey instrument was developed to evaluate students' (1) attitudes, beliefs, and knowledge related to Medicare Part D, (2) confidence and skill in performing MTM and administering the influenza vaccine, and (3) proficiency using the Plan Finder Tool. Appendix 2 provides an example of the case study used to assess students' proficiency with the Plan Finder Tool.

The survey instrument was completed by the 33 students enrolled in the course. The first section had 13 demographic questions (Table 1). In the next section, students rated their level of confidence in assisting patients with their Part D plan, performing MTM, and providing immunizations, using a 5-point Likert scale (1 = strongly agree to 5 = strongly disagree), (Table 2). The following section presented students with a list of 10 services that might be provided as part of a typical MTM session (Table 3). Students

Table 2. Demographics of Pharmacy Students in an Elective Course on Medicare Part D (N = 33)

Variable	Response
Pre-pharmacy school student experience in pharmacy, No. (%)	
Paid clerk	8 (24)
Paid technician	10 (30)
Volunteer	10 (30)
No experience	10 (30)
Current paid intern experience in pharmacy, No. (%)	17 (52)
Retail/independent	17 (52)
Hospital	2 (6)
No experience	13 (39)
Hours per week student experience in pharmacy	
Mean (SD)	4 (4.6)
Hours per week, No. (%)	
0	14 (42)
1 – 9	16 (49)
≥ 10	3 (9)
Previous experience of students with:	
Medicare Part D, No. (%)	
Media	14 (42)
No experience	10 (30)
Lecture outside coursework	8 (24)
Work experience	4 (12)
Personal experience	4 (12)
Other	4 (12)
Translate during event	2 (6)
Formal classroom instruction	1 (3)
MTM, No. (%)	
No experience	29 (88)
Immunizations, No. (%)	
No experience	21 (64)

Abbreviations: MTM = medication-therapy management.

were asked to indicate their perception of the importance of each of these services using a 100-point summative scale on which students distributed a greater number of points to services they felt were most important. Students were then given 16 knowledge-based questions about various aspects of the Part D benefit (Table 4) and a timed skills-based case study about which they had to answer a series of questions using the Plan Finder Tool (Appendix 2).

Descriptive statistics were used to summarize student demographic characteristics. The Friedman test was used to determine if there was a difference in students' self-reported confidence among the 3 measured time points. Because the Shapiro-Wilk test revealed that the MTM summative scale data were not normally distributed, the Friedman test was used to measure time-point

Table 3. Pharmacy Students' Self-Reported Confidence in Providing Services to Beneficiaries During an Elective Course on Medicare Part D^a

	Part D Assistance	MTM Services	Immunizations
First Lecture	4.4 ^b	4.3 ^b	2.4 ^c
Last Lecture	1.4	1.9	1.7
After Outreach	1.2	1.9	2.0

Abbreviation: MTM = medication therapy management

^a Based on Likert scale on which 1 = strongly agree and 5 = strongly disagree.

^b $p < 0.001$ compared with other time points.

^c $p = 0.016$ compared with other time points

differences. Students' knowledge about Part D, as measured by the number of questions answered correctly, was also non-normally distributed, requiring use of the Friedman test. In all 3 cases in which a Friedman test was used, significant differences were followed up with a post-hoc analysis with the Wilcoxon Signed-Rank test with a Bonferroni correction. Finally, the mean time to complete the Plan Finder Tool exercise was compared among the 3 time points using repeated measures analysis of variance. Significant results were further analyzed using the Bonferroni post-hoc test. All significance calculations were based on a 95% confidence interval at $\alpha = 0.05$. Data analyses were performed using SPSS, version 18.0 (Chicago, IL).

Table 2 describes the demographic characteristics of the 33 pharmacy students who were enrolled in the class and completed the study. Students were predominantly female and of Asian background with an average age of 25 years. Most of the students worked in a pharmacy setting an average of 4 hours per week, and almost all had completed 80 hours of community introductory pharmacy practice experience (IPPE). Ten students had no previous experience with Medicare Part D, and the majority of students had no previous experience with either performing MTM or administering vaccines.

Table 3 reveals how students' self-reported confidence in providing assistance with Part D plan, MTM, and immunizations changed over the 3 evaluated time points. Lower scores indicated that students strongly agreed with the statement that they were confident in providing each service. Significant results were found for students' confidence with Part D plan assistance, providing MTM services, and performing immunizations. A significant improvement in confidence was found between the first and last day of class and between the first day of class and completion of outreach for both Part D plan assistance and MTM. Students were significantly more confident in providing immunizations after the last class compared with after the first class. Pharmacy students were able to assist

Table 4. Pharmacy Students' Perceptions of the Relative Importance of MTM Services^a

Question	First Lecture	Last Lecture	After Outreach
1. Identifying interactions (eg, drug-drug)	11.9 ^b	12.4 ^{b,c,d}	11.5 ^b
2. Identifying drugs that are contraindicated for use	11.7 ^{ba}	11.8 ^{b,c}	11.2 ^b
3. Identifying adverse drug reactions	10.9 ^b	11.6 ^{b,c}	10.6 ^b
4. Explaining how to take each medication	12.4 ^{b,c,d}	10.0 ^c	10.6 ^b
5. Identifying ways to get a medication at a lower cost	9.4	9.6	10.5 ^b
6. Identifying a therapeutic duplication	9.3 ^{ba}	10.2	10.3 ^b
7. Assessing a patient's medication compliance	10.3 ^b	9.7	10.1 ^b
8. Explaining the purpose of each medication	9.3 ^b	8.5	9.3 ^b
9. Explaining what to expect when taking a drug	8.7	8.2	8.8
10. Identifying expired medications	5.8	7.9	7.1

Abbreviation: MTM = medication-therapy management.

^a 100 points distributed among 10 different services based on perceived relative importance.

^b $p < 0.001$ compared with question 10.

^c $p < 0.001$ compared with question 9.

^d $p < 0.001$ compared with question 8.

401 Medicare beneficiaries during the 9 events. On average, each student assisted 12 beneficiaries with their Part D plan and performed 11 MTM interventions during scheduled outreach events. The maximum number of influenza vaccines administered by any one student was 3 (data not shown).

Table 4 lists the 10 services that may be provided as part of an MTM session. They are ranked in order of their importance, as perceived by pharmacy students after completion of outreach activities. There was a significant change in the perceived importance of MTM services between the first day of class and the last day of class

and between the first day of class and completion of the outreach activities. On average, students thought that identifying interactions and identifying drugs contraindicated for use were the most important components of the MTM intervention and that identifying expired medications was the least important aspect.

Table 5 lists the 16 content areas in which students' knowledge about Medicare Part D was assessed. A significant increase in the knowledge test score was found between the first and last day of class and the first day of class and following completion of the outreach activities. The mean time to complete a simulated Plan Finder Tool

Table 5. Pharmacy Students' Knowledge About Medicare Part D

Knowledge Survey Item	First Class, Correct, No. (%)	Last Class, Correct, No. (%)	After Outreach, Correct, No. (%)
Vaccines coverage	2 (6)	31 (91)	26 (79)
Medicare covered services	6 (18)	26 (76)	24 (73)
Eligibility requirements	2 (6)	26 (76)	27 (82)
Qualifications for the low-income subsidy	4 (12)	30 (88)	29 (88)
Medicare.gov Web site	0	29 (85)	30 (91)
Medigap policies	1 (3)	27 (79)	26 (79)
Medicare insurance card	1 (3)	11 (32)	25 (76)
Coverage when moving residential locations	0	27 (79)	25 (76)
Medication classes are covered under Part D	1 (3)	22 (65)	21 (64)
Dual-eligible patients and switching Part D plans	1 (3)	30 (88)	30 (91)
Medicare Advantage plans	0	13 (38)	14 (42)
Part D enrollment process	0	31 (91)	30 (91)
Late-enrollment penalty	4 (12)	30 (88)	30 (91)
Loss of creditable drug coverage	1 (3)	32 (94)	32 (97)
Examples of "enhanced Part D services"	0	13 (38)	13 (39)
Part D formularies	4 (12)	28 (82)	31 (94)
Number of questions answered correctly, mean (SD)	0.82 (0.95)	12.3 (2.0) ^a	12.9 (1.8) ^a
Minutes to complete examination, mean (SD)	14.6 (2.5)	7.8 (1.7) ^a	8.64 (1.7) ^a

^a $p < 0.001$ compared with first class.

exercise was evaluated at 3 different time points. On the first day of class, students spent an average of 14.6 minutes, compared with 7.8 and 8.6 minutes on the last day of class and after outreach, respectively. The mean time decreased significantly between the first and last day of class and between the first day of class and following completion of outreach events.

Qualitative data were collected through student reflections completed at the end of the course. Overall, students reported overwhelmingly positive reactions, including that they found the course to be challenging but rewarding, eye-opening, and inspiring. The applicability of the knowledge learned in the classroom to the provision of patient care was by far the most frequently reported strength of the course. All students felt that the classroom component was successful in preparing them for outreach. While assisting patients, students described being apprehensive and uncomfortable at first but, by the end, feeling competent, confident, and fulfilled. Furthermore, students repeatedly stated that by being well prepared and knowing the answers to patients' frequently asked questions, their self-confidence soared, greatly enriching their ability to build trusting patient relationships. The majority of students noted that they would not cease to provide Part D assistance to patients just because the course had concluded. They indicated that it was a service they felt passionate about continuing after graduation.

DISCUSSION

The present study established that students' knowledge and attitudes were positively affected by completing a Medicare Part D elective course that included both classroom and experiential components. Students' confidence in performing and their perception of the importance of MTM services also changed significantly.

Self-reported confidence, which was lowest on the first day of class, significantly improved as a result of participating in the course and performing Part D and MTM interventions. Students' confidence in administering vaccines changed nominally over the evaluated time points. This finding may be related to the limited opportunity most students had to provide vaccines during outreach events. Concerted efforts should be made to ensure that all students have a greater opportunity to administer vaccines during outreach events. The change in the Medicare annual open-enrollment period for 2011 (October 15-December 7, 2011), coupled with the fact that this time period better coincides with the release of the influenza vaccine, is expected to result in more beneficiaries wanting to take advantage of vaccination services available at future planned outreach events.

An analysis of students' perceptions of the relative importance of various MTM services is presented in

Table 4, with services listed in descending order of perceived importance. On the first day of class, there were only a few services that students thought were significantly more important. This outcome could be expected, given that few students had any MTM experience prior to entering the class and, therefore, may have found it difficult to determine the relative importance of different components. Following completion of the outreach activity, students' perceptions that items 1-3 (identifying interactions, contraindications, and adverse effects) were the most important may be based on the frequency with which students commonly provided these services during encounters with beneficiaries. Items 1-3 can all be accomplished with the use of a tertiary database, whereas items 8 and 9 require a great deal of patient education. Because students may not have felt as comfortable or confident in providing patient education, they may have perceived items 1-3, which could easily be researched with greater self-confidence, to have been more significant. This finding may lead to more mock-patient consultations performing MTM with emphasis on patient education in the future.

A primary study hypothesis was that knowledge of Medicare Part D would significantly improve following course completion. As expected, data revealed that students' knowledge of Part D was significantly higher on the last day of lecture and following outreach events compared with that on the first day of class. However, no significant difference was found when comparing students' knowledge scores on the last day of class with those following outreach events. Knowledge about Medicare insurance cards was the only content area that seemed to greatly improve from the last day of class to post-outreach. This outcome could be expected because of the students' hands-on experience extracting relevant information from the cards during outreach.

Another interesting finding was that student knowledge of both Medicare Advantage plans and enhanced Part D services remained relatively low, even after outreach. This finding may be attributable to the nature of these plans and the complexity involved in beneficiaries making modifications to their current plan. Students were instructed not to make changes for patients with either of these plans because of the logistical obstacles involved, as well as the potential for beneficiaries to lose coverage when making such changes. We suspect that the lack of significant difference in scores on the last day of class compared with after outreach may be attributable to the types of knowledge questions students were asked. The majority of questions lay in the knowledge and comprehension cognitive domains of Bloom's taxonomy; therefore, students' experience and knowledge obtained during outreach may not have been adequately captured. To address this potential

limitation and better assess the impact of the experiential component, knowledge-assessment questions that focus on application, analysis, synthesis, and evaluation of cognitive domains should be developed and implemented.

Study findings revealed that students' efficiency and performance using the Plan Finder Tool significantly improved between the first day of class and both the last day of lecture and following community outreach events. The time needed to complete a simulated case during the last formal lecture and after completion of outreach activities decreased by over 40% compared with the time needed to complete the same case on the first day of class. No significant difference was found between the last day of class and after outreach events with respect to time needed to complete a simulated case. Students actually took slightly longer using the Plan Finder Tool after outreach compared with on/after the last day of class. Based on student reflections, a possible explanation for this occurrence is that students became increasingly aware, diligent, and critical in evaluating the cases following the community outreach experience.

The curricular expansion to include a Medicare Part D elective course proved beneficial to students and patients. The largest barrier we foresee to full implementation across all curricula is the amount of manpower and resources needed to execute the outreach events. While significant planning is completed by the students, finding pharmacists to volunteer as preceptors seems to be the primary obstacle. However, after 4 years of offering this course, we are finding that the majority of preceptors volunteering are recent graduates who previously participated in the course. As we continue to offer the course and graduate competent students in the areas of Part D and MTM, we will have a growing pool of pharmacists from which to recruit volunteers, making it easier to fill slots and further expand our efforts.

Despite the concerted efforts of faculty members involved, as with any course, we identified several ways in which course delivery and student assessment could be improved. While students' perceived self-confidence is a valuable measure, a more accurate assessment of student confidence and performance could be obtained by soliciting beneficiary or preceptor feedback following completion of the intervention. There may be a big difference between students' self-perception of their performance and an evaluation of their performance by an objective observer. Therefore, not having such an assessment could be considered a limitation of the study. In the future, observer feedback on students' ability to appropriately engage with patients will be incorporated into the assessment.

The knowledge-assessment portion of this study was primarily a measure of students' familiarity with

Medicare Part D. The addition of knowledge-based questions on MTM, vaccines, and general questions about the healthcare needs of seniors would be beneficial to the assessment of students' knowledge in each of these focus areas. Higher-order knowledge questions (based on Bloom's Taxonomy) using more synthesis and evaluation questions may provide a better assessment of the knowledge and competence gained during outreach. Moreover, this study focused on short-term retention of material. Further evaluation of long-term knowledge retention would be valuable in ensuring continued competency in providing services.

As the healthcare system prepares for continued growth in the population of Medicare beneficiaries, it will be crucial to expand existing services for seniors and create new and innovative avenues of care. New pharmacy graduates who are educated and trained to provide a comprehensive set of valuable beneficiary services have the potential to improve patients' quality of life, lower healthcare costs, and improve clinical outcomes. Ultimately, training students to provide these patient-centered pharmacist services will also promote the value and recognition of the profession while empowering the next generation of pharmacists.

Recognition of the growing importance of these services raises the issue of whether the Medicare Part D elective course should be a curriculum requirement. While we would like to provide these experiences to all students, given the limited resources, we prefer quality over quantity in regard to this specialized training. As we expand our efforts, our ultimate goal will certainly be to graduate all of our students with the confidence, ability, and passion to provide these services.

CONCLUSION

Pharmacy students who completed an elective course in which they received structured and comprehensive classroom and experiential education on Medicare Part D were able to apply their acquired knowledge to assist beneficiaries. As a result, students' confidence in and competency with Medicare Part D improved significantly over the duration of the course. Students' attitudes about and self-confidence in providing MTM services also increased significantly from the start of the course.

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Appendix 1. Sample In-Class Patient Case in an Elective Course on Medicare Part D

KB is a 73-year-old female California resident who comes to one of our outreach events and is eager to find a Part D plan that lowers her out-of-pocket costs. She complains that her current plan (name of which she cannot recall) costs too much and that she would have switched plans last year but did not know how.

- After taking some time out to talk with KB, you realize that she has suffered a stroke and is diagnosed with hypertension, hyperlipidemia, and gastroesophageal reflux disease (GERD).
- KB is taking the following medications:
 - Crestor 10 mg once daily for hyperlipidemia
 - Hydrochlorothiazide 25 mg once daily for hypertension
 - Amlodipine 10 mg once daily for hypertension
 - Plavix 75 mg once daily for stroke prophylaxis
 - Pantoprazole 40 mg once daily for GERD
- Unfortunately, KB does not have her Medicare card with her during your encounter. KB’s sole concern is to find the least expensive prescription drug plan (PDP) based on her current drug regimen. In fact, she tells you that she is willing to “drive to Pluto” to get her medications if that would save her money. She does not qualify for “extra help.”

Directions:

1. Using the Medicare Plan Finder tool, determine the least expensive PDP in 2011 based on KB's current drug regimen. List the full name and estimated annual cost of such plan.
2. What is the difference in estimated annual cost of the cheapest and most expensive PDP in 2011 based on KB's current regimen?
3. Using the least-expensive plan, will KB hit the coverage gap in 2011? If so, during which month?
4. Using the least-expensive plan, will KB hit catastrophic coverage in 2011? If so, during which month?

Appendix 2. Case Study Assessing Student Proficiency in Using the Medicare Plan Finder Tool in an Elective Course on Medicare Part D

CASE STUDY

VL is a 68-year-old male Medicare beneficiary living in Magalia, California (zip code 95954). VL approaches you during an outreach event and is accompanied by his 66-year old wife, CL, who informs you that her husband is in very poor health and is taking "quite a few medications." She opens a bag and hands you the following medications, all of which are taken by her husband:

- Avapro 75mg #30 per month
- Carvedilol 6.25mg #60 per month
- Digoxin 0.125mg #30 per month
- Furosemide 80mg #60 per month
- Hydrocodone/acetaminophen 5/500mg #120 q 3 months
- Isosorbide Mononitrate ER 30mg #30 per month
- Lipitor 20mg #30 per month
- Lyrica 75mg #60 per month
- Potassium Chloride CR 20meq #90 per month

When answering the questions below, evaluate only prescription drug plans (PDPs), not Medicare Health Plans (also referred to as MA-PDs). Complete the case study by going to the Medicare Plan Finder tool on the Medicare Web site at www.medicare.gov. Note: VL has no pharmacy preference.

Please record the Drug List Id # and Password Date.

Drug List ID #: _____

Password Date: _____

1. Using the Medicare Plan Finder tool, determine the least expensive (lowest estimated annual cost) PDP based on VL's current regimen. Record the PDP plan name and ID #.

2. What is the Estimated Annual Drug Cost under the plan that you identified in question #47?

3. Under the plan identified in question #47, how many (and which) of VL's medications have quantity limits?

4. Using the plan identified in question #47, will VL hit the coverage gap in 2010?
Yes No
IF YES, how much will he pay for his Lipitor when he is in the coverage gap?

Please record the time now: _____