# RESEARCH ARTICLE

# Problem-based Learning Using the Online Medicare Part D Plan Finder Tool

Timothy W. Cutler, PharmD, Marilyn R. Stebbins, PharmD, Eric Lai, MPH, Amanda R. Smith, MPH, and Helene Levens Lipton, PhD

School of Pharmacy, University of California – San Francisco

Submitted October 24, 2007; accepted December 21, 2007; published June 15, 2008.

**Objectives.** To implement didactic and problem-based learning curricular innovations aimed at increasing students' knowledge of Medicare Part D, improving their ability to apply the online Medicare Prescription Drug Plan Finder tool to a patient case, and improving their attitudes toward patient advocacy for Medicare beneficiaries.

**Methods.** A survey instrument and a case-based online Medicare Prescription Drug Plan Finder tool exercise were administered to a single group (n = 120) of second-year pharmacy graduate students prior to and following completion of a course on health policy. Three domains (knowledge, skill mastery and attitudes) were measured before and after two 90-minute lectures on Medicare Part D.

**Results.** The online Medicare Prescription Drug Plan Finder exercise and Medicare Part D didactic lectures had positive effects on students' knowledge of Part D, attitudes toward patient advocacy, and ability to accurately use the Medicare Prescription Drug Plan Finder tool.

**Conclusions.** The success of these didactic and problem-based curricular innovations in improving pharmacy students' knowledge, skills, and attitudes regarding Part D warrants further evaluation to determine their portability to clinical settings and other pharmacy schools.

Keywords: Medicare Part D, Medicare Prescription Drug Plan Finder, online learning, patient advocacy

#### INTRODUCTION

In 2003, the Medicare Prescription Drug Improvement and Modernization Act (abbreviated Medicare Modernization Act or MMA) introduced the first outpatient prescription drug benefit ever offered for its approximately 42 million beneficiaries. 1 Its implementation in 2006 as "Medicare Part D" marked the largest expansion of the Medicare program since its inception. This new benefit heralded new opportunities and challenges for patients and pharmacists by vastly increasing access to needed prescription medicines. Medicare beneficiaries struggle to navigate the complexities of the new benefit despite educational information provided by the Centers for Medicare and Medicaid Services (CMS).<sup>2</sup> Because of their awareness of pharmacy benefit design, understanding of medication therapy management services (MTMS), and accessibility and availability to the public in the community setting, pharmacists are in a unique position to act as patient advocates. As a patient advocate, the pharmacist and pharmacy student may demystify the program, ensure therapeutic outcomes are optimized, reduce the risk of adverse events, and enroll beneficiaries in the lowest cost plan based on their current drug regimen and financial circumstances.

The range of available Medicare Part D plans means that beneficiaries are confronted with a potentially bewildering array of options that they are ill-prepared to evaluate. Sixty-three percent of Medicare beneficiaries found it difficult to select a Part D plan in 2006. Most beneficiaries who picked a plan did so without comparing plans; further, nearly half of beneficiaries received help in choosing a Part D plan.2 Those who did compare plans had to select from among 50 or more Part D plans, depending on their state of residence.<sup>3,4</sup> Fifty-nine percent of clinicians report they rarely or never check Part D formulary coverage before prescribing medications, suggesting that the consequences of inappropriate plan selection go beyond financial concerns and may impact the care provided to Part D beneficiaries.<sup>5</sup> Patient adherence to therapy declines when patients have to pay all or part of a drug's cost.<sup>6,7</sup> With 10% of seniors still lacking drug coverage in 2006, and an additional 8% of seniors enrolled in plans that may or may not be "creditable" (meaning as good or better than a Part D plan), there is much to be done to ensure that all seniors have access to

Corresponding Author: Timothy W. Cutler, PharmD, University of California, San Francisco, C-152 Box 0622, 521 Parnassus Avenue, San Francisco, CA 94143-0622. Fax: 916-734-5668. E-mail: timothy.cutler@ucdmc.ucdavis.edu

prescription drug coverage. As patient needs — and Part D plans — may change annually, it becomes even more important for Medicare beneficiaries to evaluate individualized plan options with a skilled and unbiased advocate.

The Medicare Prescription Drug Plan Finder (Medicare Plan Finder) is a Web-based resource available to Medicare beneficiaries to evaluate their Part D options.<sup>9</sup> Users enter basic demographic information and then enter specific medications, dosage, and amount dispensed per time interval. Once all of the required information is entered, available Part D plan options are presented to, and can be evaluated by, the user. When this type of general search of Part D plans is performed, the Part D plan options are listed in order from the least to most expensive plan based on total annual cost (including patient copayments, deductible, monthly premium, and amount paid in the coverage gap, if applicable). If any inaccurate information is entered (eg, medication name, strength, dosage form, frequency of use), a different set of preferred plans may be presented to the user, underscoring the importance of accuracy and precision in the use of the Medicare Plan Finder and the need for a skilled and unbiased advocate.

Such a role for pharmacists and pharmacy students as patient advocates, particularly with respect to Medicare Part D, is consistent with recent guidelines from national pharmacy education associations. The American Association of Colleges of Pharmacy (AACP) specifically states that pharmacy curriculum/faculty members should educate students to serve society as caring, ethical professionals and enlightened citizens. Additionally, the most recent Accreditation Council for Pharmacy Education (ACPE) Accreditation Standards reflect the increasing value of training pharmacy students to provide patientcentered care during their professional graduate education. 10,11 Further, the new accreditation standards require a larger component of the curriculum to include introductory pharmacy practice experiences (IPPEs) in which students participate in experiential learning early in the curriculum. Recognizing the importance of these standards, the University of California, San Francisco (UCSF) School of Pharmacy has been supporting innovations in its curriculum to reflect the new health policy challenges with Part D. These innovations include providing didactic lectures, problem- and computer-based learning, and practical experience in patient advocacy, health literacy, and cultural competence.

Studies evaluating these teaching techniques have described the successful integration of problem-based learning and computer-based components into pharmacy curricula. For example, LeBlanc and Aiache used problem-based learning and computer-assisted simulation software in a pharmacokinetics course, where the

majority of the students (72%) expressed satisfaction with this approach and preferred it to traditional didactic lecturing. Additional innovations have used online tools to enhance didactic lectures. One study evaluated the use of interactive digital images of prescription labels (as an alternative to passing bottles around the large class) and showed this technique to be an effective and well-received way for first-year pharmacy students to gain exposure to product-labeling in pharmaceutics. <sup>16</sup> Both problem-based and computer-based learning have been viewed as effective ways of teaching pharmacy students about Medicare Part D. <sup>17</sup> However, no studies have systematically evaluated the change from baseline of pharmacy students' knowledge, skill mastery, and attitudes over the duration of a health policy course using these teaching techniques.

Given the impact of Medicare Part D on pharmacists and patients, research showing the effectiveness of various curricular innovations, and the lack of studies systematically evaluating baseline improvements in students' performance, we sought to develop teaching innovations that would: (1) improve student knowledge of the complexities of the Medicare Part D benefit; (2) increase their confidence in applying their knowledge of the new benefit to help patients navigate Medicare Part D obstacles; and (3) use problem- and computer-based learning to illustrate the health policy implications of Part D for individual patients. A natural site for introducing these curricular innovations was UCSF's Health Policy for Pharmacists course. The goal of this 3-unit course, required for all second year pharmacy (P2) students, is to provide an introduction to the organization, financing, and delivery of health care in the United States. Three faculty members (HLL, TC and MS) and 3 teaching assistants coordinated the course, with instruction offered by both the faculty coordinators and health policy experts from UCSF and throughout the San Francisco Bay Area. This research is part of a larger statewide project entitled Partners in D, designed to develop and assess innovations in the classroom, community, and pharmacy to help underserved Medicare beneficiaries gain access to the benefits of the Medicare prescription drug benefit in California.

The objective of this study was to implement and evaluate problem- and computer-based learning curricular innovations aimed at increasing students' knowledge of Medicare Part D, and assess students' ability and confidence in using the online Medicare Prescription Drug Plan Finder tool, and their confidence as advocates for Medicare beneficiaries after completing the course.

#### **METHODS**

A pretest-posttest design was used to evaluate changes in knowledge about Medicare Part D in the

Health Policy for Pharmacists course. Institutional Review Board approval was obtained to conduct the study from the UCSF Committee on Human Research. On the first day of the course, before any lectures on Medicare Part D, students were administered both a survey instrument (available upon request from the corresponding author) and a case-based exercise (Appendix 1) that instructed them to locate answers using the online Medicare Plan Finder tool. The preintervention and postintervention survey instruments were tested for face validity by a group of 25 pharmacy students who completed the survey instruments and made suggestions for improvement. Furthermore, the survey questions were developed by researchers with expertise in health policy, Medicare Part D, health literacy, and cultural competence. Survey content included general demographic questions (age, gender) and a question about prior Medicare Part D experience. There were 19 knowledge questions, with 10 questions testing specific knowledge about Medicare Part D, 5 questions assessing students' attitudes toward Part D and patient advocacy, 3 questions testing specific knowledge about the Medicare Plan Finder tool, and 1 attitudinal question measuring students' confidence in their ability to use the Medicare Plan Finder tool. Students answered the case study questions by accessing and using the Medicare Plan Finder via the Internet, much as they would when assisting actual patients. No additional credit or grade was given to students who completed the preintervention and postintervention survey instruments and case studies. Students were required to answer the survey questions and complete the case studies but informed that the results would not affect their final grade.

After completing the preintervention survey instrument and case-based exercise, students were given two 90-minute lectures on the Medicare Part D benefit (1 week separated the 2 lectures). The first didactic presentation focused on key concepts of the Medicare Part D benefit. Specifically, the Medicare Part D plan structure, low-income subsidy, dual eligible status, and Part D plan options, exclusions, and enrollment information were explained. The objectives of this lecture were to:

- Describe the key terms related to the Medicare Part D benefit, such as the coverage gap, penalty, low-income subsidies, open enrollment period, creditable coverage, and various types of prescription drug plans;
- Describe the basic Medicare Part D plan structure and the various options available to Medicareeligible patients;
- Describe the differences between the lowincome subsidy, dual eligibility, and standard Medicare drug benefit; and

 Help Medicare-eligible patients understand their new prescription coverage options under Medicare Part D.

The second 90-minute presentation was a didactic lecture and a problem-based learning exercise on the effective use of the Medicare Plan Finder, an online tool created by the CMS to provide information on Medicare prescription drug plans. <sup>18</sup> A general overview of the tool was presented with examples of errors and common problems encountered while using the Medicare Plan Finder tool. Case examples were used to illustrate areas that are often difficult for Medicare beneficiaries to navigate or understand. This lecture was performed using screen shots of the Medicare Plan Finder and the case studies were discussed using the actual online tool. The objectives of this lecture were to:

- Describe the strengths and weaknesses of the Medicare Plan Finder;
- Identify the information necessary to perform a successful Part D plan evaluation for a given patient case;
- Evaluate discrepancies between the Medicare Plan Finder and clinical practice;
- Describe the various Medicare Part D drug plans that might be an appropriate choice given a patient's current medications and prescription coverage; and
- Use the Medicare Plan Finder to identify an appropriate cost-effective Medicare drug plan for a patient when given a case.

For the purposes of the preintervention-postintervention Medicare Plan Finder exercise, students were evaluated on their ability to identify correctly the 3 least expensive plans and corresponding costs. If a student listed an incorrect plan and/or an incorrect cost, he or she received no credit for the question. This ensured skill mastery of the Medicare Plan Finder, as students would have to enter the demographic and medication information correctly to obtain any credit for their answer.

At the end of the course (at 10 weeks), after the students had completed all didactic components concerning the Part D benefit, including the lecture on the Medicare Plan Finder, students were given the survey again and another case-based Medicare Plan Finder exercise (Appendix 2). The 2 case studies differed in their specifics but were similar in format and difficulty.

Descriptive statistics were used to summarize student demographic information, and paired *t* test (for continuous variables), McNemar's test (for nominal variables), or Wilcoxon signed rank test (for ordinal variables) were used to compare responses before and after the Medicare Part D lectures. All significance calculations were

based on a 95% confidence interval at an alpha of <0.05. Data analyses were performed using SPSS, version 15.0 (Chicago, IL).

# **RESULTS**

Of the 120 students enrolled in the class, the mean age was  $26.0 \pm 5.5$  years and 83.3% were female. Six students did not have complete preintervention and post-intervention data (2 students did not complete the pretest and 4 students did not complete the posttest). The remaining 114 students who completed both the pretest and post-test (95% response rate) were included in the analyses. The demographics of the 6 students excluded from the analyses were not significantly different from those of the study group. Response rates for each of the 19 questions varied between 93% and 100%.

The results show significant improvements in students' knowledge about Medicare Part D. With the exception of the question about creditable coverage, which already had a very high baseline rate of correct responses (77.2%), significant improvement was seen on all general knowledge questions about Medicare Part D (Table 1), ranging from p = 0.011 to p < 0.0001. Further, after completing the course, students were more likely to believe that pharmacists have a responsibility to serve as patient advocates (p = 0.018); more willing to serve as patient advocates (p = 0.001); and expressed greater confidence in their advocacy skills (p < 0.0001; Table 2). Student perception that pharmacists are currently serving as patient advocates increased significantly (p < 0.0001), but their perception about advocacy's potential to interfere

with the professional objectivity of the pharmacist did not change.

All 3 Medicare Plan Finder knowledge questions (Table 3) showed significant improvements when compared to baseline (ranging from p=0.011 to <0.0001). The greatest improvement was for the question on Medicare Plan Finder use, where the average number of correct responses rose from 23.7% to 83.3%. Additionally, students' self-rated confidence in their Medicare Plan Finder skills increased significantly (p < 0.0001) with the overall number of students who agreed or strongly agreed with the statement "I am confident in my abilities to use the Plan Finder tool to assist Medicare beneficiaries to find the most appropriate drug plan choices," increasing from 20 students at baseline to 110 students at posttest.

For the case-based Medicare Plan Finder exercise, students showed significant improvements in their ability to determine the 3 least expensive plans and the annual cost of each plan (p < 0.0001). Additionally, there was significant improvement in their ability to determine the case's current prescription drug plan cost order rank (p < 0.0001) and the cost of that plan (p < 0.0001). While there was a trend toward improvement in the students' knowledge of whether the coverage gap would be reached (and in which month), these results were not significant. The average time to complete the case study in the posttest declined significantly (p < 0.0001) from the pretest, from a mean time of 19.91 minutes for the pretest to 12.35 minutes (a 38% reduction) for the posttest.

The sample size was not large enough to show level of confidence to be a significant predictor of skill mastery in the posttest. However, there was a trend for students with

Table 1. Second-year PharmD Students' Knowledge of Medicare Part D Before and After Completing Attending Two 90-Minute Lectures (n = 114)

Knowledge Survey Item	Pretest, % Correct	Posttest, % Correct	p <sup>a</sup>
Low-income subsidy (LIS) qualifications	74.6	96.5	< 0.0001
How LIS provides help with beneficiaries' prescription drug costs	50.9	88.6	< 0.0001
Creditable coverage for beneficiaries	77.2	81.6	0.383
Part D coverage gap evaluation	64.0	79.8	0.003
Part D penalty definition	58.8	80.7	< 0.0001
Ability to change Part D plans	82.5	93.9	0.011
Part D benefit for dual-eligible beneficiaries	41.2	71.4	< 0.0001
Medicare Modernization Act requirements for Part D plan providers	43.0	99.1	< 0.0001
Differences between prescription drug plan (PDP) and Medicare Advantage prescription drug plan (MA-PD)	29.8	71.9	< 0.0001

<sup>&</sup>lt;sup>a</sup>All p values calculated using McNemar's test

Table 2. Second-year Pharmacy Students' Attitudes and Confidence About Patient Advocacy (n = 114)

	• • • • • • • • • • • • • • • • • • • •		
Survey Item	Pre-Test Mean (SD) <sup>a</sup>	Post-Test Mean (SD) <sup>a</sup>	$p^{\mathrm{b}}$
Attitudes			
Pharmacists serve as patient advocates	3.8 (0.9)	4.5 (0.7)	< 0.0001
Pharmacist advocacy interferes with their objectivity	1.9 (0.9)	1.9 (1.0)	0.772
Pharmacists have a responsibility to serve as advocates	4.2 (0.9)	4.4 (0.8)	0.018
Student willingness to be patient advocates	4.5 (0.7)	4.7 (0.6)	0.001
Confidence			
Have skills necessary to serve as patient advocates	2.9 (1.3)	4.3 (0.6)	< 0.0001

<sup>&</sup>lt;sup>a</sup>Based on a 5-point Likert Scale (5 = strongly agree, 1 = strongly disagree)

higher confidence in their ability to use the Medicare Plan Finder to have greater success identifying the 3 least expensive plans and the annual cost of each plan. Those students who strongly agreed with the statement, "I am confident in my abilities to use the Plan Finder tool to assist Medicare beneficiaries to find the most appropriate drug plan choices" were correct 78.0% of the time, compared to 70.6% of those who just agreed with this statement. The 4 students who neither agreed nor disagreed with the statement were correct only 50% of the time.

We also stratified the data by whether students indicated they had prior experience with Medicare Part D (Table 4) and found no differences in the results between the 2 groups on any of the variables. This suggests that students' past experience with Medicare Part D did not

have an impact on their confidence about Medicare Part D, their ability to navigate the Medicare Plan Finder tool successfully, their answers to the knowledge questions, or their willingness to serve as patient advocates for the underserved.

#### **DISCUSSION**

Zagar explained the importance of teaching Medicare Part D using didactic, problem-based, and Medicare Plan Finder modules, finding that this approach resulted in quality student performance on exercises and high course evaluations related to Part D.<sup>17</sup> However, Zagar did not evaluate the students' knowledge, skill, or attitudes before teaching the modules, and no pretest-posttest analysis was performed. Our course used a didactic and

Table 3. Second-year Pharmacy Student's Medicare Plan Finder Tool Skill Mastery, Knowledge, and Confidence (n = 114)

	Pretest,	Posttest,	
Survey Item	% Correct	% Correct	$p^{\mathbf{a}}$
Skill Mastery			
List the 3 least expensive plans/costs	46.5%	73.7%	< 0.0001
Current plan rank	30.7%	69.3%	< 0.0001
Current plan cost	23.7%	68.4%	< 0.0001
Whether patient will experience the coverage gap	69.3%	70.2%	1.000
Month patient expected to hit the coverage gap	49.1%	59.6%	0.081
Knowledge			
Information needed to use the Medicare Plan Finder tool	55.3%	80.7%	< 0.0001
Using information on the Plan Finder tool to compare plans	23.7%	83.3%	0.011
Plan Finder tool features for helping beneficiaries choose a plan	43.0%	97.4%	< 0.0001
	Pretest,	Posttest,	
Survey Item	Mean (SD)	Mean (SD)	$p^{\mathrm{a}}$
Skill Mastery			
Plan Finder tool completion time (minutes)	19.91 (9.84)	12.35 (5.45)	< 0.0001
Confidence	` ,	` ,	
Have ability to use Plan Finder tool to help beneficiaries pick a Part D plan $(n = 36)^b$	3.39 (1.08)	4.48 (0.57)	< 0.0001

<sup>&</sup>lt;sup>a</sup>All but 2 p values were calculated using McNemar's test. Plan Finder tool completion time was calculated using a paired t test, and confidence in the Plan Finder tool was calculated using the Wilcoxon signed rank test

<sup>&</sup>lt;sup>b</sup>All p values calculated using Wilcoxon signed rank's test

<sup>&</sup>lt;sup>b</sup>Based on a 5-point Likert Scale (5 = strongly agree, 1 = strongly disagree)

Table 4. Second-year Pharmacy Students' Prior Experience With Medicare Part D (n = 114)

Item	
Any prior experience with Medicare Part D	63.2
Medicare Part D elective course	10.5
Health insurance elective course	21.9
APhA/ASP noontime lecture on Medicare Part D	9.6
Work experience with Medicare Part D	16.7
Participated in other Medicare Part D outreach	15.8
Other Medicare Part D experience	7.6

problem-based approach, drawing on clinician experience. Two of the lecturers (MS and TC) were clinicians who evaluate the appropriateness of Part D plans for Medicare beneficiaries in clinical settings. The problem-based exercises and cases were adapted from actual experiences in this clinical setting, which increased their relevance as a teaching tool.

At baseline, pharmacy students in the second year of their PharmD program were able to determine the plan name and cost of the 3 least expensive plans only 46.5% of the time. These highly educated, English-speaking students were assumed to have experience with computers and the Internet. These findings illustrate the difficulty that highly educated health professional students may have in successfully navigating Medicare Part D prescription drug plans. These difficulties are further pronounced among senior adults. Only 26% of adults over age 65 are Internet users, and even for elders proficient in Internet use, the Medicare Plan Finder is difficult to navigate as a source of health plan information. 19-20 Medicare Part D beneficiaries, particularly the underserved elderly, need skilled patient advocates who can assist them with the selection of the least expensive drug plan. Through didactic lectures and a problem-based approach, this training resulted in a significant increase in students' essential knowledge about Medicare Part D and their ability to use the Medicare Plan Finder tool accurately. Additionally, the increase in students' confidence and willingness to serve as advocates paves the way for pharmacy students to transition successfully from problem-based learning in the classroom to real-life outreach to patients in the community. Because knowledge of the Part D benefit and the low-income subsidy improved significantly after this teaching method was used, it is reasonable to assume that students learning through this method are better prepared to participate in community outreach and service-based learning. As schools develop more opportunities for introductory and advanced pharmacy practice experiences, advocacy for patients with Medicare Part D in the community may provide an appropriate framework for practical hands-on educational experiences. Training students

to participate in Medicare Part D outreach will help them to become more confident in their ability to provide this service and ensure that the most accurate and appropriate information is communicated to the Medicare beneficiary.

When Part D was introduced in 2006, there was a flurry of activity to enroll the nearly 40 million eligible beneficiaries. Today, 90% of beneficiaries have creditable coverage or are enrolled in a Part D plan, yet the need for help has not decreased. Each year, Part D plans change their premiums, deductibles, formularies, and coverage in the gap which necessitates annual review of plan options with a trained advocate. The need for help is greatest among the underserved: those with low income, low educational levels, and/or limited or no English proficiency. One solution to meet the needs of these vulnerable populations is to train pharmacy students to perform Part D outreach in the community.

This course did not provide an opportunity for students to perform community outreach related to Part D. Realizing this limitation of the course, several curricular changes have been made to enhance the Medicare Part D learning for students in the PharmD program at the UC San Francisco School of Pharmacy. For example, students are offered an intensive elective course in the fall in addition to the Health Policy for Pharmacists Course. This intensive elective course is timed with Medicare Part D open enrollment and each participating student is required to perform 3 hours of community-based outreach for Medicare Part D beneficiaries between November 15 and December 31. Components of this elective include the didactic and Medicare Plan Finder lectures, but also include curriculum focused on health literacy, cultural competence, and principles of geriatrics, and provides more opportunities for completing role-playing exercises and case examples. Because there were no significant improvement between pretest and posttest in the students' ability to indicate correctly the month that the Part D recipient would hit the coverage gap, we will provide additional case examples and more exercises to illustrate the timing and implications of the coverage gap. We also plan to evaluate the students' knowledge, skill mastery, and attitude changes after they perform community outreach to see if this additional requirement increases confidence in their ability to serve as advocates and improves their skills in applying the Medicare Plan Finder tool.

This study has several limitations. First, the problembased cases only simulated actual patient encounters and assumed the "best case scenario," ie, complete patient information available, including all medications and doses. Additionally, because lectures were completed 1 week apart, and the duration between administration of

the pretest and posttest was 10 weeks, we could not control for the students learning about Medicare Part D from other sources during this period of time (for example, there were some optional lectures on campus about Medicare Part D that students may have attended). Students were encouraged to work on the Medicare Plan Finder exercise on their own, outside of class, but we had no way of verifying that the students completed the exercise independently. Since the Medicare Plan Finder exercise was administered in the same manner for the pretest and posttest, students had equal opportunity for collaboration at either time point. Another limitation is the introduction of potential test-retest bias as a result of the study design. Since students were asked the same 19 questions that were on the pretest, they were already familiar with the questions before taking the posttest. However, in this study, only 10 weeks elapsed between the first and second administration of the survey instrument, minimizing the potential for test-retest bias. Finally, the ultimate outcome of interest — whether or not students can actually improve patient welfare by helping them switch to lower-cost plans — was not measured in this study, but warrants further research.

#### CONCLUSIONS

Using didactic, problem-based learning and the Webbased Medicare Plan Finder tool to teach Medicare Part D material to pharmacy students has been previously described. This is the first study to demonstrate significant changes in students' knowledge, attitudes, and skill mastery using this innovative approach to teaching Medicare Part D. Further evaluation is necessary to determine whether these changes are reproducible with real patient encounters by pharmacy students.

#### **ACKNOWLEDGEMENTS**

Funding of the *Partners in D* program was received from the Amgen Foundation. The authors would like to thank Thomas Yi for his help with the literature review and data entry.

#### REFERENCES

- 1. Department of Health and Human Services, Centers for Medicare & Medicaid Services. Key milestones in CMS programs. October 7, 2004. Available at www.cms.hhs.gov/History/Downloads/CMSProgramKeyMilestones.pdf. Accessed July 16, 2007.
- 2. Kaiser Family Foundation. Senior's early experiences with their new Medicare drug plans June 2006. July 2006. Available at www. kff.org/kaiserpolls/pomr072706pkg.cfm. Accessed July 16, 2007.

- 3. Kaiser Family Foundation. The Medicare prescription drug benefit. November 2006. Available at www.kff.org/medicare/upload/7044-05.pdf. Accessed July 16, 2007.
- 4. Kaiser Family Foundation. Benefit design and formularies of Medicare drug plans: a comparison of 2006 and 2007 offerings. November 2006. Available at www.kff.org/medicare/upload/7589.pdf. Accessed July 16, 2007.
- 5. Kaiser Family Foundation. National survey of physicians. November 2006. Available at www.kff.org/medicare/upload/7489.pdf. Accessed July 16, 2007.
- 6. Hsu J, Price M, Huang J, et al. Unintended consequences of caps on Medicare drug benefits. *New Engl J Med.* 2006;354:2349-59.
- 7. Soumerai SB, Pierre-Jacques M, Zhang F, et al. Cost-related medication non-adherence among elderly and disabled Medicare beneficiaries: a national survey 1 year before the Medicare drug benefit. *Arch Intern Med.* 2006;166:1829-35.
- 8. Neuman P, Strollo MK, Guterman S, et al. Medicare prescription drug benefit progress report: findings from a 2006 National survey of seniors. *Health Aff.* 2007;26:630-43.
- 9. Prescription Drug Plan Finder. US Department of Health and Human Services. Available at http://www.medicare.gov. Accessed September 11, 2007.
- 10. AACP Commission to Implement Change in Pharmaceutical Education. What is the mission of pharmaceutical education? Available at http://www.aacp.org/docs/mainnavigation/educationalresources/3586\_backgroundpaper1.pdf. Accessed July 23, 2007.
- 11. Accreditation Council for Pharmacy Education. Accreditation standards and guidelines for the professional program in pharmacy leading to the Doctor of Pharmacy degree. Available at http://www.acpe-accredit.org/pdf/ACPE\_Revised\_PharmD\_
- Standards\_Adopted\_Jan152006.DOC. Accessed July 23, 2007.
- 12. Cisneros RM, Salisbury-Glennon JD, Aderson-Harper HM. Status of problem-based learning research in pharmacy education: a call for future research. *Am J Pharm Educ.* 2006;66:19-26.
- 13. LeBlanc PP, Aiache JM. Problem-based and computer-assisted learning of pharmokinetics. *Am J Pharm Educ.* 1994;58:94-5.
- 14. Catney CM, Currie JD. Implementing problem-based learning with www support in an introductory pharmaceutical care course. *Am J Pharm Educ.* 1999;63:97-104.
- 15. Rhodes DG. A practical approach to problem-based learning: simple technology makes PBL accessible. *Am J Pharm Educ*. 1999;63:410-4.
- 16. Fox LM, Pham KH, Dollar M. Using interactive digital images of products to teach pharmaceutics. *Am J Pharm Educ*. 2007;71(3):Article 58.
- 17. Zagar M. Preparing PharmD students to participate in Medicare Part D education and enrollment. *Am J Pharm Educ*. 2007;71(4):1-6.
- 18. Medicare Program. Medicare prescription drug benefit: final rule. Federal Register. January 28, 2005; 70(18):4193–585.
- 19. Czaja SJ, Lee CC. The impact of aging on access to technology. *Univ Access Inform Soc.* 2007;5:341-9.
- 20. Uhrig JD, Harris-Kojetin L, Bann C, Kuo TM. Do content and format affect older consumers' use of comparative information in a Medicare health plan choice? Results from a controlled experiment. *Med Care Res Rev.* 2006;63:701-8.

#### Appendix 1. Preintervention Medicare Part D Plan Finder Case Study

LS is a 65-year-old female living in the Tenderloin (zip code 94102) who comes to your Medicare Part D outreach session at her senior community center. She is taking a large number of medications and does not know whether she should change to another Part D prescription drug plan this year. Currently, LS has an AARP Medicare Rx prescription drug plan (PDP), which is a stand-alone prescription drug plan.

When answering the questions below, only evaluate PDPs, not Medicare Health Plans (also referred to as MA-PDs). Complete the case study by going to the Medicare Plan Finder on the Medicare Website at www.medicare.gov. Please note the time that you begin this exercise as we will ask you to document the time spent on this portion of the exercise at the end.

#### LS is taking the following medications:

- Metformin 1000mg twice a day
- Glyburide 5mg twice a day
- Cartia XT 240mg once daily
- Lantus (10 ml vial) 10 units at bedtime
- Lipitor 10mg once daily
- Lisinopril 40mg once daily
- Fosamax 70 mg once a week
- 1. Least Expensive Plans/Cost. Using the Medicare Plan Finder, determine the three least expensive (lowest estimated annual cost) PDP's based on LS's current regimen and list them. What is the estimated annual cost for the three least expensive plans?
- **2. Current Plan Rank.** The plans are listed on the Medicare Plan Finder from least expensive to most expensive. Where does the patient's current plan, AARP Medicare Rx, rank on this list?
- 3. Current Plan Cost. What is the estimated cost of AARP Medicare Rx?
- 4. Coverage Gap. Using the least expensive PDP, will LS hit the coverage gap?
- **5. Coverage Gap Month.** If yes, during what month?
- **6. Plan Finder Completion Time.** How long did it take you to complete the Plan Finder portion of this survey?

#### Appendix 2. Postintervention Medicare Part D Plan Finder Case Study

GM is a 76-year-old male living in the San Francisco Mission district (zip code 94102) who comes to your Medicare Part D outreach session at his church. He is taking several medications and does not know whether he should change to another Part D prescription drug plan this year. Currently, GM has a WellCare Classic prescription drug plan (PDP), which is a stand-alone prescription drug plan. GM does not qualify for the Low-Income Subsidy or Medi-Cal. When answering the questions below, only evaluate PDPs (not Medicare Health Plans or MA-PDs). This case study can be completed by going to the Medicare Plan Finder on the Medicare website at www.medicare.gov.

His medication list includes:

- Norvasc 5mg a day
- Hydrochlorothiazide 12.5mg a day
- Atenolol 100mg a day
- Pravachol 40mg a day
- Advair 250/50 1 puff twice daily (60 blister pack)
- 1. Least Expensive Plans/Cost. Using the Medicare Plan Finder, determine the three least expensive (lowest estimated annual cost) PDP's based on GM's current regimen and list them. What is the estimated annual cost for the three least expensive plans?
- **2. Current Plan Rank.** The plans are listed on the Medicare Plan Finder from least expensive to most expensive. Where does the patient's current plan, WellCare Classic, rank on this list?
- 3. Current Plan Cost. What is the estimated cost of WellCare Classic?
- 4. Coverage Gap. Using the least expensive PDP, will GM hit the coverage gap?
- **5. Coverage Gap Month.** If yes, during what month?
- 6. Plan Finder Completion Time. How long did it take you to complete the Plan Finder portion of this survey?