

## INSTRUCTIONAL DESIGN AND ASSESSMENT

### Peer-to-Peer Interprofessional Health Policy Education for Medicare Part D

Helene L. Lipton, PhD,<sup>a,b</sup> Cindy J. Lai, MD,<sup>c</sup> Timothy W. Cutler, PharmD,<sup>a</sup> Amanda R. Smith, MPH,<sup>a</sup> and Marilyn R. Stebbins, PharmD<sup>a</sup>

<sup>a</sup>Department of Clinical Pharmacy, School of Pharmacy, University of California, San Francisco

<sup>b</sup>Philip R. Lee Institute for Health Policy Studies, School of Medicine, University of California, San Francisco

<sup>c</sup>Department of Medicine, School of Medicine, University of California, San Francisco

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**Objectives.** To determine whether a peer-to-peer education program was an expedient and effective approach to improve knowledge and promote interprofessional communication and collaboration.

**Design.** Trained pharmacy students taught nursing students, medical students, and medical residents about the Medicare Part D prescription drug benefit (Part D), in 1- to 2-hour lectures.

**Assessment.** Learners completed a survey instrument to assess the effectiveness of the presentation and their attitudes toward the peer-to-peer instructional format. Learners strongly or somewhat agreed that the peer-to-peer format was effective in providing Part D education (99%) and promoted interprofessional collaboration (100%). Qualitative data highlighted the program's clinical relevance, value in promoting interprofessional collaboration, and influence on changing views about the roles and contributions of pharmacists.

**Conclusion.** The Part D peer educator program is an innovative way to disseminate contemporary health policy information rapidly, while fostering interprofessional collaboration.

**Keywords:** Medicare Part D, health policy, interprofessional education, peer-to-peer education

## INTRODUCTION

According to the Centre for the Advancement of Interprofessional Education (CAIPE), interprofessional education occurs when “2 or more professions learn with, from, and about each other to improve collaboration and the quality of care.”<sup>1</sup> The challenges to integrating new curricular material across health professional schools are numerous. Support for interprofessional education is stymied by discordant schedules among schools, discipline-specific requirements, administrative challenges, and in some cases, faculty attitudes.<sup>2,3</sup> Student attitudes and prejudices about other disciplines add to the difficulty in implementing interprofessional training programs.<sup>4,5</sup>

Health professional schools benefit in 2 important ways from interprofessional curricula. First, they bring their curricula in line with recommendations from national health professional organizations. The Institute of Medicine, for example, identifies collaborative, team-based care as a primary need, and advocates interprofessional experience as a way to promote such care.<sup>6</sup> Both the Center for the Advancement of Pharmaceutical Education

(CAPE) 2004 Educational Outcomes and the Accreditation Council for Pharmacy Education (ACPE) Standards and Guidelines emphasize a team approach to patient care and the importance of communication and collaboration with prescribers.<sup>7,8</sup> The Association of American Medical Colleges urges medical schools to ensure that their graduates demonstrate “an understanding of, and respect for, the roles of other health care professionals.”<sup>9</sup> Second, interprofessional curricula may improve future professional socialization and promote the mutual respect and understanding needed to work effectively as a team after training.<sup>10-13</sup>

When creating interprofessional curricula, medical educators must select topics that cut across all health professional schools. Health policy is one such interprofessional topic that is often neglected in many curricula. In one study, 96% of graduating medical students reported the importance of health policy literacy to the practice of medicine, and 89% stated a desire for increased exposure to health policy topics and analyses.<sup>14</sup> However, almost half of the surveyed medical students reported having received inadequate training about health policy issues in their curriculum.<sup>9</sup>

To address these challenges, we developed a peer-to-peer education program at the student and resident level across health professional disciplines with 2 objectives:

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**Corresponding Author:** Helene Levens Lipton, PhD,  
University of California, San Francisco, 3333 California St.,  
Suite #420, San Francisco, CA 94118. Tel: 415-476-2964.  
Fax: 415-502-0792. E-mail: [liptonh@pharmacy.ucsf.edu](mailto:liptonh@pharmacy.ucsf.edu)

(1) to improve learners' understanding of health policy issues, and (2) to provide an interprofessional learning experience for pharmacy students and their peers in medicine and nursing. Specifically, we trained pharmacy students to educate their health professional peers about the Medicare Part D prescription drug benefit (Part D). We selected Part D because it represents a significant expansion to the Medicare program, and because it has significant policy and practice implications for all clinicians. Physicians and other providers need to be aware of their patients' Part D status and its potential impact on medication adherence and clinical care.

The peer educator program began in 2006, the year that Part D was implemented. The peer educator program was 1 of 3 major components of the Partners in D grant, a California statewide outreach and research program helping providers and underserved Medicare patients navigate Part D.

In this study, we examined the impact of a peer educator program, in which trained pharmacy students (peer educators) aimed to increase health policy literacy by teaching health professional students and residents about Part D. The extent of dissemination of the presentation across health professional disciplines and other schools also was evaluated.

## **DESIGN**

Although most Part D enrollees are satisfied with the benefit, vulnerable patients, such as those with low income, limited English proficiency, and ethnic and racial minorities, have yet to benefit fully from the program.<sup>15,16</sup> In 2008, an estimated 4.6 million (10%) Medicare beneficiaries had no prescription drug coverage, with nearly 3.3 million of those representing the most vulnerable Medicare beneficiaries who may qualify for the low-income subsidy.<sup>17, 18</sup> Additionally, even for the 25 million Medicare beneficiaries enrolled in a Part D plan, the benefit is confusing and complex, and patients' cost-sharing is increasing annually, leading to changes in medication-taking behaviors.<sup>18,19</sup> The challenges facing those enrolled in Part D, particularly vulnerable patients, require an interprofessional solution.

The specific learning objectives of the peer educator program were for the peer educators to teach their peers to: (1) understand the structure of Part D and the benefits and limitations of the program from the perspectives of key stakeholder groups (patients, providers, and payers); (2) promote consideration of Part D when making prescribing decisions; (3) identify clinically relevant Part D resources for patients and providers; and (4) understand the collaborative role of pharmacists when making prescribing decisions.

The Part D peer-to-peer presentation ranged from 1 to 2 hours, depending on time allotted, with each of 4 peer educators speaking sequentially during the presentation. The first peer educator provided an overview of Part D, including descriptions of Medicare Parts A-D, the structure and scope of Part D coverage, the ways in which patients obtain coverage, and the limitations of Part D. A special focus of the presentation reviewed the challenges faced by vulnerable Medicare beneficiaries. The remaining components of the lecture focused on the perspectives of key stakeholders: patients, providers, and insurers. The other 3 peer educators presented the benefits and costs of Part D from one of these perspectives, which enabled learners to understand the complexity of Part D and how the policy works in practice. To illustrate the clinically relevant link between policy and practice, peer educators presented a fictional case of a low-income, elderly, Medicare patient whose annual, out-of-pocket prescription drug costs exceeded \$2,000. Using the Plan Finder tool, an online resource provided by Medicare to enable comparisons among Part D plans, they demonstrated how prescribing decisions by health professionals influence patients' out-of-pocket drug costs and how collaboration between physicians and pharmacists can reduce these costs significantly.<sup>20</sup>

Pharmacy students were chosen as Part D peer educators because, as experts in medication management, they possessed knowledge of appropriate medication use, formularies and drug costs, coverage gap ("donut hole") strategies, and catastrophic coverage costs associated with Part D. They were therefore in a position to help their peers in other schools and residency programs understand the Part D benefit. Peer educators were selected from a cohort of pharmacy students interested in becoming Part D experts and who had enrolled in an elective course that included didactic coursework and 6 hours of Part D community outreach activity targeting vulnerable Medicare beneficiaries. After completing the course, peer educators participated in further training to make the presentation interactive and clinically relevant to specific audiences. In the first year, 5 students were trained, and after reviewing suggestions for improvement received from learners, only 4 students were trained in the second year.

The initial peer-to-peer Part D presentation was piloted to nurse practitioner students at our home institution (UCSF) in February 2006. To expand the peer educator program to reach medical students and internal medicine residents, a school of medicine faculty member was recruited to collaborate with other medical school course and residency program directors, facilitating delivery of the lecture to additional audiences.

## EVALUATION AND ASSESSMENT

An anonymous survey instrument was developed by researchers with expertise in health policy and Medicare Part D. Questions were tested for content and face validity during the inaugural presentation to the nurse practitioner students to assess the effectiveness of the presentation and learners' attitudes toward the peer-to-peer instructional format. Learners completed the survey instrument at the conclusion of each presentation. Participation in the survey was voluntary, and the UCSF institutional review board approved the study protocol.

Basic demographic information about learners was collected, including age, gender, and health professional school affiliation/year. Learners were asked about prior exposure to Part D. There also were 2 open-ended questions, providing space for learners to write comments about the presentation. The survey instrument included questions, on a 4- and 5-point Likert scale, which focused on 3 domains: quality of instruction (1 = poor, 5 = excellent); usefulness of the information presented (1 = not at all useful, 5 = extremely useful); and the effectiveness of the peer-to-peer teaching format, which was measured by rating agreement with 3 statements (1 = strongly disagree, 4 = strongly agree).

The survey metrics for quality of instruction, usefulness of information, and effectiveness of teaching format were taken from survey instruments used in faculty course evaluations. After 4 lectures were completed, an interim review of the qualitative data was conducted which found that some learners referenced a change in opinion about pharmacists' roles and contributions as a result of the lecture. Therefore, in October 2007, an additional 7 statements were added to the survey instrument to collect this information systematically from all learners. Learners were asked to rate their level of agreement using a 4-point scale (1 = strongly disagree, 4 = strongly agree). These statements were tested for face validity by a group of medical residents, and modifications were made based on their feedback.

Data analyses were performed using SPSS software, version 15.0 (SPSS, Inc., Chicago, IL). Descriptive statistics were used to summarize learners' demographic characteristics and present frequency distributions of responses. For the qualitative analysis, all written responses to the open-ended questions were manually coded and analyzed using grounded-theory methods.<sup>21</sup> Two investigators independently analyzed the responses and met to refine the coding and develop a consensus.

From November 2006 to June 2008 12 peer-to-peer presentations were delivered to audiences of 6 to 125 learners, to a total of 453 health professional students and medical residents from 4 academic medical centers.

The survey response rate was close to 100% of attendees (survey instruments were collected as learners exited the presentation), and the response rate for each survey item ranged from 97% to 100%. The mean age of all learners was  $30.3 \pm 6.4$  years, and 71% ( $n = 320$ ) were female. Of the 453 learners, 44% ( $n = 201$ ) were nurse practitioner students; 43% ( $n = 196$ ) were medical students; 13% ( $n = 53$ ) were internal medicine residents; and the remaining 3 students were from other programs. Of the 196 medical students, 7% ( $n = 13$ ) were in their first year, 8% ( $n = 16$ ) in their second year, 46% ( $n = 91$ ) in their third year, and 39% ( $n = 77$ ) in their fourth year. Approximately 60% of all learners ( $n = 277$ ) stated that they had no prior experience with Part D, and only 16% ( $n = 74$ ) reported exposure to Part D through their health professional coursework.

Ninety-five percent of learners rated the overall quality of instruction as either "excellent" or "very good." Similarly, 89% rated the information presented as "extremely useful" or "very useful." As shown in Table 1, 100% of learners strongly or somewhat agreed that they would recommend the lecture to other health professionals; 99.6% strongly or somewhat agreed the peer-to-peer format was an effective way to provide education about Medicare Part D; and 99.8% strongly or somewhat agreed that the peer-to-peer lecture promoted collaboration among health professionals.

A total of 255 learners attended 1 of 8 lectures delivered after additional items were added to the survey instrument. Of this subset of 255 learners, 98% strongly or somewhat agreed that their opinion of pharmacists improved, and 99% strongly or somewhat agreed that they learned how pharmacists could help advocate for patients. Further, learners strongly or somewhat agreed that, as a result of the lecture, they were more likely to collaborate with pharmacists about drug selection (95%), drug costs (97%), formularies (96%), drug policy (96%), and insurance plans (96%). When this subset of 255 learners was compared with the 198 learners who attended 1 of the first 4 presentations, there were no significant differences in age, gender, and professional school affiliation/year.

Data also were stratified by health professional school. Compared to nursing students, medical students were more likely to be male (8.4% vs. 45.2%,  $p < 0.0001$ ), younger ( $28.4 \pm 4.5$  years vs.  $33.5 \pm 8.0$  years,  $p < 0.0001$ ) and have prior experience with Part D (31.2% vs. 47.7%,  $p < 0.0001$ ). However, when individual survey items were analyzed, no significant differences emerged based on health professional school, gender, and age.

Thirty-eight percent ( $n = 173$ ) of learners, including 50% ( $n = 100$ ) of nursing students, 30% ( $n = 59$ ) of medical students, and 26% ( $n = 14$ ) of medical residents, provided optional written comments, with 92% providing

Table 1. Learners' Assessments of the Medicare Part D Peer-to-Peer Presentation

<b>Statement</b>	<b>Strongly Agree, No. (%)</b>	<b>Somewhat Agree, No. (%)</b>	<b>Somewhat Disagree, No. (%)</b>	<b>Strongly Disagree, No. (%)</b>
I would recommend this lecture to other health professionals (n = 451) <sup>a</sup>	395 (88)	56 (12)	0	0
I think the peer-to-peer format is an effective way to provide education about Medicare Part D (n = 452)	390 (86)	60 (13)	2 (< 1%)	0
I think that this type of peer-to-peer lecture promotes collaboration among health professionals (n = 451)	385 (85)	65 (14)	1 (< 1%)	0
As a result of this lecture: <sup>b</sup>				
My opinion of pharmacists has improved (n = 247)	164 (66)	78 (32)	3 (1)	2 (1)
I learned how pharmacists can help us advocate for our patients (n = 255)	199 (78)	53 (21)	3 (1)	0
I am more likely to consult with pharmacists about drug selection (n=249)	167 (67)	69 (28)	9 (4)	4 (2)
I am more likely to consult with pharmacists about drug costs (n = 250)	193 (77)	50 (20)	4 (2)	3 (1)
I am more likely to consult with pharmacists about drug formularies (n = 251)	189 (75)	53 (21)	6 (2)	3 (1)
I am more likely to consult with pharmacists about drug policy (n = 251)	182 (73)	59 (24)	8 (3)	2 (1)
I am more likely to consult with pharmacists about insurance plans (n = 252)	158 (63)	83 (33)	9 (4)	2 (1)

<sup>a</sup> Response rates for each individual item ranged between 97% and 100%.

<sup>b</sup> These questions were added to the survey instrument in October, 2007 and were asked of 255 learners, rather than the entire group of 453.

positive feedback about the presentation. Qualitative analysis of the open-ended comments (Table 2) revealed themes that emerged across all groups of learners. Major themes included: (1) the quality, usefulness, and clinical relevance of the material; (2) the value of interprofessional education and collaboration; and (3) changed views about the roles and contributions of pharmacists. Suggestions for improving the lecture were incorporated into subsequent presentations, including devoting more time to answering learners' questions, providing more case-based examples, and increasing the length of the lecture.

Another dimension of the success of the peer educator program was its rapid dissemination by invitation across departments, schools, and academic medical centers. The peer educators' first presentation outside our institution was to a small cohort of internal medicine residents at a nearby academic medical center, which was followed by a request to deliver the presentation to all internal medicine and family medicine residents as part of their core residency curricula. Additionally, the peer educators presented at other institutions' medical grand rounds and internal medicine residency programs, which led to invitations to return yearly. Based on these successes, the program expanded statewide, disseminating to 6 additional colleges or schools of pharmacy, that would, in

turn, train peer educators to deliver the Part D presentation to their affiliated nursing schools, medical schools, and residency programs.

## DISCUSSION

Despite widespread recognition of the importance of health policy and interprofessional education, few curricula blend these 2 components in a didactic setting for health professional students and residents. Educators attempting to develop interprofessional curricula face many institutional and logistical barriers. To our knowledge, this is the first published report of the use of peer-to-peer interprofessional teaching to deliver health policy curricula.

The perceived benefits of interprofessional education are numerous, including enhanced collaboration, valuing of diversity, positive role modeling, and greater respect for interprofessional peers.<sup>2,3</sup> While it is not known whether interprofessional education translates into collaborative behaviors in future practice, many educators believe that formal exposure may influence future behavior in the clinical setting.<sup>12,22</sup>

With only 16% of learners reporting prior exposure to Part D through their coursework, the peer educator program was able to reach an audience whose exposure to this health policy topic was limited, despite the clinical

Table 2. Major Themes in Assessments From Learners About the Medicare Part D Lecture

Theme	Sample Comments
1. Quality, Usefulness and Clinical Relevance of Lecture Material (n = 103, 60%)	<ul style="list-style-type: none"> <li>● “Great job! You all presented a very complicated topic with limited time and brought clarity to the issue.”</li> <li>● “The patient perspective provided useful/practical information that we can directly apply to patient care.”</li> <li>● “Incredibly useful lecture - could have spent all day on it! All of it applies to our daily duties. I enjoyed the lecture tremendously!”</li> <li>● “A must for resident education! Do this for every block of residents, every year.”</li> <li>● “I wish we had more interdisciplinary learning opportunities.”</li> <li>● “Peer teaching format is great - wish you could do more of this teaching format with pharmacy and medical students.”</li> <li>● “Especially valuable seems to be the effort to create more collaboration between pharmacists and physicians.”</li> </ul>
2. Value of Interprofessional Education/Collaboration (n = 25, 14%)	<ul style="list-style-type: none"> <li>● “Are clinical pharmacists and pharmacy students only on medicine teams? It would be beneficial if they consulted with us on all rotations!”</li> <li>● “I work in the ER and we have a pharmacist on-hand; I am going to recommend to our institution that he educate the ER physicians on drug cost-saving prescription measures.”</li> </ul>
3. Changed views about the roles and contributions of pharmacists (n = 14, 8%)	

relevance of Part D. After attending the peer educator presentation, learners unanimously agreed that they would recommend this lecture to other health professionals, and almost all learners thought the peer-to-peer format was an effective way to provide Part D education.

Additionally, learners attending the peer educator presentation overwhelmingly reported increased confidence in pharmacists’ abilities and a stronger likelihood in the future to consult with pharmacists regarding drug selection, drug costs, formularies, drug policy, and insurance plans when making prescribing decisions. Although follow-up data on practice behaviors or patient outcomes were not obtained, this positive view of pharmacists and awareness of their skills and expertise may lead to improved interprofessional collaboration on patient care.

The dissemination of the Part D lecture was facilitated by enlisting a faculty physician champion to help incorporate the lecture into existing curricula and to participate in peer educator training. Piloting the lecture successfully to small groups of learners established proof of concept and subsequently led to invitations to present in larger forums.

There were several limitations to this research. First, data were not collected to examine whether this teaching model leads to long-term changes in learners’ attitudes and behaviors regarding interprofessional collaboration. Nonetheless, the positive audience reception and rapid, widespread dissemination and adoption of the peer educator program in a relatively short period of time demonstrated the value of the presentation. Second, due to the time constraints during this initial phase, data on baseline attitudes could not be collected. Future learners will re-

ceive a modified version of the survey instrument to collect information regarding attitudes, behaviors, and knowledge, both before and after the presentation.

Given that medical students have reported a deficiency in health policy education,<sup>14,23,24</sup> the peer educator program is one step toward expanding health policy training of health professional students and residents. The rapid dissemination and institutionalization of the program into the curriculum across disciplines and at multiple academic medical centers reflect a need for expanded knowledge about Part D, as it impacts all disciplines in health care. Despite the many demands for time in health professional students’ and residents’ curricula, the peer educator program rose quickly on the agenda. By expanding the number of future providers with an understanding about Part D, this program has the potential to help vulnerable Medicare beneficiaries gain access to necessary health services and medications.

In summary, using both quantitative and qualitative assessments, a peer-to-peer instructional format was found to be an expedient and effective approach to improve self-reported knowledge about Medicare Part D and attitudes towards pharmacists. The teaching model used in the peer educator program is an innovative way to disseminate contemporary health policy information rapidly across disciplines to large groups of health professional students and medical residents, while fostering interprofessional collaboration. If pharmacy students can add value to the curriculum of other disciplines through peer teaching of pharmaceutical health policy, it is also likely that medical residents and medical and nursing students can become peer educators for their

interprofessional colleagues in subject areas in which they have specialized training, skills, and expertise.

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## REFERENCES

1. Centre for Advancement of Interprofessional Education (CAIPE). <http://www.caipe.org.uk>. Accessed June 15, 2010.
2. Gardner SF, Chamberlin GD, Heestand DE, et al. Interdisciplinary didactic instruction at academic health centers in the United States: attitudes and barriers. *Adv Health Sci Educ Theory Pract*. 2002;7(3):179-190.
3. Baldwin DC, Baldwin MA. Interdisciplinary education and health team training: a model for learning and service. In: Hunt AD, Weeks LE, eds. *Medical Education Since 1960: Marching to a Different Drummer*. East Lansing, MI: Michigan State Foundation; 1979:190-221.
4. Parsell G, Bligh J. Educational principles underpinning successful shared learning. *Med Teach*. 1998;20(6):522-528.
5. Carpenter J. Interprofessional education for medical and nursing students: evaluation of a programme. *Med Educ*. 1995;29(4):265-272.
6. Institute of Medicine. *Crossing the Quality Chasm: A New Health System for the 21<sup>st</sup> Century*. Washington, DC: National Academy of Sciences Press; 2001.
7. American Association of Colleges of Pharmacy. Center for the Advancement of Pharmaceutical Education (CAPE) Educational Outcomes. <http://www.aacp.org/resources/education/Documents/CAPE2004.pdf>. Accessed June 2, 2010.
8. Accreditation Council for Pharmacy Education. Accreditation Standards and Guidelines for the Professional Program in Pharmacy Leading to the Doctor of Pharmacy Degree. [http://www.acpeaccredit.org/pdf/ACPE\\_Revised\\_PharmD\\_Standards\\_Adopted\\_Jan152006.pdf](http://www.acpeaccredit.org/pdf/ACPE_Revised_PharmD_Standards_Adopted_Jan152006.pdf). Accessed June 2, 2010.
9. Association of American Medical Colleges. 2008 Medical school graduation questionnaire all schools report. Washington, DC, 2008. <http://www.aamc.org/data/gq/allschoolsreports/start.htm>. Accessed June 2, 2010.
10. Fineberg IC, Wenger NS, Forrow L. Interprofessional education: evaluation of a palliative care training intervention for pre-professionals. *Acad Med*. 2004;79(8):769-776.
11. Bassoff BZ, Ludwig S. Interdisciplinary education from health care professionals. *Health Soc Work*. 1979;4(2):58-71.
12. Hall P, Weaver L. Interprofessional education and teamwork: a long and winding road. *Med Educ*. 2001;35(9):867-875.
13. Harward DH, Tresolini CP, Davis WA. Can participation in a health affairs interprofessional case conference improve medical student's knowledge and attitudes? *Acad Med*. 2006;81(3):257-261.
14. Agrawal JR, Heubner JH, Hedgecock J, et al. Medical students' knowledge of the US health care system and their preferences for curricular change: a national survey. *Acad Med*. 2005;80(5):484-488.
15. Kaiser Family Foundation. *Medicare Prescription Drug Coverage Among Medicare Beneficiaries. Publication 7453*. Washington, DC: Kaiser Family Foundation; 2006.
16. Lichtenberg FR, Sun SX. The impact of Medicare Part D on prescription drug use by the elderly. *Health Aff*. 2007;26(6):1735-1744.
17. Kaiser Family Foundation. *The Medicare Prescription Drug Benefit. Publication 7044-08*. Washington, DC: Kaiser Family Foundation; 2008.
18. 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(5):w630-w643.
19. Kaiser Family Foundation. *Medicare Part D Prescription Drug Plan (PDP) Availability in 2009. Publication 7426-05*. Washington, DC: Kaiser Family Foundation; 2008.
20. Prescription Drug Plan Finder. US Department of Health and Human Services. <http://www.medicare.gov>. Accessed June 2, 2010.
21. Glaser B, Strauss A. *The Discovery of Grounded Theory*. Chicago, IL: Aldine Publishing Co.; 1967.
22. Wood DF. Interprofessional education—still more questions than answers? *Med Educ*. 2001;35(9):816-817.
23. Institute of Medicine. *Improving Medical Education: Enhancing the Behavioral and Social Science Content of Medical School Curricula*. Washington, DC: National Academy of Sciences Press; 2004.
24. Shrank WH, Asch SM, Joseph GJ, et al. Physicians' perceived knowledge of and responsibility for managing patients' out-of-pocket costs for prescription drugs. *Ann Pharmacother*. 2006;40(9):1534-1540.