

# Pharmacy Students' Views of Managed Care Pharmacy and PBMs: Should There Be More Exposure to Managed Care in the Pharmacy Curriculum?

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## ABSTRACT

**BACKGROUND:** New accreditation standards implemented in 2007 have required schools of pharmacy to evaluate their existing curricula. An issue frequently encountered is the limited amount of content in the pharmacy curriculum specific to managed care and the role and function of pharmacy benefit management companies (PBMs).

**OBJECTIVE:** To determine pharmacy student knowledge and opinions about managed care pharmacy, including the function of PBMs in the delivery of health care, in a college of pharmacy, and to explore tendencies in communication between pharmacy interns and patients in the community setting.

**METHODS:** Students from all 4 PharmD years (n=663) in 1 college of pharmacy were invited to complete an online survey consisting of 19 questions on demographics, students' views and understanding of PBMs, and interest in working at a PBM in their career. Follow-up in-person and online focus group sessions with representatives from each pharmacy class year were conducted to collect information from students regarding views and understanding of managed care pharmacy. Focus group data were analyzed using a constant comparative method by 2 independent researchers.

**RESULTS:** Of 374 respondents, 332 (88.8%) answered all of the survey questions and were included in the analysis. Most students (72.0%) indicated that they understand little or nothing about the functions of PBMs; 84.3% rated the amount that they had been taught about PBMs in pharmacy school as "inadequate" or "very inadequate;" and 45.2% indicated little or no interest in a PBM career. Yet, 34.7% (99 of 285) of students with past or current community pharmacy work experience rated the percentage of time that PBMs directly affected their practice worksite during a shift at 50% or greater. Focus group emerging themes confirmed survey data findings that students feel uninformed about managed care but regularly communicate with patients about managed care issues. Focus group findings also suggest that students may perceive managed care to be a "masculine," "uncaring" field.

**CONCLUSIONS:** In an exploratory survey conducted at 1 pharmacy school, students perceived themselves as generally uninformed about managed care issues, yet more than one-third believed that dealing with PBMs constituted a significant portion of their work day as community-based pharmacy interns. Managed care understanding is necessary for all pharmacy students because most graduates will practice in community settings. Patients are exposed to managed care and their pharmacy benefit primarily at the point of medication procurement and medication counseling. As a result, pharmacists provide many patients with managed care and pharmacy benefit education. Schools of pharmacy may wish to evaluate and consider increasing the amount of curriculum content specific to managed care and PBMs.

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## What is already known about this subject

- The most recent data from the Bureau of Labor Statistics show 65% of pharmacists practice in community settings and 22% work in hospitals, positioning the pharmacist as mediator and educator of the managed care pharmacy system to a large portion of the public.
- Student knowledge and interest in managed care pharmacy is an under-evaluated topic.
- How managed care is integrated into pharmacy education is not extensively described in the literature, and there are no published reports within the last 10 years.

## What this study adds

- Managed care pharmacy knowledge is central to the practice of pharmacy in the community and should be included within the required professional pharmacy curriculum.
- In an exploratory survey conducted in a single college of pharmacy, students generally had a low level of understanding of managed care; 72.0% rated their awareness of the functions of a PBM as "none" or "little."
- Inadequate understanding may result in a negative view of what managed care is and the role it plays in patient care. Of those who reported little or no understanding of PBMs, only 3.4% rated PBMs favorably and 10.2% described themselves as interested or very interested in a PBM career, compared with 43.9% favorable ratings and 47.4% career interest among those understanding PBMs well or quite well.

*"I absolutely believe managed care knowledge is essential for communication with patients in any setting. I have noticed from my own experience working in retail that most of the patients do not have a good understanding of who decides their Rx [prescription] copays or what tiers are. So pharmacists are in the front-line to educate patients about these things especially when it comes to a Rx requiring a PA [prior authorization] or why we cannot just give them a brand name drug when a generic is available."*

—Third-year pharmacy student

## Pharmacy Students' Views of Managed Care Pharmacy and PBMs: Should There Be More Exposure to Managed Care in the Pharmacy Curriculum?

New accreditation standards from the American Council for Pharmacy Education, implemented in 2007, have required schools of pharmacy to evaluate their existing curricula.<sup>1,2</sup> An issue frequently encountered is the limited amount of content in the pharmacy curriculum specific to managed care and role and function of pharmacy benefit management companies (PBMs), although the new standards do not directly address that issue.

The Academy of Managed Care Pharmacy (AMCP) defines managed care as the “body of clinical, financial and organizational activities designed to ensure the provision of appropriate health care services in a cost-efficient manner,” noting that managed care “is a broad term and encompasses many different types of organizations, payment mechanisms, review mechanisms and collaborations” and “is often misunderstood, as it refers to numerous aspects of healthcare management, payment and organization. In the purest sense, all people working in healthcare and medical insurance can be thought of as ‘managing care.’”<sup>3</sup> PBMs, defined by AMCP as “organizations that manage pharmaceutical benefits for managed care organizations, other medical providers or employers,” engage in numerous activities to promote managed care principles, including “benefit plan design, creation/administration of retail and mail service networks, claims processing and managed prescription drug care services such as drug utilization review, formulary management, generic dispensing, prior authorization and disease and health management.”<sup>3</sup>

Community pharmacy practice is affected by managed care and PBMs on a daily basis. The majority of pharmacy students have pharmacy experience in community and hospital pharmacies before and during pharmacy school.<sup>4</sup> Furthermore, the most recent data from the Bureau of Labor Statistics show that 65% of pharmacists practice in community settings and 22% work in hospitals.<sup>5</sup> Although the roles of managed care organizations (MCOs) and PBMs include directing patients to equivalent and affordable therapeutic options, patients are sometimes surprised by insurance coverage denials, higher-than-expected copayment amounts, or automatic generic substitution. This surprise can result in a patient view that managed care is simply a barrier to prescription drug access.

Managed care content is necessary within the pharmacy curriculum because most graduates will practice in a community setting—a setting where patients are often most aware of the presence of managed care. While all of health care is affected by managed care, the PBM component of managed care (i.e., managed care pharmacy) is considered a specialty practice area. The American Society of Health-System Pharmacy (ASHP) standard for residency in managed care pharmacy systems states that ideal candidates will have completed a pharmacy practice residency or have a minimum of 3 years of pharmacy practice experience.<sup>6</sup>

The premise of the present study was that managed care is

not a specialty or elective topic, but rather core to becoming a generalist practitioner. Patients interact with managed care primarily at the point of medication dispensing—positioning pharmacists as mediator and educator about managed care to a large portion of the public. Because most graduates will practice in community settings, pharmacy curriculum content regarding managed care, specifically the PBM function, is imperative to ensure that all graduates are positioned to serve in this educator role. However, student perceptions of this need have not been explored in previous research.

Student views of managed care and PBMs begin to develop during didactic, experiential and pharmacy work experiences. It has been suggested that lack of classroom education about managed care in pharmacy school leads students to develop their views of managed care largely based upon anecdotal experiences in their work settings.<sup>7</sup> As the University of Minnesota College of Pharmacy undergoes a major curriculum revision process, a question is whether to require content specific to the managed care system and the function of PBMs. In addition to the 2 lecture hours in the 1 required course that addresses managed care, offered during the spring semester of the second professional year, the University of Minnesota currently offers 2 elective managed care related courses (one for second or third year students and another limited to third year students, which is capped at an enrollment for only 27 students each offering). Together, these elective courses have a history of low enrollment, with less than 25% of students participating.

The purposes of this study were to estimate student knowledge of managed care and the role of PBMs in health care delivery and to explore tendencies in communication between student pharmacists and patients.

### Methods

This study was deemed exempt from review by the University of Minnesota Institutional Review Board on December 30, 2008 (study no. 0812E55744).

To evaluate student views and understanding of the role and function of PBMs, an online 19-question pharmacy student survey was created (Appendix A) using the recommendations of Gaddis (1998) and Dillman, Tortora, & Bowker (1999).<sup>8,9</sup> Specifically, the online survey was created to be “respondent-friendly,” implementing strategies such as a motivating message about participating; short, easy to read questions esthetically grouped, with indicators of completion progress; and an accurate estimate of expected time required to complete. Thirteen of 15 questions used a 5-point Likert scale, 2 were open-ended, 3 were multiple choice where more than 1 answer was allowable, and 1 question asked respondents to rank their choices. Pharmacy Doctorate professional students were invited, via e-mail, to consent to participate in the study and complete the online survey. In addition to collecting respondent demographics, the core variables examined were pharmacy students’

## Pharmacy Students' Views of Managed Care Pharmacy and PBMs: Should There Be More Exposure to Managed Care in the Pharmacy Curriculum?

understanding and knowledge of the role of PBMs in health care, their experiences and interactions with PBMs both within the curriculum and at their job sites, and their opinions of PBMs.

Upon completion of the survey, all respondents were invited to volunteer for a follow-up focus group. The purpose of the focus group sessions were to further explore the survey results and obtain greater descriptive detail related to the primary study questions. Two focus group sessions (Appendix B) were conducted: 1 face-to-face session with first-, second-, and fourth-year pharmacy students (5 participants), and 1 online session with primarily third-year pharmacy students (4 participants). Using a constant comparative method, a methodology used with grounded theory work to generate rather than test hypotheses,<sup>9,11</sup> focus transcripts were analyzed by 2 independent researchers, coding and grouping statements into emerging themes. Descriptive statistics were used to summarize the overall results of the survey data.

### Results

#### Pharmacy Student Online Survey

A total of 663 students were invited to take the survey, and 374 responses were received (56.4% response rate). Of 374 respondents, 332 (88.8%) answered all of the survey questions and were included in the analyses. Of the respondents, 72.6% were female, and 27.4% were male. All 4 student years were represented with respondent distribution of 22.0% first year, 27.7% second year, 30.7% third year and 19.6% fourth year. Student respondents fell into a typical college age group, with 46.4% indicating that they were between the ages of 18 and 24 years; 46.4% indicating they were between 25 and 34 years; and 7.2% indicated they were aged 35 years or older. Current or past community pharmacy work experience was reported by 285 (85.8%) of the 332 student respondents. Of these 285 students, 99 (34.7%) estimated the percentage of time that PBMs directly affected their practice worksite during a shift at 50% or greater.

#### Student Understanding of Pharmacy Benefit Management.

A majority of students, 72.7%, accurately defined the term "PBM." Most students reported a low level of understanding of the function of a PBM; 45.5% of students reported knowing "a little" and 26.5% rated their understanding as "none" (Table 1). Among first-year students, 54.8% reported they know nothing about the function of a PBM. The percentage of students who reported that they have no understanding of the function of a PBM decreased with each progressing professional year to 3.1% of fourth-year students. The percentage of students who reported they understood the function of a PBM "well" or "quite well" increased from a low of 11.0% among first-year students to a high of 24.6% among fourth-year students. The percentage of students who responded "inadequate" or "very inadequate" to the question "How would you rate the amount you've been

taught about PBMs in pharmacy school to prepare you in your future pharmacy practice?" was 280 (84.3%) of 332 overall and 51 (78.5%) of 65 fourth-year students (data not shown).

**Student Views of PBMs.** When asked "How do you view PBMs?" first-year students had the most neutral view (78.1% neutral); only 12.3% reported they view PBMs "unfavorably" or "very unfavorably," whereas 34.8% of second-year students reported unfavorable or very unfavorable views (Table 1). Among third-year students, 18.6% reported viewing PBMs "unfavorably" or "very unfavorably" and 21.6% "favorably" or "very favorably." In contrast, 3.3% of second-year students rated PBMs "favorably" and none (0) "very favorably." Of fourth-year students, 26.2% reported unfavorable or very unfavorable views of PBMs. At the same time, 22.0% of all students indicated that they were either "interested" or "very interested" in pursuing careers at a PBM, with 5.7% reporting being "very interested" in pursuing a career at a PBM; however, 45.2% of all students indicated little or no interest in a PBM career.

**Association of Student Understanding and Views.** Both favorable perceptions of PBMs and interest in a PBM career were much more likely among those with better self-reported understanding of PBM functions (Table 2). Of the 88 students who rated their level of understanding of a PBM as "none," only 3 (3.4%) rated PBMs favorably and none (0) indicated a very favorable view. In contrast, of 57 students who indicated they understand the functions of a PBM "well" or "quite well," 25 (43.9%) rated PBMs "favorably" or "very favorably." Similarly, the proportions of students reporting themselves as "interested" or "very interested" in a PBM career were 10.2% (9 of 88) for those who reported no understanding of PBMs compared with 47.4% (27 of 57) for those understanding PBMs well or quite well.

Of 332 respondents, 285 (85.8%) reported having past or current work experience in a community pharmacy (data not shown). Among these 285 students, 71.2% stated that they know "none" or "a little" about PBM function, and 21.0% reported a very unfavorable or unfavorable view of PBMs. Of the 17 students who reported no pharmacy work experience, 94.1% stated that they know "none" or "a little" about PBM function; none (0) reported a very unfavorable or unfavorable view of PBMs; and the vast majority, 88.2%, reported a neutral view of PBMs. Of students who reported working in a pharmacy setting outside of community pharmacy, 66.7% stated that they know "none" or "a little" about PBM functioning; 13.3% reported an unfavorable view of PBMs, with no students reporting very unfavorable views; and most, 73.3%, had a neutral view of PBMs.

**Student Response to Patient Scenario.** To explore how pharmacy interns may respond to a patient in the community who is faced with a prescription being denied, we posed the following patient scenario: "You are working at the local community

**Pharmacy Students' Views of Managed Care Pharmacy and PBMs: Should There Be More Exposure to Managed Care in the Pharmacy Curriculum?**

**TABLE 1** Student's Self-Reported Understanding and Views of PBMs by Year in Pharmacy School

Item and Response	First Year n (%)	Second Year n (%)	Third Year n (%)	Fourth Year n (%)	Overall Sample N (%)
<b>Understanding of PBMs<sup>a</sup></b>					
None	40 (54.8)	33 (35.9)	13 (12.7)	2 (3.1)	88 (26.5)
A little	23 (31.5)	45 (48.9)	49 (48.0)	34 (52.3)	151 (45.5)
Neutral	2 (2.7)	6 (6.5)	15 (14.7)	13 (20.0)	36 (10.8)
Well	7 (9.6)	7 (7.6)	22 (21.6)	14 (21.5)	50 (15.1)
Quite well	1 (1.4)	1 (1.1)	3 (2.9)	2 (3.1)	7 (2.1)
<b>How do you view PBMs?<sup>b</sup></b>					
Very unfavorably	2 (2.7)	4 (4.3)	2 (2.0)	1 (1.5)	9 (2.7)
Unfavorably	7 (9.6)	28 (30.4)	17 (16.7)	16 (24.6)	68 (20.5)
Neutrally	57 (78.1)	57 (62.0)	61 (59.8)	36 (55.4)	211 (63.6)
Favorably	7 (9.6)	3 (3.3)	19 (18.6)	11 (16.9)	40 (12.0)
Very favorably	0 (0.0)	0 (0.0)	3 (2.9)	1 (1.5)	4 (1.2)
<b>Totals<sup>c</sup></b>	<b>73 (100)</b>	<b>92 (100)</b>	<b>102 (100)</b>	<b>65 (100)</b>	<b>332 (100)</b>

<sup>a</sup>Response to the question: "How well would you say you understand the function of a PBM?" Pearson chi-square test of between-group differences  $P < 0.001$ .

<sup>b</sup>Pearson chi-square test of between-group differences  $P = 0.002$ .

<sup>c</sup>Percentages may not sum to 100% due to rounding. The total counts are the same for both survey items in each column.

PBM = pharmacy benefits management company.

pharmacy when a patient is told that her prescription has been denied by the insurance company. She is very angry and frustrated and wants you to explain the situation to her. Which of the following responses would you provide?" Students were asked to rank the response from most likely (5) to least likely (1). Respondents who failed to rank all response options were excluded from the analysis of this item ( $n = 89$ ). Of the remaining 243 students, 144 (59.3%) ranked the response "There is likely an equally efficacious agent available that is covered by your insurance plan; I will call your doctor to have a new prescription called in" as a 4 or 5. The second-ranked response was "I will call your doctor and insurance company and try to get an exception made regarding your prescription coverage," rated as a 4 or 5 by 50.6%. The least likely response, rated as a 1 by 45.3%, was "I'm as frustrated as you are that nonmedical personnel make these decisions about denying care;" however, 30.9% gave that response a rating of 4 or 5.

### Pharmacy Student Focus Groups

Nine students agreed to participate in a focus group addressing their views of managed care. The focus group included students aged 18 to 34 years and at least 1 representative from each year of pharmacy school. Most focus group students had minimal exposure to managed care pharmacy. Two of the 9 students, both in their fourth year, had completed a managed care pharmacy experiential rotation; all other students stated that they were very unfamiliar with managed care pharmacy and what they knew was based on second-hand reports. Pharmacy students who participated in the focus group sessions were largely unfamiliar with the function of managed care pharmacy, outside of formulary development and

enforcement, as expressed in the following example:

Third-year student: "I have yet to really draw concrete conclusions about how I feel about managed care. I don't feel I have had enough exposure to it yet at this point in my career. I am really hoping that rotations clear some of that up for me. I am slightly disappointed in that I have to wait until rotations to get a feeling for some areas of pharmacy, but it won't change for me."

Fourth-year students who had completed a managed care pharmacy course elective, as well as managed care experiential rotation, had a more comprehensive understanding of managed care and generally a more favorable opinion of the role that managed care plays in optimizing patient care, such as in the following example:

"I believe I have a positive feeling because I took a pharmacy management elective last semester and had the opportunity to hear first-hand from managed care professionals as to the decision-making process that goes on in their companies."

### Student Views of Managed Care Expressed in Focus Group Sessions

When asked what terms came to mind when a student heard the phrase "managed care," first-, second-, and third-year students tended to list terms related to money, cost control, medication restrictions, and impersonal management. The 2 fourth-year students who had completed managed care experiential rotations listed more patient-centered terms, as well as safety and efficacy, guided therapy, disease state expertise, and overall health.

With the exception of 1 fourth-year student, all pharmacy students pictured a man when asked to describe the typical managed care pharmacist. Direct patient care was described as

**Pharmacy Students' Views of Managed Care Pharmacy and PBMs: Should There Be More Exposure to Managed Care in the Pharmacy Curriculum?**

**TABLE 2** Student Views of PBMs by Self-Reported Understanding of PBM Function

	Self-Reported Understanding of PBMs <sup>a</sup>					Total N (%)
	None n (%)	A Little n (%)	Neutral n (%)	Well n (%)	Quite Well n (%)	
<b>How do you view PBMs?<sup>b</sup></b>						
Very unfavorably	0 (0.0)	4 (2.6)	0 (0.0)	1 (2.0)	0 (0.0)	5 (1.5)
Unfavorably	6 (6.8)	30 (19.9)	10 (27.8)	12 (24.0)	1 (14.3)	59 (17.8)
Neutrally	79 (89.8)	101 (66.9)	18 (50.0)	17 (34.0)	1 (14.3)	216 (65.1)
Favorably	3 (3.4)	14 (9.3)	8 (22.2)	17 (34.0)	3 (42.9)	45 (13.6)
Very favorably	0 (0.0)	2 (1.3)	0 (0.0)	3 (6.0)	2 (28.6)	7 (2.1)
<b>Level of interest in PBM career<sup>c</sup></b>						
No interest	12 (13.6)	34 (22.5)	6 (16.7)	7 (14.0)	0 (0.0)	59 (17.8)
Little interest	9 (10.2)	55 (36.4)	12 (33.3)	13 (26.0)	2 (28.6)	91 (27.4)
Neutral	58 (65.9)	37 (24.5)	6 (16.7)	8 (16.0)	0 (0.0)	109 (32.8)
Interested	8 (9.1)	19 (12.6)	11 (30.6)	14 (28.0)	2 (28.6)	54 (16.3)
Very interested	1 (1.1)	6 (4.0)	1 (2.8)	8 (16.0)	3 (42.9)	19 (5.7)
Totals <sup>d</sup>	88 (100)	151 (100)	36 (100)	50 (100)	7 (100)	332 (100)

<sup>a</sup>Response to the question: "How well would you say you understand the function of a PBM?"

<sup>b</sup>Pearson chi-square test of between-group differences  $P < 0.001$ .

<sup>c</sup>Response to the question: "Rate your level of interest in working at a PBM in your career." Pearson chi-square test of between-group differences  $P < 0.001$ .

<sup>d</sup>Percentages may not sum to 100% due to rounding. The total counts are the same for both survey items in each column.

PBM = pharmacy benefits management company.

feminine—"more nurturing and patient-oriented."

Third-year students identified these gender differences in their responses:

Female: "...it does take a certain personality to be in managed care that I think the general public would perceive as male traits."

Male: "I believe that certain aspects of the pharmacy profession may be predominantly male, such as managed care; however, I feel that women tend to fulfill pharmacy roles that are more nurturing and patient oriented... (managed care) does take a certain 'type' of person, be it male or female, to possess character traits and personalities that may be stereotyped as being more 'masculine' rather than 'feminine'."

Female: "...with regards to managed care being 'masculinized.' I don't think it is intentionally male-dominated. It is just something that appeals to more men than women."

Focus group students also listed characteristics such as business savvy, well-dressed, pharmaceutical representative-like, and focused on the "big picture." First- and second-year students felt that managed care pharmacists are more business-minded than patient-minded and comfortable enacting policy that will influence millions of people. Fourth-year students had a disease-state expert view of a managed care pharmacist as someone who is very familiar with medical evidence and rationally applies it to therapy decisions:

Fourth-year student: "I envision this person making decisions, based on limited information at hand, having to be

able to rationalize their decisions on multiple different playing fields: pharmaceutically appropriate, economically appropriate, short-term goal focused, long-term goal focused. In their day-to-day [work] I see them as someone who spends a lot of time in meetings discussing materials and information that has been provided to them by a team of assistants."

**Discussion**

Both the survey data and the focus group data support the conclusion that pharmacy students early in the pharmacy degree program generally have little understanding of PBM function and a neutral or low opinion of managed care pharmacy. Only 17% of students overall and 1 in 4 students in the final year of their degree program reported that they understood PBM functions "well" or "quite well." Yet, 34.7% (99 of 285) of students with past or current work experience in community pharmacy estimated the percentage of time PBMs directly affected their practice worksite during a shift at 50% or greater. Focus group sessions suggested that some students do seek out elective managed care opportunities, expanding and improving their overall view of managed care. Students in the focus group sessions stated that the delivery of care in a community setting is impacted by patient and pharmacist understanding of managed care. Even for those students with positive views of managed care, the view that managed care pharmacists tend to have an impersonal approach to the delivery of health care—described as "masculine"—persists. If this stereotype is confirmed with future research, it could be a potentially limiting

**Pharmacy Students' Views of Managed Care Pharmacy and PBMs: Should There Be More Exposure to Managed Care in the Pharmacy Curriculum?**

**TABLE 3** Responses to Scenario Question<sup>a</sup>

Ranking	There is likely an equally efficacious agent available that is covered by your insurance plan; I will call you doctor to have a new prescription called in.	I will call your doctor and insurance company and try to get an exception made regarding your prescription coverage.	The insurance company limits access to certain medications to control cost.	It's a time consuming process, but you can take your prescription back to your doctor to have an exception made regarding your prescription coverage.	I'm as frustrated as you are that non-medical personnel make these decisions about denying care.
5 Most Likely	98 (40.3%)	49 (20.2%)	18 (7.4%)	24 (9.9%)	54 (22.2%)
4	46 (18.9%)	74 (30.5%)	41 (16.9%)	61 (25.1%)	21 (8.6%)
3	13 (5.3%)	39 (16.0%)	116 (47.7%)	53 (21.8%)	22 (9.1%)
2	34 (14.0%)	52 (21.4%)	47 (19.3%)	74 (30.5%)	36 (14.8%)
1 Least Likely	52 (21.4%)	29 (11.9%)	21 (8.6%)	31 (12.8%)	110 (45.3%)

<sup>a</sup>Responses to the survey question: "Please respond to the following scenario. You are working at the local community pharmacy when a patient is told that her prescription has been denied by the insurance company. She is very angry and frustrated and wants you to explain the situation to her. Which of the following responses would you provide?" Shaded cells represent the most common response. Columns may not sum to 100% due to rounding. Respondents who failed to rank all 5 options (n = 89) were excluded from analysis of this question.

factor for female pharmacy students pursuing managed care career opportunities.

How managed care knowledge is integrated into pharmacy education programs is not extensively described in the pharmacy education literature, and remains largely unstudied in recent years. One study in 1996 surveyed 43 colleges of pharmacy and reported that managed care content is incorporated primarily in pharmacy management/administration (63%) and health systems courses (44%).<sup>12</sup> It is unclear, however, how effective these courses are in influencing students' understanding of managed care pharmacy. In the present study, more than three-quarters of fourth-year students rated the amount that they had been taught about PBMs in pharmacy school as "inadequate" or "very inadequate." Findings from this single-school study suggest that other colleges of pharmacy may want to evaluate whether their curricula are adequately preparing students to handle the managed care issues dealt with daily in community practice.

Our survey results regarding student interest in PBM as a career are consistent with reports in the literature. Baran et al. reported in 1998 that 5.7% of pharmacy students "expect to" work in managed care.<sup>13</sup> In a 1999 study of pharmacy students at NOVA Southeastern University, Carvajal and Hardigan found that 21.3% of students would prefer their first work experience to be in a setting other than hospital, community or chain pharmacy.<sup>14</sup> Giaquinta (2000) stated that "...students are not looking for managed care experiences early enough in their education. They also have preconceived negative opinions about managed care, so there is limited interest in the electives in the first years of school,"<sup>15</sup> an assessment that is similar to statements made by students who participated in our focus groups.

**Managed Care Opportunities for Student Pharmacists**

External opportunities to gain exposure to managed care do exist throughout the pharmacy field. Examples include joining AMCP as a student member; starting an AMCP student chapter if one does not already exist; participating in a state organization seminar series held for students; or seeking employment opportunities, such as internships, within a managed care environment. AMCP has a variety of managed care resources available to students. These materials can be found at their Website through the ASCENT Center.<sup>16</sup> ASCENT stands for:

- **Awareness** and **Access** to information specific to managed care pharmacy principles and practices
- **Shadowing** opportunities for student pharmacists in managed care pharmacy
- **Connectivity** with AMCP, Diplomats, potential employers, learning opportunities and other student pharmacists
- **Encouraging** student pharmacists to **Expand**
- **Navigate** the understanding of the managed care pharmacy world and the employment opportunities before and after graduation
- **Training** opportunities in managed care pharmacy

AMCP is also compiling a list of managed care-focused advanced pharmacy practice experiences to expose students to additional opportunities. The Foundation for Managed Care Pharmacy (FMCP) in conjunction with AMCP and Pfizer offers twelve 10-week internships for pharmacy students. The goal of these internships is to enhance student understanding of the career opportunities within managed care.<sup>17</sup> FMCP also partners with Allergen, Inc. to offer 2 summer internships in an effort to create awareness of career opportunities in health outcomes and pharmacoconomics research. Both internships also include 1 week at the AMCP/FMCP offices to help introduce students to professional associations within managed care.

## Pharmacy Students' Views of Managed Care Pharmacy and PBMs: Should There Be More Exposure to Managed Care in the Pharmacy Curriculum?

Unfortunately, not all schools of pharmacy currently provide extensive external or internal managed care educational opportunities. The University of Minnesota, College of Pharmacy started a student chapter for AMCP after the completion of this research. Other data suggest that pharmacy students may not seek managed care electives in their first year due to preconceived negative opinions about managed care.<sup>14</sup> Both inconsistent opportunities and negative stereotypes likely inhibit students from gaining managed care exposure outside of the required pharmacy curriculum.

### Implications for Managed Care

The simultaneous timing of health care reform and the implementation of new accreditation standards for colleges of pharmacy<sup>1</sup> present an opportunity for colleges of pharmacy to reconsider their exposure of managed care to students. While the new pharmacy accreditation standards do not specifically mention including managed care content as core content, health literacy is mentioned by the Accreditation Council for Pharmacy Education as essential in Standard 9, Guideline 9.1 and Standard 12, Guideline 12.1.<sup>18</sup> Issues with health literacy are documented in the literature.<sup>19,20</sup> The *Healthy People 2010* report from the U.S. Department of Health and Human Services (2000) defines health literacy as “the degree to which individuals have the capacity to obtain, process, and understand basic health information and services needed to make appropriate health decisions.”<sup>19</sup> Health literacy is not only the ability to understand medical directions, but also the ability to navigate complex health care systems. The Agency for Health Care Research and Quality report, *Literacy and Health Outcomes*, published in 2004, suggests that low health literacy results in worse health outcomes and increases in health care expenditures.<sup>20</sup> Patients are often ill-equipped to navigate the complex managed care system<sup>19</sup> and may turn to the community pharmacist for assistance. Patients interact with managed care primarily at the point of medication dispensing, positioning the pharmacists as mediator and educator of the managed care system to a large portion of the public.

The present study raises a 2-fold question that we believe warrants further discussion: do *all* pharmacists require foundational understanding of managed care pharmacy to provide quality patient care, and are medications used more safely and effectively when patients have the ability to navigate the managed care system? Our findings suggest that managed care pharmacy organizations should partner with academia in order to ensure pharmacy students are learning about the field. A better-informed pharmacy profession can potentially mediate the anger and frustration of patients,<sup>21</sup> improve appropriate medication use, and empower patients to better navigate the managed care system. With increased managed care knowledge, pharmacists can potentially become better patient advocates, explaining managed care pharmacy's role in ensuring

patient safety and effective treatments.

We were unable to find any recent evaluations in the literature of managed care curriculum in pharmacy education, but Giaquinta described steps that colleges of pharmacy were taking in 2000 to expand opportunities for students to gain greater managed care knowledge.<sup>15</sup> These steps included additional elective courses and rotation opportunities, revising existing management courses to include more managed care content, and requiring a management course during the fourth year that specifically addressed PBMs, health maintenance organizations (HMOs), and integrated health care environments.<sup>15</sup> Anecdotally, the report by Giaquinta stated that these steps led to greater student interest in managed care.<sup>15</sup>

An evaluation of a required 2-day managed care course for third-year medical students in 1997 using a pre-test versus post-test design found improved attitudes toward managed care; however, after course completion, 72% of students still at least somewhat agreed that MCOs unduly limited physician decision making and 50% still at least somewhat agreed that managed care would have a negative effect on their career choices and working environment.<sup>22</sup> Clearly this specific intervention was only partially successful, but could still be used as a reference point when considering various strategies for integrating managed care content into the pharmacy curriculum.

An American Association of Colleges of Pharmacy Task Force in 1998 drafted a guidance document for implementing curriculum revisions related to managed care.<sup>23</sup> Although this guidance document is 12 years old, its recommendations are still helpful, and colleges and MCOs should consider utilizing it as a starting point for discussion.

We were unable to locate published literature that documents the frequency of managed care-related questions posed in the community pharmacy practice setting. A majority of pharmacists practice in community settings, and it is possible that, within this practice setting, a significant number of questions from patients are managed care-related. We began this study with the premise that managed care content is necessary within the pharmacy curriculum because most graduates will practice in a community setting. Our data suggest that one-third of pharmacy interns are regularly confronted with PBM-related decisions in the community practice setting, and most feel that they require more educational exposure to this content area.

### Limitations

Limitations of this study include the small number of respondents with complete survey data (332 students; 50.1% of all students) from a single pharmacy institution. The strengths include different sources of information (i.e., survey data and focus group data), although only 9 students participated in the focus groups. Although the results of the present study may not be generalizable to all pharmacy programs, especially those

## Pharmacy Students' Views of Managed Care Pharmacy and PBMs: Should There Be More Exposure to Managed Care in the Pharmacy Curriculum?

with more comprehensive managed care curricula, it is clear that students in Minnesota, a state with a long history of managed care involvement, receive little education regarding PBM functions and managed care.

### Conclusion

Both the survey data and the focus group data support the conclusion that pharmacy students at the University of Minnesota generally have a low level of understanding of the function of a PBM and managed care pharmacy. This inadequate understanding may result in negative views about what managed care is and the role it plays in patient care. This problem represents an opportunity for colleges of pharmacy and MCOs to work together to evaluate and address this need. Future initiatives should include developing effective strategies to integrate managed care pharmacy content into pharmacy curricula and evaluate the effectiveness of those initiatives.

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### DISCLOSURES

This study was performed without external funding. Gleason performed concept and design and data interpretation with the assistance of Pittenger and Thompson. Pittenger collected the data with the assistance of Thompson. Pittenger and Gleason had primary responsibility for writing the manuscript with the assistance of Starner. Revisions were made by Starner with the assistance of Gleason and Pittenger.

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## Pharmacy Students' Views of Managed Care Pharmacy and PBMs: Should There Be More Exposure to Managed Care in the Pharmacy Curriculum?

### APPENDIX A Pharmacy Student Online Survey

#### I. Demographics

\_\_\_ Male/Female    \_\_\_ Age    \_\_\_ PharmD Year    \_\_\_ Twin Cities/Duluth

#### II. Understanding/Knowledge

What does PBM stand for? What services do PBMs provide? (check all that apply)

\_\_\_ Electronic claims adjudication    \_\_\_ Benefit Design    \_\_\_ Research  
\_\_\_ Disease Management    \_\_\_ Formulary    \_\_\_ Utilization Management  
\_\_\_ Drug Utilization Review    \_\_\_ Rebates    \_\_\_ Direct patient care  
\_\_\_ Mail-Order Services    \_\_\_ Specialty drug management    \_\_\_ Electronic prescribing services  
\_\_\_ Negotiated pharmacy networks    \_\_\_ Coverage determination    \_\_\_ Medicare Part D administration  
\_\_\_ Laboratory testing    \_\_\_ Medication Therapy Management    Don't know or not sure please check here \_\_\_

Who do PBMs work for? (check all that apply)

\_\_\_ Employers    \_\_\_ Patients    \_\_\_ Society    \_\_\_ Health Insurers    \_\_\_ Government

In 2006, what percent of licensed pharmacists in the U.S. do you think worked in a setting other than community or hospital pharmacy?

\_\_\_ 41% to 50%    \_\_\_ 31 to 40    \_\_\_ 21 to 30    \_\_\_ 11 to 20 (correct answer 15%)    \_\_\_ 1 to 10

How well would you say you understand the function of a PBM?    Quite well / well / neutral / a little / none

#### III. Experiences/Interactions

Have you ever worked for a PBM?    Yes / No

Have you ever shadowed someone at a PBM or had a mentor at a PBM?    Yes / No

Do you currently or have you ever worked in a pharmacy?    Yes / No

If Yes: Setting?

\_\_\_ Hospital/Community/Long-term care/other

\_\_\_ Rate what **percent of time** PBMs directly affect your practice worksite during a shift:

Have you learned about PBMs in pharmacy school course?    Yes / No

How would you rate the amount you've been taught about PBMs in pharmacy school to prepare you in your future pharmacy practice?

Very Adequate / Adequate / Inadequate / Very Inadequate

#### IV. Opinions

How do you view PBMs?    Very favorably / Favorably / Neutrally / Unfavorably / Very unfavorably

How do you think the majority of your classmates view PBMs?    Very favorably / Favorably / Neutrally / Unfavorably / Very unfavorably

How do you think the majority of your professors view PBMs?    Very favorably / Favorably / Neutrally / Unfavorably / Very unfavorably

Rate your level of interest in working at a PBM in your career:    Very Interested / Interested / Neutral / Little Interest / No Interest

Please respond to the following scenario. You are working at the local community pharmacy when a patient is told that her prescription has been denied by the insurance company. She is very angry and frustrated and wants you to explain the situation to her. Which of the following responses would you provide (Rank 1 being least likely to 5 being most likely)?

\_\_\_ The insurance company limits access to certain medications to control cost

\_\_\_ It's a time consuming process, but you can take your prescription back to your doctor to have an exception made regarding your prescription coverage.

\_\_\_ I'm as frustrated as you are that non-medical personnel make these decisions about denying care.

\_\_\_ There is likely an equally efficacious agent available that is covered by your insurance plan; I will call your doctor to have a new prescription called in.

\_\_\_ I will call your doctor and insurance company and try to get an exception made regarding your prescription coverage.

### APPENDIX B Pharmacy Student Focus Group Questions

1. Please state your name and tell the group which pharmacy practice areas you have worked in.
2. When I say managed care, what words come to mind? Please list them.
3. Which of the words listed would you rank as most relevant, in your mind, to managed care? Describe experiences which have caused you to associate these words with managed care.
4. Describe how the College of Pharmacy prepares you to work within the managed care structure of our health care system?
5. Imagine your ideal pharmacy program. What would the managed care portion of that program look like?
6. Please look at this stick picture of a person. This person is a pharmacist who works in managed care. On the other half of the page, please list characteristics that you associate with this pharmacist – age, sex, training, job responsibilities, and personality qualities.
7. Let's talk about what characteristics you have listed. Please explain the items you have listed.