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### The Report of the 2016-2017 Professional Affairs Standing Committee: Formally Embracing and Engaging Preceptors in the Academy – The Time Has Come

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# The Report of the 2016-2017 Professional Affairs Standing Committee: Formally Embracing and Engaging Preceptors in the Academy – The Time Has Come

## Abstract

### EXECUTIVE SUMMARY

The 2016-2017 AACP Professional Affairs Committee (PAC) was charged to examine strategies to include adjunct/affiliate preceptors as AACP members and to determine the value proposition of AACP membership for this group of educators. The PAC defined adjunct/affiliate preceptors as preceptors who are neither full-time employees nor have a primary employment commitment ( $\geq 50\%$  of the preceptor's work salary) at a school/college of pharmacy. Specific charges to the PAC included: recommend an approach to increase the number of adjunct/affiliate preceptors as AACP members, examine AACP membership from an adjunct/affiliate preceptor value perspective, and prepare a concise summary of available literature describing value-added contributions of student pharmacists and pharmacy preceptors to pharmacy practice models, interprofessional education (IPE) and interprofessional practice (IPP). The summary of the plan developed by the PAC to address the charges is presented in the following report, which includes three sections: the value proposition of AACP membership for adjunct/affiliate preceptors, expansion of the presence of adjunct/affiliate preceptors in AACP, and the value of student pharmacists in experiential education settings. The value proposition of AACP membership for adjunct/affiliate preceptors section describes results of surveys and focus groups conducted by the PAC. The PAC surveyed experiential education directors at schools/colleges of pharmacy, adjunct/affiliate preceptors (from a request via the experiential education directors), and new pharmacy practice faculty members in order to determine current resources available for adjunct/affiliate preceptor development, as well as explore potential resources AACP could provide for adjunct/affiliate preceptor development. Focus groups were held with adjunct/affiliate preceptors and experiential education faculty/staff to explore some of the results and concepts generated from the surveys. The PAC developed three recommendations for AACP as a result of the surveys and focus groups. The report also describes various factors that should be considered by AACP in developing a membership category for adjunct/affiliate preceptors, including potential membership models, establishment of an advisory board, and collaboration with other stakeholder groups. The final section of the report provides an executive summary and detailed table, which summarizes available literature on the value of student pharmacists in experiential education. The brief literature review reinforces that there are many different practice settings where student pharmacists add value to patient care and the practice site. This information is significant for experiential education faculty/staff, as well as adjunct/affiliate preceptors, and serves as an example of best practices which document the value experiential education provides to patient care and practice sites. The final section of the report provides a policy statement that was adopted by the 2017 AACP House of Delegates and one suggestion to schools/colleges of pharmacy. The report concludes with a call to action regarding the formal involvement of adjunct/affiliate preceptors by AACP and the academy.

## Disciplines

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Bradley-Baker

## AACP REPORT

# The Report of the 2016-2017 Professional Affairs Standing Committee: Formally Embracing and Engaging Preceptors in the Academy — The Time Has Come

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**EXECUTIVE SUMMARY.** The 2016-2017 AACP Professional Affairs Committee (PAC) was charged to examine strategies to include adjunct/affiliate preceptors as AACP members and to determine the value proposition of AACP membership for this group of educators. The PAC defined adjunct/affiliate preceptors as preceptors who are neither full-time employees nor have a primary employment commitment ( $\geq 50\%$  of the preceptor's work salary) at a school/college of pharmacy. Specific charges to the PAC included: recommend an approach to increase the number of adjunct/affiliate preceptors as AACP members, examine AACP membership from an adjunct/affiliate preceptor value perspective, and prepare a concise summary of available literature describing value-added contributions of student pharmacists and pharmacy preceptors to pharmacy practice models, interprofessional education (IPE) and interprofessional practice (IPP). The summary of the plan developed by the PAC to address the charges is presented in the following report, which includes three sections: the value proposition of AACP membership for adjunct/affiliate preceptors, expansion of the presence of adjunct/affiliate preceptors in AACP, and the value of student pharmacists in experiential education settings. The value proposition of AACP membership for adjunct/affiliate preceptors section describes results of surveys and focus groups conducted by the PAC. The PAC surveyed experiential education directors at schools/colleges of pharmacy, adjunct/affiliate preceptors (from a request via the experiential education directors), and new pharmacy practice faculty members in order to determine current resources available for adjunct/affiliate preceptor development, as well as explore potential resources AACP could provide for adjunct/affiliate preceptor development. Focus groups were held with adjunct/affiliate preceptors and experiential education faculty/staff to explore some of the results and concepts generated from the surveys. The PAC developed three recommendations for AACP as a result of the surveys and focus groups. The report also describes various factors that should be considered by AACP in developing a membership category for adjunct/affiliate preceptors, including potential membership models, establishment of an advisory board, and collaboration with other stakeholder groups. The final section of the report provides an executive summary and detailed table, which summarizes available literature on the value of student pharmacists in experiential education. The brief literature review reinforces that there are many different practice settings where student pharmacists add value to patient care and the practice site. This information is significant for experiential education faculty/staff, as well as adjunct/affiliate preceptors, and serves as an example of best practices which document the value

experiential education provides to patient care and practice sites. The final section of the report provides a policy statement that was adopted by the 2017 AACP House of Delegates and one suggestion to schools/colleges of pharmacy. The report concludes with a call to action regarding the formal involvement of adjunct/affiliate preceptors by AACP and the academy.

**Keywords:** Experiential Education, Preceptor Development, Preceptor

## **INTRODUCTION AND COMMITTEE CHARGES**

According to the Bylaws of the American Association of Colleges of Pharmacy (AACP), the Professional Affairs Committee (PAC) is to study issues associated with the professional practice as they relate to pharmaceutical education, and to establish and improve working relationships with all other organizations in the field of health affairs. The PAC is also encouraged to address related agenda items relevant to its Bylaws charge and to identify issues for consideration by subsequent committees, task forces, commissions, or other groups.

President Joseph DiPiro centered the charges for the 2016-2017 AACP standing committees on strategic priorities of the AACP Strategic Plan 2016-2019, adopted by the AACP House of Delegates at the 2016 AACP Annual Meeting. Volunteer (adjunct/affiliate) preceptors contribute to several strategic priorities of the Strategic Plan 2016-2019.<sup>1</sup> For many years, AACP has questioned whether adjunct/affiliate preceptors have needs that AACP can serve directly or through the schools/colleges of pharmacy. The issue of how to incorporate adjunct/affiliate preceptors as AACP members and the value proposition of AACP membership for this group of educators needs to be examined. The 2016-2017 PAC is charged to:

- (1) Recommend to the AACP Board of Directors an approach to increase the number of adjunct/affiliate preceptors as AACP members. Dual-organization membership arrangements should be considered;
- (2) Examine AACP membership from an adjunct/affiliate preceptor value perspective. Using surveys, focus groups or other methods, determine preceptor needs that can be addressed by AACP; and
- (3) Prepare a concise summary of available literature and resources that describe value-added contributions of student pharmacists and pharmacy preceptors to pharmacy practice models and Interprofessional Education (IPE) and Interprofessional Practice (IPP).

Members of the 2016-2017 PAC include faculty from various schools/colleges of pharmacy and multiple disciplines, as well as professional staff representation from the American College of Clinical Pharmacy (ACCP), the American Pharmacists Association (APhA),

the American Society of Health-System Pharmacists (ASHP) and the National Association of Chain Drug Stores (NACDS) Foundation. Prior to the in-person meeting of the committee, pertinent background information and resource materials were distributed. During an introductory conference call, the committee developed strategies to address the charges and outlined initial committee assignments. The committee met for a day and a half, with the other 2016-2017 AACP standing committees, on October 18-19, 2016 in Alexandria, Virginia to discuss various facets related to the charges, as well as to finalize the process and strategies for addressing the charges. Following the process development and delegation of assignments related to the committee charges, the PAC utilized various communication modalities, including Basecamp, conference calls, and email to complete the remaining work.

## **BACKGROUND**

In developing the strategy to address the 2016-2017 charges, the PAC considered numerous factors that contribute to the training and continuing professional development for adjunct/affiliate preceptors. The committee also deliberated over the strengths, weaknesses, opportunities and threats to AACP in the creation of an adjunct/affiliate preceptor membership category. The Accreditation Council for Pharmacy Education (ACPE) release of Standards 2016 influences all aspects of pharmacy education, including preceptors and experiential education.<sup>2</sup> The committee reviewed previous PAC reports pertaining to preceptor training and recognition,<sup>3,4</sup> the role of experiential education in practice,<sup>5</sup> and the collaboration of academic pharmacy and pharmacy practice.<sup>6</sup> In addition, a review of current AACP policy revealed several policies which pertain to the 2016-2017 PAC charges:

- AACP supports the creation of a national vision emphasizing the value of pharmacy education and colleges and schools of pharmacy to various stakeholders, including patients and communities. (Source: Professional Affairs Committee, 2015);
- AACP encourages the development of strategic partnerships to accelerate access to value-based experiential education, especially within emerging health care settings. (Source: Professional Affairs Committee, 2015); and

- AACP affirms that preceptor development is essential to enhance the quality of experiential education and believes that preceptors should possess competencies that include, but are not limited to, leadership/management skills, embodiment of the development of a practice philosophy focused on improving patient outcomes, role modeling as a practitioner, commitment to excellence in scholarly teaching, effective communication skills, and encouragement of self-directed learning (Source: Professional Affairs Committee, 2012).

The result is the following report, which explores the value proposition of AACP membership for adjunct/affiliate preceptors and the value of student pharmacists in experiential education on patient care sites and communities. The PAC identified the following areas related to their charge, which serve as the framework of the report, as well as the generation of a policy statement, recommendations to AACP and suggestion to schools/colleges of pharmacy:

- The Value Proposition of AACP Membership for Adjunct/Affiliate Preceptors;
- Increasing the Presence of Adjunct/Affiliate Preceptors in AACP; and
- The Value of Student Pharmacists in Experiential Education.

### **The Value Proposition of AACP Membership for Adjunct/Affiliate Preceptors**

The PAC defines adjunct/affiliate preceptors as preceptors who are neither full-time employees nor have a primary employment commitment ( $\geq 50\%$  of the preceptor's work salary) at a school/college of pharmacy. Adjunct/affiliate preceptors contribute significantly to experiential education, which is a major component of schools/colleges of pharmacy curricula and an integral part of the pharmacy profession. The experiential component of education has evolved to comprise almost 30% of the pharmacy education requirements as mandated by the current Introductory Pharmacy Practice Experience (IPPE) and Advanced Pharmacy Practice Experience (APPE) requirements in Standards 2016.<sup>2</sup>

The PAC discussed various methods to gather information to develop a value proposition for AACP membership for adjunct/affiliate preceptors. The PAC thought it was important to collect the perspective of adjunct/affiliate preceptors regarding their needs and thoughts about AACP membership. The PAC identified major stakeholder groups in the development of an AACP adjunct/affiliate preceptor membership category as preceptors recognized by the AACP Master Preceptor Recognition Program,<sup>7</sup> adjunct/affiliate preceptors, experiential

education directors, and new pharmacy practice faculty members (defined as being a full-time faculty member for three years or less). To gather information from these stakeholders, the PAC developed surveys for experiential education directors, adjunct/affiliate preceptors (including AACP Master Preceptors) and new pharmacy practice faculty members.

The survey questions for experiential education directors included the following:

- Demographic information (name, school/college of pharmacy, contact information);
- Identification of strategies and benefits that the school/college of pharmacy provides to adjunct/affiliate preceptors;
- Attitude of the experiential education department regarding the potential creation of an AACP membership category for adjunct/affiliate preceptors;
- Suggestions for support and/or services that AACP can provide to adjunct/affiliate preceptors;
- Suggestions for support and/or services that AACP can provide to schools/colleges of pharmacy to support preceptor development.

The adjunct/affiliate preceptors and new pharmacy practice faculty members completed the same survey questions, which included the following:

- Demographic information (preceptor or faculty member, school/college of pharmacy affiliation(s), primary practice setting, years since pharmacist licensure, years of serving as a preceptor, AACP membership status, source of AACP membership payment [if applicable], contact information [optional]);
- Examples of resources/benefits used for preceptor development and/or to support their role as a preceptor;
- Suggestions for resources/benefits that AACP could provide for preceptor's continuing professional development;
- Attitude (and rationale) toward the potential creation of an AACP membership category for adjunct/affiliate preceptors;
- Examples of additional resources and/or experiences that would enhance their role as a preceptor/educator for student pharmacists; and
- For adjunct/affiliate preceptor respondents only: After a free-trial AACP membership, the amount they would be willing to pay for an AACP preceptor membership.

The PAC designed a webpage for all the stakeholder groups, which contained the background and rationale for the surveys. Email information for the experiential education directors, AACP Master Preceptors and new

pharmacy practice faculty members was obtained from AACP membership records. Since there is no central database/repository of adjunct/affiliate preceptors, the PAC requested the experiential education directors forward the adjunct/affiliate preceptor survey invitation and survey link to 5-10 of their adjunct/affiliate preceptors for completion.

The webpage and link for the survey invitation were sent directly to the experiential education directors, the AACP Master Preceptors and new pharmacy practice faculty members on October 31, 2016, and the survey closed on December 2, 2016, with three reminder emails sent during this timeframe. A subsequent email and reminders emails were sent to the experiential education directors asking them to forward the invitation and survey link to 5-10 of their adjunct/affiliate preceptors. All surveys and reminder emails are available from AACP.

### **Experiential Education Director Survey Results**

Seventy-five of the 140 experiential education directors at AACP institutional member schools/colleges of pharmacy completed the survey, for a response rate of 53%. The experiential education directors reported provision of the following strategies and benefits to adjunct/affiliate preceptors from schools/colleges of pharmacy: access to library services (91%), free/discounted live continuing education programming (88%), faculty appointment (77%), access to online services/products/programs (74%), free/discounted online or print programming (69%), support such as on-site faculty or co-funded faculty position(s) (69%), support for student/residency programs, such as a teaching certificate (65%) and stipend to the adjunct/affiliate preceptor practice site (51%).

When asked about support, services and benefits AACP can provide directly to adjunct/affiliate preceptors for their development and those AACP can supply through schools/colleges of pharmacy to support preceptor development, the responses reported by experiential

education directors were very similar (Table 1). A standardized preceptor development program could include techniques to maximize efficiencies in the student pharmacist onboarding process, resources for standardizing the structure of student rotations (eg, syllabi templates, rotation objectives, activities, rotation scheduling, grading rubrics), and information on ACPE Standards. Preceptor training/development resources or toolkits were another popular resource cited by experiential education directors. Suggested content for these resources or toolkits included effective teaching and learning strategies in experiential education, providing feedback to learners, assessment of learners, mentoring student pharmacists, understanding millennials, and case-based training. Additional suggestions for preceptor training and development included creating student research projects at a rotation site, successful practices/ideas to assist in establishing/advancing IPPEs and APPEs and integrating students into practice, and information about implementation of the Pharmacist Patient Care Process<sup>8</sup> and Interprofessional Education<sup>9</sup> in practice. Respondents suggested that these resources should be provided via multiple avenues (eg, print, online modules, podcasts, newsletters, and webinars [real-time and on-demand]) and should be specific for site (practice setting) and years of preceptor experience (where applicable). Respondents also stated that continuing education (ACPE) credits should be provided for these resources and that any training completed by the preceptor should be documented and tracked (and made accessible to schools/colleges of pharmacy).

### **Adjunct/Affiliate (and AACP Master Preceptor) and New Pharmacy Faculty Members Survey Results**

Three hundred and forty-four adjunct/affiliate preceptors responded to the PAC survey, including 13 of 22 recognized as AACP Master Preceptors. Experiential education directors forwarded the survey link to an estimated 1,050 adjunct/affiliate preceptors. Therefore, the

Table 1. Benefits and Services AACP Can Provide to Adjunct/Affiliate Pharmacy Preceptors as Reported by Experiential Education Directors

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#### **Benefits/Services that AACP Can Provide to Adjunct/Affiliate Pharmacy Preceptors**

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- A Standardized Preceptor Development Program
  - Preceptor Training/Development Resources (Toolkit)
  - Preceptor Teaching Certificate
  - Preceptor-Specific Conference (similar to the one currently offered by ASHP)
  - Preceptor-Specific Programming at the AACP Annual Meeting
  - Preceptor Development Column/Information in the *American Journal of Pharmaceutical Education*
  - Social Interface/Mechanism for Preceptors to Network and Share Their Work, Best Practices, and Research
  - Library Resources
  - Establishment of a Preceptor Special Interest Group (SIG)
-

approximate response rate of adjunct/affiliate preceptors was 32%. The preceptor respondents were affiliated with 132 schools/colleges of pharmacy. The majority (56%) were well-experienced, having been a licensed pharmacist for 15 or more years, followed by 6-10 years (18%), 11-15 years (14%), 1-5 years (12%) and less than 1 year (0.3%). Thirty-five percent of respondents had 15 or more years of experience as a preceptor (35%), followed by 1-5 years (25%), 6-10 years (21%), 11-15 years (19%), and less than 1 year (1%). The preceptors represented a diverse array of practice settings, with the majority primarily working in non-government hospital/health system (inpatient) (38%), large chain community retail (13%), and independent community retail pharmacy (9%). Fifteen of the adjunct/affiliate preceptor respondents (4.4%) reported current AACP membership, with membership dues paid by the respondent (53%), paid by the employer (12%), or generated through free membership as part of the Master Preceptor award (35%).

Surveys were distributed to 578 new pharmacy practice faculty members (identified from the AACP database as assuming a faculty role between July 2013 and September 2016). Eighty-three new faculty members representing 50 schools/colleges of pharmacy responded to the PAC survey (14% response rate). The most common primary practice settings were ambulatory care (30%), non-government hospital/health system (inpatient) (26%), and academic institutions (28%). The majority of respondents reported being a licensed pharmacist for 1-5 years (48%) and serving as a pharmacy preceptor for 1-5 years (57%). Eighty-eight percent of the respondents reported current AACP membership, with the membership dues paid by the institution (46%), the respondent (29%), first-time faculty free membership (19%), or a shared expense between the respondent and the institution (6%).

Both adjunct/affiliate respondents and new faculty respondents reported utilizing similar resources for preceptor development. The most common preceptor development resources noted by adjunct/affiliate preceptors included education/training from employer/institution/school or college of pharmacy (66%), the *Pharmacist's Letter* (65%), and attending national (44%) and local/state/regional (57%) pharmacy association meetings. New faculty respondents reported education/training from employer/institution/school or college of pharmacy (76%), post-graduate training (65%), attending national (61%) and local/state/regional (57%) pharmacy association meetings, and teaching certificate programs (55%) as frequent sources of preceptor development.

Adjunct/affiliate preceptors and new faculty respondents agreed on several additional resources or experiences that could enhance their role as a preceptor. These included continuous preceptor development training, access to resources/drug information, access to teaching-specific resources, and certificate training programs. In addition, respondents also noted many of the above items as potential resources and benefits AACP could provide to enhance preceptor skills (Table 2). The adjunct/affiliate preceptor respondents cited access to online services/products/programs, discount or free continuing education programming and certificate training programs more than other resources. Responses of new faculty respondents were similar; however, professional networking opportunities with peers was also selected as a top resource/benefit that AACP can provide. Perhaps this is because most new faculty respondents were AACP members. Interestingly, 32% of the adjunct/affiliate preceptor respondents cited education/training on the role of the preceptor in interprofessional education as a resource/benefit that AACP could provide to preceptor members. This, along

Table 2. Benefits and Services AACP Can Provide to Adjunct/Affiliate Pharmacy Preceptors as Reported by Adjunct/Affiliate Pharmacy Preceptors and New Pharmacy Practice Faculty

<b>Benefit/Service</b>	<b>Adjunct/Affiliate Preceptor N=341 responses (%)</b>	<b>New Pharmacy Practice Faculty N=82 responses (%)</b>
Access to online services, products, programs	65.4	54.9
Online drug information services (eg, LexiComp, Micromedex)	45.2	31.7
Certificate training program (eg, Antimicrobial stewardship, point-of-care testing)	48.1	32.9
Discount/free continuing education programming (live)	51.9	51.2
Discount/free continuing education programming (online/print)	60.7	58.4
Preceptor listserv, blog or other online networking avenue	29.0	19.5
Preceptor mentor program	22.3	37.8
Professional networking opportunities with peers	29.0	58.5
Providing education/training on the preceptor role in interprofessional education (IPE)	32.0	0

with provision of education/training on the role of the preceptor with the Pharmacist Patient Care Process<sup>8</sup> and Entrustable Professional Activities (EPAs) for New Pharmacist Graduates<sup>10</sup> may also be very beneficial for adjunct/affiliate preceptor members.

Table 3 provides a summary of attitudes regarding the creation of an AACP membership category for adjunct/affiliate preceptors. While the majority of each survey group reported either strongly agree or agree with the membership concept, there were questions/inquiries from the respondents regarding the membership package (eg, benefits, services) and cost of membership.

Adjunct/affiliate preceptors provided information on the amount they would be willing to pay for an AACP membership following a free trial membership (Table 4). The most common response was \$51-\$100 (28%), followed by 25% of respondents who reported unwillingness to pay for AACP membership. The “depends” group did not provide a definitive amount they would be willing to pay for membership. Many respondents made comments about the cost burden of dues for multiple memberships, which may explain responses in the zero to lower dollar amounts. This indicates that AACP must clearly define the value proposition for adjunct/affiliate preceptor membership to justify and explain any proposed membership rate.

### **Preceptor and Experiential Education Faculty/Staff Focus Groups**

The PAC decided that focus groups with stakeholders would be valuable in exploring some of the key findings from the aforementioned surveys. The PAC elected to hold three focus groups, two with adjunct/affiliate preceptors and one with experiential education faculty/staff, during the APhA Annual Meeting in San Francisco, California in March 2017. Invitations to the adjunct/affiliate preceptor focus groups were sent electronically to the APhA Preceptor Special Interest Group (SIG) online network (permission to post the invitation was obtained from APhA), and an invitation for the experiential education

faculty/staff focus group was sent to the AACP Experiential Education Section listserv. The discussion guides used for the focus groups are available from AACP.

Two focus groups with adjunct/affiliate preceptors had a total of eight participants (7 females and 1 male). The participants represented various practice settings, including academia, ambulatory care, community, and long-term care, with the majority of participants having a doctor of pharmacy degree (n=6) and residency training (n=5). The majority of participants had been a licensed pharmacist for more than 15 years (n=5). Five participants served as preceptors for APPEs only, while three were preceptors for both IPPEs and APPEs. The participants had a broad range of years of experience (preceptor for 1-3 years [n=3], preceptor for 7-10 years [n=1], and preceptor for more than ten years [n=4]). The participants offered several elements that would assist them in developing their skills as preceptor. These included learning from and exchanging information with other preceptors, having examples of practices of successful preceptors, and having the ability to generate new models of practice based upon experience of others. When provided a list of potential benefits for adjunct/affiliate preceptor membership in AACP, the focus group participants indicated the following as amongst the most important for their preceptor development:

- Preceptor training and development toolkit (n=1);
- Stipend (funding) for preceptors to travel to conferences/meetings (n=1);
- Preceptor teaching certificate (n=2);
- Standardized preceptor development program (n=3);
- Conference or regional meetings for preceptors (n=3); and
- Digital platform for preceptors to network and share their work, research and best practices (n=8).

When asked if they would consider becoming a member of AACP as an adjunct/affiliate preceptor, all of the participants indicated they would consider membership. They cited interest in membership for a variety of reasons,

Table 3. Attitudes Regarding Creation of an AACP Membership Category for Adjunct/Affiliate Pharmacy Preceptors

	Survey Respondent Category		
	Experiential Education Director N=75 responses (%)	Adjunct/Affiliate Preceptor N=341 responses (%)	New Pharmacy Practice Faculty N=83 responses (%)
Strongly Agree	21.6	30.5	26.8
Agree	31.1	35.8	40.2
Neutral	21.6	25.5	20.7
Disagree	9.5	1.2	2.4
Strongly Disagree	4.1	0.6	0
Uncertain	12.2	6.5	9.8

Table 4. Willingness of Adjunct/Affiliate Pharmacy Preceptors to Pay for Annual AACP Membership

Annual Membership Fee	Total N	Percent
Zero	83	24.9
\$1.00 to \$50.00	60	18.0
\$51.00 to \$100.00	95	28.4
>\$100.00	44	13.2
Depends	52	15.6
Total	334	

including ability to provide AACP with contemporary pharmacy practice information, ability to voice preceptor and educational concerns to the academy, opportunities to network with other preceptors, and enhanced exposure to curricula and learning outcomes for student pharmacists. Focus group participants indicated that a yearly membership fee of \$100-\$150 was reasonable and recommended provision of a complimentary membership for a minimum of one year so preceptors could see firsthand the benefits of AACP membership. They also advised that many adjunct/affiliate preceptors may be interested in AACP membership, but may be hesitant due to the cost of other association memberships and fees (eg, pharmacist licensure renewal).

The focus group of experiential education faculty/staff was comprised of eight participants. The participants represented an equal number of public and private institutions, and the majority had earned the doctor of pharmacy degree (n=7) and were residency trained (n=5). The majority had been licensed as a pharmacist for more than 15 years (n=5), and the length of time in experiential education varied (less than one year [n=1], 1-3 years [n=3], 7-10 years [n=2], and more than 10 years [n=2]). Participants reiterated that their institution provided many of the benefits to adjunct/affiliate preceptors as reported in the experiential education director survey. Examples included access to library services, continuing education programs, and faculty appointment (some requiring paperwork from the preceptor).

Participants listed financial support for meetings, provision of the Preceptor Training & Resource Network (from the *Pharmacist's Letter*), provision of a research network for preceptors, and various preceptor recognition programs as additional benefits provided by their institution. During the discussion of a standardized preceptor training program, some participants believed that implementation of such a program would be challenging, as there is not a "one-size-fits-all" for preceptors and practice sites. Participants were interested in having a national standardized package of information/training for new preceptors to reduce the need (and redundancy) for creation of

a basic training program at each school/college of pharmacy; however, they acknowledged that such a program would be costly to develop and maintain. Experiential education faculty also mentioned the need to have resources available for all preceptors (including materials on new educational concepts, eg, Pharmacists' Patient Care Process), and the necessity for national pharmacy associations to work together in developing and marketing preceptor development programs and services. Due to time constraints, no discussion of the potential AACP membership category for adjunct/affiliate preceptors occurred during this focus group.

Overall, the focus groups echoed many of the results from the surveys conducted by the PAC. While the PAC acknowledges that participants in the adjunct/affiliate preceptor focus groups may be biased by being more engaged and interested in continuing professional development for preceptors, the insights from focus groups provide valuable information for AACP to consider in developing resources and services for this group of pharmacy educators. The focus group with experiential education faculty/staff also supplied useful information regarding preferred types of preceptor development resources and the need for collaboration from national groups in development of these resources. More details regarding the focus group discussion items are available from AACP.

### **Increasing the Presence of Adjunct/Affiliate Preceptors in AACP**

Adjunct/affiliate preceptors are a key group of stakeholders that bear significant responsibility for ensuring practice-ready, team-ready pharmacy graduates.<sup>3</sup> Academic pharmacy, through the schools/colleges of pharmacy, and the national pharmacy organizations play a significant role in preceptor training and development. Other national professional pharmacy associations have in fact targeted their respective memberships by offering preceptor training and development programs and services, often conducted by colleagues from the academy. Although AACP has typically not had a direct relationship with adjunct/affiliate preceptors, the results of the PAC surveys and focus groups suggest there are services AACP can provide to this group of educators. As the organization representing academic pharmacy, it is reasonable that AACP consider expanding its relationship through establishment of a formal membership option for adjunct/affiliate preceptors.

Currently, adjunct/affiliate preceptors can become an Affiliate member of AACP, which is a non-voting, individual membership category.<sup>11</sup> The cost of individual Affiliate membership is the same as Active individual

membership, which is the AACP membership category for administrators, faculty, staff and librarians of regular and associate institutional members. As discussed previously, the results of the PAC survey of experiential education directors, new faculty and adjunct/affiliate preceptors indicate a need for training and development that AACP could design and provide for adjunct/affiliate preceptors.

The PAC discussed elements to consider as AACP explores the possibility of formalizing a relationship with adjunct/affiliate preceptors. One potential disadvantage is that this group of educators is typically unfamiliar with the role of AACP. In addition, AACP is traditionally not the professional association that they join or consider for training and continuing professional development. Many professional associations face challenges in recruitment and retention of members, and AACP may encounter similar issues as it develops its marketing strategy and value proposition to attract and retain adjunct/affiliate preceptors for membership. The costs, including money and time, for adjunct/affiliate preceptors to join the association also warrant consideration, since many preceptors are already dues-paying members of other professional associations.

As the voice of academic pharmacy, AACP can provide adjunct/affiliate preceptors with essential and relevant information, as well as education and training on the role of the academy, and responsibilities and opportunities as an educator. The optimal method to inform adjunct/affiliate preceptors of the opportunity for membership in AACP is an important question. Direct marketing to adjunct/affiliate preceptors may not be efficient or feasible, since there is no central database of preceptors. Utilizing the schools/colleges of pharmacy to provide information on AACP membership to adjunct/affiliate preceptors may be a more effective strategy. Because most adjunct/affiliate preceptors are not members of the association, the PAC believes AACP should consider offering a free trial membership to adjunct/affiliate preceptors, which will allow personal experience with AACP programs and services.

The PAC also discussed the possibility of having the schools/colleges of pharmacy support AACP membership dues for their adjunct/affiliate preceptors. Many approaches could be utilized by schools/colleges of pharmacy to contribute to membership of adjunct/affiliate preceptors in AACP—payment of the full or partial cost of membership dues, payment of AACP membership fees for select adjunct/affiliate preceptors based on institutional criteria, or application to the school/college for adjunct/affiliate membership in AACP. Another suggested option was to have schools/colleges of pharmacy

remunerate AACP directly for availability of services/programs for all adjunct/affiliate preceptors. The AACP institutional dues paid by schools/colleges of pharmacy could include a base fee for preceptors prorated on student pharmacist enrollments (centered on the assumption more student pharmacists necessitates more adjunct/affiliate preceptors). Alternatively, schools/colleges of pharmacy could provide a set fee to AACP to develop and provide necessary training for adjunct/affiliate preceptors.

Provision of AACP programs offering continuing professional development for adjunct/affiliate preceptors and/or standardized preceptor training may be beneficial for schools/colleges of pharmacy in meeting ACPE accreditation requirements.<sup>2</sup> In the past, APhA developed a continuing education (CE) preceptor training program entitled *The Community Pharmacist Preceptor Education Program* which addressed the role of the preceptor in education of student pharmacists and provided strategies to enhance implementation of community pharmacy rotations. This program, which expired in 2013, was very well received by academic pharmacy and other pharmacy stakeholders. The PAC discussed the potential for updating this program to include multiple practice settings. The PAC realizes that continuous preceptor training options may not be viable at many schools/colleges of pharmacy due to budgetary constraints. Therefore, the PAC believes it is important to provide AACP and the academy with opportunities to establish a formal relationship with adjunct/affiliate preceptors.

Another option for AACP to establish a relationship with adjunct/affiliate preceptors is formation of a dual-membership with another national pharmacy association. A relationship of this type would provide an adjunct/affiliate preceptor with AACP membership at a reduced rate if they were also a member of another national pharmacy association. Since the PAC has three professional staff members of national pharmacy organizations (ACCP, APhA and ASHP), the PAC requested that they explore this possibility with their respective operations/membership staff colleagues. All three organizations stated that a dual-membership relationship with AACP for adjunct/affiliate preceptors is not feasible at this time. Reasons included potential “cannibalizing” of their membership base, higher priorities for the organization, and prior experiences with dual membership arrangements with other organizations that did not function well fiscally or operationally.

Creation of a new membership category for adjunct/affiliate preceptors requires significant planning by AACP. AACP must formulate and finalize the value proposition for these members, including benefits, resources, and services offered initially and in the future (3 to 5

years). Establishment of membership targets and membership rate (and decision on free trial membership) will inform the budgeting of resources and personnel necessary to accomplish the desired programming and services for this member category. In addition, operational considerations (eg, validation of adjunct/affiliate preceptor status, impact on school and/or AACP reporting for Institutional Research) must be determined. A marketing plan for adjunct/affiliate preceptors also has to be created and executed. AACP should consider establishing an advisory board, comprised of Experiential Education faculty and preceptors (including Master Preceptors) to provide input on development of the adjunct/affiliate preceptor membership category. Finally, the AACP House of Delegates will have to approve the establishment of a new membership category, since membership categories require an amendment of AACP Bylaws.

**Recommendation 1:** AACP should develop a formal plan for establishing a new membership category for adjunct/affiliate preceptors to be considered at the 2018 AACP House of Delegates.

**Recommendation 2:** AACP should develop a resource, operational, and marketing plan to provide standardized training and continuing professional development for adjunct/affiliate preceptors.

**Recommendation 3:** AACP should collaborate with APhA to revise/update the initial orientation preceptor program (formally known as The Pharmacist Preceptor Education Program).

### **The Value of Student Pharmacists in Experiential Education**

After conferring with AACP President DiPiro, the PAC focused the third committee charge on examining the literature pertaining to value-added contributions of student pharmacists in various health care settings. During experiential rotations, student pharmacists learn key practical knowledge that helps fine-tune their skills and prepares them to be team-ready and practice-ready in real-world practice. In addition, evidence demonstrates that students add value to experiential sites by enhancing business growth potential, solving drug-related problems, and decreasing overall cost of healthcare while completing rotations. This data is a useful component of the value proposition for adjunct/affiliate preceptors. Preceptors can utilize this information to enhance practice settings with student pharmacists and/or supplement evidence of the role and positive potential of experiential education. Providing this information to academic pharmacy and other stakeholders not only helps support the recognized value, but also generates a starting point for necessary discussions regarding the roles that student pharmacists,

preceptors, and experiential education may contribute to health care settings, health care and patient outcomes.

AACP staff used PubMed to identify relevant literature search on September 19, 2016. The resulting search yielded 60 articles that were divided equally by alphabetical order of title into four groups, with each group reviewed by three PAC members. Each group of fifteen articles was evaluated individually by the same three committee members assigned to that group of articles. Individual articles were assessed as: “Not applicable to the charge;” “Uncertain;” or “Applicable to the charge.” During a PAC conference call, members reviewed the articles and determined the assessment for each. For every article, PAC members reached agreement on whether the article would be included in the review. Articles contained in the review encompass various practice settings (community, ambulatory care, transitions of care, and hospital/health systems) and patient populations. Table 5 provides a summary of information from the literature review. Appendix I contains an Executive Summary of the literature review.

This brief literature review reinforces that many practice settings offer a substantive learning environment for student pharmacists, while also allowing them to showcase their potential to add value to patient care and the healthcare system. Documentation of clinical contributions of student pharmacists, as well as the associated costs and cost savings, can help influence practice sites that want to increase pharmacist-provided services to consider expanding access to student pharmacists. Student pharmacists, being our future pharmacist practitioners, are capable of improving the quality of care and reducing costs of the healthcare system.

**Policy Statement 1:** AACP recognizes the importance of academic pharmacy collaborating with pharmacy practice and other health professions in documenting and demonstrating the value of student pharmacists and pharmacy preceptors. (Policy statement was adopted by the 2017 AACP House of Delegates)

**Suggestion 1:** Schools/colleges of pharmacy and other stakeholders in experiential education should evaluate, conduct research and publish on the value-based outcomes (eg, clinical, humanistic, financial) of student pharmacists and experiential education in health care settings and patient care.

### **CONCLUSION**

For many years, AACP has contemplated how best to serve the needs of adjunct/affiliate preceptors. Experiential education accounts for approximately 30% of doctor of pharmacy curricula, and adjunct/affiliate preceptors

Table 5. Summary of Literature Documenting the Value of Student Pharmacists in Experiential Education

Author(s)	Year	Practice Setting	Practice Area(s)	Number of Student Pharmacists	Level of Student Pharmacists	Outcome Type(s)	Outcomes	Interprofessional Education (IPE) Involvement
Soric MM, Glowczewski JE, Lerman RM. <sup>i</sup>	2016	Small community hospital	Health-system, Transitions-of-care	6,720	APPE	Economic; Humanistic (Patient Satisfaction)	Medication cost per discharge: \$161.52 (intervention) vs. \$210.15 (control); percentage of patients reporting they “always” received medication education increased significantly.	No. Layered-learner model is utilized
Gilmore V, et al. <sup>ii</sup>	2015	Large academic medical center	Health-system, Transitions-of-care	Not Provided	APPE	Humanistic (Patient Satisfaction)	Improvement in HCAHPS scores above 75th percentile regarding medication education; increased discharge prescription capture rates.	No
Mathys M, et al. <sup>iii</sup>	2015	VA in patient mental health unit	Transitions-of-care	525	APPE	Clinical (Medication Reconciliation)	At admission, 82% of the medication reconciliations were performed correctly by the team with a student pharmacist vs. 61% when a student pharmacist was not involved (p = 0.006). At discharge, 86% of medication reconciliations were performed correctly by the team with student pharmacist involvement vs. 68% in the control group (p = 0.005).	No

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Table 5. (Continued)

Author(s)	Year	Practice Setting	Practice Area(s)	Number of		Outcome Type(s)	Outcomes	Interprofessional Education (IPE) Involvement
				Student Pharmacists	Level of Student Pharmacists			
Ashjian E, et al. <sup>iv</sup>	2015	Outpatient infusion center	Transitions-of-care	510	IPPE	Clinical (Medication Reconciliation)	88% of patients had at least one discrepancy identified in their medication history and corrected in the electronic medical record. 11.4% of patients had a medication-related problem identified.	No
Pinelli NR, et al. <sup>v</sup>	2015	Large academic medical center	Transitions-of-care	83	IPPE	Clinical (Medication Reconciliation)	93% of medication histories were completed within 24 hours of admission. Student pharmacists identified 0.9 medication-related problems per patient in collaboration with a pharmacist preceptor. Students believed the quality of their interactions with healthcare professionals was good or excellent.	No
Shepler BM <sup>vi</sup>	2014	Various	Health-System	580	APPE	Economic (Estimated Cost Avoidance); Clinical (Interventions)	59,613 interventions with an estimated cost avoidance of over \$8M. The average savings per intervention was \$148. The top three intervention types for cost avoidance were identifying potential allergic reactions, identifying drug interactions, and resolving contraindications.	No

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Table 5. (Continued)

Author(s)	Year	Practice Setting	Practice Area(s)	Number of Student Pharmacists	Level of Student Pharmacists	Outcome Type(s)	Outcomes	Interprofessional Education (IPE) Involvement
Shogbon AO, Lundquist LM <sup>vii</sup>	2014	Community nonteaching hospital	Health-System	120	APPE	Economic (Estimated Cost Avoidance); Clinical (Interventions)	2,170 interventions with a 97% acceptance rate and an estimated cost savings of \$280,297. The most common interventions performed were patient education, medication history, and IV to PO screening and conversions.	No
Ginzburg R <sup>viii</sup>	2014	Urban family medicine clinic	Ambulatory Care	18	APPE	Humanistic (patient/provider education); Clinical (medication reconciliation, therapy recommendations); Economic (cost avoidance)	Estimated cost savings \$61,855 mostly attributed to writing medication list and counseling patient. Of recommended interventions that were categorized as needing immediate attention, 58% were accepted by provider.	No
Armor BL, et al. <sup>ix</sup>	2014	Family medicine clinic (PCMH)	Ambulatory Care	38	APPE	Clinical (DRP identification, medication reconciliation, therapy recommendation and acceptance rate)	Students complete 676 medication histories and made 1308 DRP interventions. During the live medication reconciliation process 78% of student recommendations were accepted. Highest acceptance rates were for recommendations to provide education and refill a prescription.	No

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Table 5. (Continued)

Author(s)	Year	Practice Setting	Practice Area(s)	Number of Student Pharmacists	Level of Student Pharmacists	Outcome Type(s)	Outcomes	Interprofessional Education (IPE) Involvement
Woolley AB, et al. <sup>x</sup>	2013	Various	Health-System, Community, Ambulatory Care	123	APPE	Economic (Estimated Cost Avoidance); Clinical (Interventions)	87 (71%) students documented 5,775 interventions with an estimated cost avoidance of over \$900K. The intervention categories with greatest cost avoidance included preventions of adverse drug events, provider education, and patient education.	No
Lyon KJ, et al. <sup>xi</sup>	2013	Large academic medical center	Health-System	48	APPE	Humanistic (Interprofessional Student Satisfaction)	Results of the interprofessional clinical rounding model observations and debriefings revealed most students were engaged in the process and reported a high level of satisfaction. All groups suggested they had a better appreciation for the roles of other healthcare professionals in the team were able to develop a more integrated plan of care.	Yes
Mersfelder TL, Bouthillier M <sup>xii</sup>	2012	Various	Various	Not Provided	APPE	Economic (cost savings)	Literature review of multiple practice settings comprised of 29 studies and 6 abstracts. Each student saved between \$500-\$6000 during clerkship rotations.	No

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Table 5. (Continued)

Author(s)	Year	Practice Setting	Practice Area(s)	Number of Student Pharmacists	Level of Student	Outcome Type(s)	Outcomes	Interprofessional Education (IPE) Involvement
Nuffer E, et al. <sup>xiii</sup>	2012	Rural community health centers with diabetes management programs	Community	120	APPE	Humanistic (student perception); Clinical (disease state markers)	Diabetes management clinics run by student pharmacists saw significant decreases in overall A1c, blood pressure, total cholesterol, LDL cholesterol and triglycerides. No significant change noted for HDL cholesterol.	No
Hata M, et al. <sup>xiv</sup>	2012	Community Pharmacy (Chain and Independent)	Community	47	APPE	Clinical (DRP identification, therapy recommendation)	704 drug-related problems identified for 509 patients (53% relayed recommendations to their physician); 205 Physicians accepted recommendations (75%); 88% of patients felt better about their medications after receiving MTM services.	No
Wilhelm SM, Petrovitch EA. <sup>xv</sup>	2011	Inpatient anticoagulation teaching service supporting a large teaching hospital, a women's hospital, and a rehabilitation facility	Transitions-of-care	387	APPE	Humanistic (Patient Education); Economic (Readmission Rates)	Student pharmacists and residents significantly increased the rate of patient education (59.2% vs. 39.1%, p<0.0001) and lowered 60-day readmission rates.	No

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Table 5. (Continued)

Author(s)	Year	Practice Setting	Practice Area(s)	Number of Student Pharmacists	Level of Student Pharmacists	Outcome Type(s)	Outcomes	Interprofessional Education (IPE) Involvement
Campbell AR, et al. <sup>xvi</sup>	2011	Specialty hospital	Health-system	15	APPE	Economic (Estimated Cost Avoidance); Clinical (Interventions)	320 interventions; the most common interventions included patient education (13.1%), order clarification (11.6%), therapeutic dosing adjustments (10.9%), and lab order monitoring (8.8%). Estimated cost avoidance for student pharmacist interventions was approximately \$23,000.	No
Walker PC, et al. <sup>xvii</sup>	2011	Large academic medical center	Transitions-of-care	Not provided	IPPE	Humanistic (Student Satisfaction)	Student pharmacists involved in a structured medication reconciliation process learning experience reported to have a positive attitude toward the process and are aware of its importance. The survey indicated students' gained a better understanding of medication reconciliation, ability to assess pertinent data, and how to communicate discrepancies to other healthcare professionals.	No

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Table 5. (Continued)

Author(s)	Year	Practice Setting	Practice Area(s)	Number of Student Pharmacists	Level of Student	Outcome Type(s)	Outcomes	Interprofessional Education (IPE) Involvement
Butkievich LE, et al. <sup>xviii</sup>	2010	Large community teaching hospital	Health-system	295	APPE	Clinical (Venous Thromboembolism Prophylaxis Rates)	103 recommendations made to physicians with a 41% acceptance rate; the percentages of patients receiving “any,” “suitable,” and “optimal” prophylaxis increased from 70.5% to 82.7% (p = 0.0005), 64.4% to 75.9% (p = 0.0022), and 56.3% to 68.5% (p = 0.0022), respectively. 95% of patients found the student pharmacist assessment helpful, 31% of patients were identified to have a CHD risk factor that was previously undocumented. Student pre and post test scores indicate a 26.9% improvement after the rotation.	No
Garrison GD, et al. <sup>xix</sup>	2010	Internal and Family Medicine Clinics	Ambulatory Care	57	APPE	Humanistic (patient education, patient satisfaction, student pre-post tests)		No
Kassam R, et al. <sup>xx</sup>	2010	Community Pharmacy (Retail Chain)	Community	Not Provided	APPE	Humanistic (Patient Satisfaction)	Patients of pharmacies that had APPEs that integrated pharmaceutical care activities reported significantly higher mean satisfaction scores and significantly smaller gap between expectations and experience compared with patients of pharmacies with traditional APPEs.	No

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Table 5. (Continued)

Author(s)	Year	Practice Setting	Practice Area(s)	Number of Student Pharmacists	Level of Student Pharmacists	Outcome Type(s)	Outcomes	Interprofessional Education (IPE) Involvement
Donihi AC, et al. <sup>xxi</sup>	2009	Large academic medical center	Health-system; Transitions-of-care	426	APPE	Humanistic (Patient Education, Student and Staff Satisfaction); Clinical (MTM recommendation)	Number of patients receiving medication education increased; percentage of patients with at least one MTM recommendation increased; students reported experience positively affected their ability to impact care; hospital benefitted for ability to expand services; school of pharmacy benefitted by establishing an APPE site.	No. Multidisciplinary medication education program.
Lundquist LM, Moye PM <sup>xxii</sup>	2009	Outpatient internal medicine clinic in a teaching hospital	Ambulatory Care	14	APPE	Clinical (acceptance rate of written vs verbal recommendations)	542 recommendations made (average 38.7 per student), 65% of recommendations were written. Overall acceptance rate was 88.6%, acceptance of verbal recommendations 97.9%, acceptance of written recommendations 83.6%. Most common recommendations were lab monitoring, medication initiation and dose change.	Yes: Resident physicians and student pharmacists

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Table 5. (Continued)

Author(s)	Year	Practice Setting	Practice Area(s)	Number of Student Pharmacists	Level of Student Pharmacists	Outcome Type(s)	Outcomes	Interprofessional Education (IPE) Involvement
Bock LM, Duong M, Williams JS. <sup>xxiii</sup>	2008	Large academic medical center	Health-system	Not Provided	APPE	Clinical (Admission Assessments, IV to PO conversion, IV days of therapy)	Number of admission assessment referrals increased by 60%, for those patients meeting institution criteria, IV to PO conversion rate increased to 100%, and days on IV therapy decreased from seven days to two days. No raw data or significance was reported.	No
Lai CJ, et al. <sup>xxiv</sup>	2008	Large academic medical center	Transitions-of-care	61	APPE	Humanistic (Interprofessional Student Satisfaction)	97% of students (medical, pharmacy) completed the post-discharge follow-up curriculum. The attitudes and self-assessed skills of both medical and pharmacy students significantly improved for most survey items after the program. Students reported the curriculum had a favorable impact on their learning about interdisciplinary care, humanism, and discharge planning. 93% reported the curriculum was valuable to their education.	Yes

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Table 5. (Continued)

Author(s)	Year	Practice Setting	Practice Area(s)	Number of Student Pharmacists	Level of Student Pharmacist	Outcome Type(s)	Outcomes	Interprofessional Education (IPE) Involvement
Fit KE <sup>xxv</sup>	2008	Primary care clinic	Ambulatory care	2	APPE	Clinical (interventions)	109 interventions documented, half of interventions included recommendations for lab monitoring, drug information or patient education. The physician partners accepted 66.2% of the recommendations.	No
Lubowski TJ, et al. <sup>xxvi</sup>	2007	Three small community hospitals	Transitions-of-care	330	APPE	Clinical (Medication Reconciliation)	922 medication discrepancies were identified by student pharmacists. There was a significant relationship between the number of discrepancies identified and the total number of medications prescribed for a patient ( $p < 0.05$ ). Students identified and provided a recommendation and intervention for a total of 59 drug-related problems with a 48% acceptance rate.	No

APPE = Advanced Pharmacy Practice Experience; HCAHPS = Hospital Consumer Assessment of Healthcare Providers and Systems; VA = Veterans Administration IPPE = Introductory Pharmacy Practice Experience; PCMH = Patient-Centered Medical Home; DRP = Drug-Related Problems  
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play a critical role in oversight and education of student pharmacists completing the experiential portion of their training. To optimize training of student pharmacists, preceptors must remain current on the latest educational concepts (eg, Pharmacists' Patient Care Process and Entrustable Professional Activities) and implement best practices to enhance engagement of student pharmacists in the health care setting. Focus groups and surveys of adjunct/affiliate preceptors and experiential education directors conducted by the 2016-2017 PAC indicate the need for additional preceptor development resources and advocate for a standardized training program for new preceptors. Preceptors also desire increased opportunities for networking with other preceptors to gain information on best practices and successful techniques for incorporating learners into the health care setting. In addition, experiential education directors, preceptors, and new pharmacy practice faculty conveyed interest in creation of an AACP membership category for adjunct/affiliate preceptors to help address preceptor training and development needs. AACP is in a prime position to support schools/colleges of pharmacy and augment ongoing preceptor development efforts and programs that advance the profession. As such, the PAC recommends that AACP should formally embrace and engage preceptors in the academy by developing a plan for establishment of a new membership category for adjunct/affiliate preceptors.

In response to the charge by President Joseph DiPiro, the PAC examined literature on value-added contributions of student pharmacists and preceptors in the experiential environment. A review of the literature demonstrates that interventions by student pharmacists have shown improved patient satisfaction and significant cost avoidance in many practice settings (community, ambulatory care, transitions of care, hospital/health systems); however, cost avoidance figures are usually "soft" cost estimates drawn from the literature. The U.S. health care system is in a period of intense and rapid transformation. To expand the role of pharmacy practice and

advance provider status, academic pharmacy must collaborate with pharmacy practitioners and other health professions in documenting and demonstrating the value of student pharmacists and pharmacy preceptors. In addition, schools/colleges of pharmacy and other stakeholders in experiential education should conduct research and disseminate findings on value-based outcomes of student pharmacists and preceptors in health care settings and patient care.

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Appendix 1. Executive Summary: The Value of Student Pharmacists in Experiential Education

Introduction: Student pharmacists learn key practical knowledge during their experiential rotations that helps fine-tune their skills for real-world practice. In addition, evidence shows that students add value by enhancing business growth potential, solving drug-related problems, and decreasing the overall cost of healthcare while completing their rotations. This information not only includes the recognized value, but also provides a starting point for the necessary discussions regarding the roles that student pharmacists, preceptors, and experiential education may contribute to health care and patient outcomes across various settings.

Community Pharmacy: The community pharmacy setting provides the student pharmacist an ideal avenue to showcase their significance in a variety of ways.

- Healthcare recommendations more than offset the cost of having the student at the practice site.<sup>1</sup>
- Improved customer contentment, significantly higher level of satisfaction, and fewer service gaps have been demonstrated.<sup>2</sup>
- Students decrease drug-related problems to improve the quality of patient care through medication therapy management (MTM) services.<sup>3</sup>

Ambulatory Care: Evaluation of student pharmacist contributions in ambulatory care settings can be divided into clinical interactions/outcomes and economic outcomes. The clinical contributions include patient level outcomes (disease state management),<sup>4,5</sup> quantification of interventions<sup>6,7</sup> and acceptance of recommendations.<sup>1,8</sup> Most commonly, analysis for economic value-assessment is cost-avoidance.

- Student activities most commonly reported include chart reviews and medication reconciliations.<sup>1,7,8</sup>
- Most student pharmacist recommendations include updating the medication list, ordering laboratory/diagnostic tests, providing education to the patient, and starting a new medication.
- Evaluation of economic value includes assessments of cost savings related to labor, adverse drug reactions, drug-related problems and patient/provider education.<sup>1,9,10,11</sup>
- Student pharmacists saved between \$329 and \$180,769 (\$148 in savings needed to offset the cost of precepting).<sup>11</sup>

Hospitals/Health Systems: Evaluation of student pharmacist contributions in hospitals/health-system settings can be divided into clinical interventions/outcomes and economic outcomes. Clinical interventions provided by student pharmacists in hospitals and health systems include patient education/counseling,<sup>12,13,14,15</sup> drug therapy interventions,<sup>14,15,16,17,18,19,20</sup> medication reconciliation,<sup>14,17,21,22</sup> and MTM.<sup>12,17</sup>

- Student pharmacists contribute to a geometric mean total drug cost per discharge savings of \$48.63 and a combined cost savings of \$280,297 over 3.5 years.<sup>15,20</sup>
- Student pharmacist interventions include patient education, order clarification, therapeutic dose adjustments, and lab monitoring, resulting in an estimated cost avoidance of approximately \$23,000 per year.<sup>19</sup>

Transitions of Care: As patient conditions change, health-system transitions of care refer to the movement of patients between healthcare providers and within or between healthcare settings (eg, hospital to home, hospital transfers). Poor coordination leads to inefficiencies, wasted resources, and care fragmentation. Ineffective care transitions between healthcare settings increases the risk of medication errors, leads to adverse events, prolongs length of stay, results in higher hospital readmission rates, and utilizes additional and costly healthcare resources.<sup>23</sup> Pharmacists may be uniquely positioned to reduce medication-related problems and adverse outcomes associated with transitions of care. Pharmacy practice is becoming more reliant on engagement of student pharmacists and pharmacy residents for provision of essential patient care services.

- Student pharmacists impact the economic and patient satisfaction outcomes through demonstrated reduced discharge medication costs and improved patient satisfaction.<sup>15</sup>
- Student pharmacist involvement increases patient education rates and allows for dispensing of appropriate and affordable prescriptions prior to discharge.<sup>24</sup>
- These services are offered through bedside medication education and assisting pharmacy departments in expanding services with a net neutral effect on full-time equivalents.<sup>12,13,18</sup>

Summary: The U.S. health care system is in a period of intense and rapid transformation. Healthcare stakeholders are modifying the delivery methods and payment vehicles in order to improve quality and to reduce costs.<sup>25</sup> Efforts to avoid unnecessary healthcare costs can help in the conversion to a more efficient system. Data suggests student pharmacist interventions across all care settings typically demonstrate an impressive cost avoidance.<sup>9,11,19,20</sup> The cost avoidance figures, however, are “soft” cost estimates and are usually drawn from the literature.

This literature review reinforces that there are many different practice settings that offer a positive learning environment for student pharmacists, while also allowing them to showcase their potential to add value to patient care and the healthcare system. Student pharmacists, being our future pharmacist practitioners, are capable of improving the quality of care and reducing costs of the healthcare system.

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