

**Grant Application #408; Grant Award #85**  
**Final Report to Community Pharmacy Foundation**  
**Principal Investigator: Maria A. Osborne**  
**University of Pittsburgh School of Pharmacy**

**Title:** Recruiting Pharmacists in Pennsylvania to Provide Community-based Patient Care Services as Part of a Statewide Network

**Collaborators:** Margie E. Snyder, Deanne L. Hall, Kim C. Coley, Melissa A. Somma McGivney

Maria A. Osborne, PharmD was a community practice resident, School of Pharmacy, University of Pittsburgh/Rite Aid Pharmacy at the time this study was conducted; she is currently Clinical Pharmacist, Family Practice, UPMC St. Margaret, Pittsburgh, PA. Margie E. Snyder, PharmD, MPH was a community practice research fellow, School of Pharmacy, University of Pittsburgh, PA at the time this study was conducted; she is currently Assistant Professor, College of Pharmacy, Purdue University, IN. Deanne L. Hall, PharmD, CDE, is Assistant Professor; Kim C. Coley, PharmD, FCCP, is Associate Professor; and Melissa A. Somma McGivney, PharmD, FCCP, is Associate Professor, School of Pharmacy, University of Pittsburgh, PA.

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**Consultants:** **Randall B. Smith, PhD**, Senior Associate Dean and **Janice L. Pringle, PhD**, Research Associate Professor at the University of Pittsburgh School of Pharmacy. **Pat Epple, CAE** is the Executive Director of the Pennsylvania Pharmacists Association.

**Staff:** **Cheri Hill** at the time of the study was the Community Projects Administrator at the University of Pittsburgh School of Pharmacy and served as the study coordinator. **Mike Keyes**, Programmer and Analyst, and **Lois Edmonston**, Senior Data Analyst in the Department of Pharmacy and Therapeutics, Program Evaluation and Research Unit, at the School of Pharmacy.

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**Abstract:**

**Objectives:** To identify pharmacists licensed and residing in Pennsylvania who currently provide or are interested in providing community-based patient care services and are

interested in joining a statewide practice network coordinated by the Pennsylvania Pharmacists Association (PPA).

**Design:** Survey

**Setting:** February to June 2009 in Pennsylvania

**Participants:** 14, 871 pharmacists licensed and residing in Pennsylvania

**Intervention:** Paper survey mailed to all participants and an online survey e-mailed to a subset of participants

**Main outcome measures:** Number and geographic location of pharmacists providing and interested in providing patient care in Pennsylvania. Description of documentation methods, physical space availability to provide patient care services, services provided in the workflow of the dispensing process compared with utilization of patient appointments, perceived barriers to providing patient care services, training needs, demographics and interest in joining a statewide practice network were also collected.

**Results:** There were a total of 2698 survey respondents, of which 1700 were included in the final analysis. Approximately one-third of respondents are currently providing patient care services to community-based patients. A majority of those providing services are routinely documenting as a patient care note or consultation letter and have a semi-private or private space at all their practice sites. MTM and immunizations were the most common services provided both during the workflow and in appointments. For the 1700 respondents, the most significant barrier/challenge to providing MTM, diabetes education, and smoking cessation was time whereas for immunizations it was training. Out of the 1700 survey respondents, 869 would be interested in joining a statewide network. As expected, those providing care are more likely to be interested in joining a statewide network than those not providing care (70.8% vs. 43.8%).

**Conclusion:** There is interest among Pennsylvania pharmacists to provide community-based patient care services and join a statewide practice network. Inconsistent compensation is a primary reason why patient care services are not widespread in Pennsylvania. This research is an important step in the infrastructure of forming a pharmacist practice network in Pennsylvania. This network would allow physicians, payers, and consumers to identify pharmacists who can provide community-based patient care services within the Commonwealth.

## **Introduction:**

Helping patients manage their medications is a central theme found in several national quality standards for healthcare.<sup>1</sup> The mandate requiring Prescription Drug Plans (PDPs) to offer Medication Therapy Management (MTM) programs to eligible Medicare beneficiaries has brought even more attention to this issue.<sup>2,3</sup> When asked about which practitioners should coordinate and provide MTM, purchasers, consumers, and unions, identified the “need [for a] critical mass of qualified pharmacists for this emerging field.”<sup>1</sup>

Since Medicare Part D took effect in 2006, pharmacists have attempted to determine best practices for delivering MTM to community-based patients while continuing to provide traditional dispensing services.<sup>4,5,6</sup> Although the significance of pharmacists’ enhanced patient care activities is clear<sup>7,8,9,10,11,12</sup>, many pharmacists have been limited in their ability to provide

MTM and other services due to inconsistent compensation.<sup>13</sup> In reviewing the literature, it is apparent that most of the financially viable pharmacist practices are located within states that have successfully partnered key stakeholders to secure state-wide payment for community-based patient care services. These stakeholders usually consist of colleges or schools of pharmacy, state pharmacy organizations, and networks of pharmacists.<sup>14</sup> Well-known examples of these partnerships exist in Iowa, Minnesota, North Carolina, and Wisconsin.<sup>9,12,14,15,16</sup>

In Pennsylvania, two of these stakeholders have partnered with the goal to secure statewide compensation for pharmacist provision of community-based patient care services. Through the leadership of faculty at the University of Pittsburgh School of Pharmacy (UPSOP), the seven colleges and schools of pharmacy in Pennsylvania have come together to develop a grant-funded state-wide training program that provides pharmacists in Pennsylvania with the skills needed to develop patient care practices. Through these efforts, the schools have engaged the Pennsylvania Pharmacists Association (PPA) and have initiated preliminary discussions with state-wide payers regarding the establishment of contracts for pharmacist-provided community-based patient care services. However, as outlined above, these payers need to know the availability of pharmacists and the types of services that could be offered to their beneficiaries before considering any contracts. Therefore, identification of pharmacists and formation of a pharmacist practice network is the critical next step to providing sustainable community-based patient care services in Pennsylvania. Thus, in an attempt to reach every pharmacist licensed in Pennsylvania, we conducted a statewide survey.

We envision that a pharmacist practice network in Pennsylvania would begin from a database of pharmacists' names, practice sites, and contact information, along with what community-based patient care services each pharmacist currently provides or is interested in providing. It makes sense then that PPA, as the leading voice of pharmacy in Pennsylvania, serve as the nucleus of the network.

### **Objectives:**

The primary objectives of this research study were to identify: 1.) the number and geographical locations of Pennsylvania pharmacists who currently provide or who are interested in providing community-based patient care services and 2.) specific services that these pharmacists can and do provide. Additionally, we expected to elucidate the resources that pharmacists need to provide these services.

### **Methods:**

#### **Identification of Pennsylvania Pharmacists**

From PPA, we obtained a list of 19,774 pharmacists licensed by the Pennsylvania State Board of Pharmacy and determined that 14,871 of these actually reside within Pennsylvania.

### **Survey Instrument Development**

A survey was created on paper and within a commercial web-based survey tool (Survey Monkey®) by the research team to identify pharmacists in Pennsylvania who are providing or willing to provide services to community-based patients. For the purposes of this survey, the term “community-based patients” was defined as those patients who receive services in a community pharmacy and/or those patients found in community settings including, but not limited to: physician offices, institutional-based outpatient clinics, underserved programs, faith based clinics, nursing homes, and non-inpatient based pharmacies. The term “patient care services” was defined as Medication Therapy Management, immunizations, diabetes education, smoking cessation education, other patient chronic disease associated education, etc.

Specifically, the survey inquired about the pharmacists’ existing patient care services, documentation methods, physical space availability to provide patient care services, utilization of patient appointments, perceived barriers to providing patient care services, and training needs. In addition to collecting these data, pharmacists were asked if they would join a statewide practice network and submit their contact information to be forwarded PPA.

The survey was reviewed by faculty at the University of Pittsburgh School of Pharmacy, the executive director of PPA, the PPA network taskforce, and the experiential learning directors from the seven schools of pharmacy in Pennsylvania. The survey was piloted to 12 pharmacists who provided feedback and the length of time it took them to take the survey. Based on feedback from the pilot, a revised survey draft was sent to the experiential learning directors and PPA for their review and received their final approval. The University of Pittsburgh Institutional Review Board approved this study. The survey is provided in Appendix 1.

### **Recruitment Strategy and Data Collection**

Our intent was to reach every pharmacist licensed and residing in Pennsylvania using a variety of methods. The paper survey was mailed to all pharmacists licensed and residing in Pennsylvania. Accompanying the survey was a letter from the experiential learning directors of the seven schools of pharmacy in Pennsylvania in support of this project, along with a magnet listing patient care resources as a small token of thanks. A follow-up postcard reminder was sent approximately one week after the initial mailing to the pharmacists. In order to get a more comprehensive response, we sent a survey reminder to 10% of community pharmacies in Pennsylvania.

The survey was also administered to interested pharmacists at the PPA mid-year, Lancaster County Pharmacy Association, and Allegheny County Pharmacy Association (ACPA) meetings. Additionally, each of the seven schools of pharmacy in Pennsylvania e-mailed the Survey Monkey® link to faculty, preceptors, and where possible alumni. The ACPA and PPA also e-mailed the Survey Monkey® link to their member and non-member e-mail list serves. Two follow-up reminder e-mails were sent to encourage a greater response.

Paper survey responses were entered into a database by staff from the School of Pharmacy’s Program Evaluation and Research Unit. This data was then merged with Survey Monkey® responses to create a complete data file in SPSS v 18.0.

## **Data Analysis**

Respondent contact information was separated out by staff from the School of Pharmacy's Program Evaluation and Research Unit so that investigators were provided anonymous survey data.

Descriptive statistics were used to summarize survey responses. Additionally, Chi-square analyses were used to compare whether the following categories influenced the provision of patient care services: job position, graduation year, preceptor role, gender, hours worked per week, and interest in joining a statewide practice network. All analyses were performed using SPSS v 18.0.

For the purpose of our analyses regarding practice site, "chain" pharmacy was categorized as those respondents who only selected any of the following: chain, grocery store, mass merchandiser. "Outpatient" pharmacy was categorized as those respondents who only selected any of the following: outpatient clinic, physician office, free-care clinic, underserved clinic, community health center.

## **Results:**

There were a total of 2698 survey respondents (1335 online, 1363 paper). We excluded respondents who did not include a zip code (n=952) and whose job zip codes were solely outside of Pennsylvania (n=38). Those who did not answer the first survey question which asked about current provision of patient care services (n=8) were also excluded; this resulted in 1700 survey respondents which were included in the final analysis. The results tables are provided in Appendix 2. The location of respondents is provided in Appendix 3.

### **Pharmacist Characteristics**

Of these 1700 respondents, the top three practice sites represented were chain, hospital, and independent pharmacy (Table 1). Table 2 shows the majority of respondents were female, graduating between 1971 and 2000, preceptors, working full-time, and staff pharmacists.

### **Provision of community-based patient care services**

Approximately one-third of respondents are currently providing patient care services to community-based patients (the second map in Appendix 3 shows the location of respondents providing services). Outpatient pharmacists were most likely to provide patient care services with 68% providing, followed by independent pharmacists at 52.2%, and finally chain pharmacists at 43.7%. Of interest, 5.6% of hospital pharmacists were providing community-based patient care services. While the majority of respondents are not currently providing patient care services, 83.2% would be willing to provide in the future or if their practice setting changes.

We used Pearson chi-square tests to assess the effect of respondent characteristics on the provision of patient care services (Table 3). Newer graduates were more likely to provide

patient care services ( $p = .003$ ). Additionally, preceptors and those working  $\geq 31$  hours per week were more likely to provide patient care services ( $p = <.001$ ).

Subjects were asked whether they provide patient care services as part of or separate from the workflow of the dispensing process; the majority provides as part of the workflow and sees 1-5 patients per week. For those pharmacists providing patient care services separately from the dispensing process, the majority provide during scheduled patient appointments with most having 1-5 individual scheduled patient appointments per week. MTM and immunizations were the most common services provided both during the workflow and in appointments.

The term compensation was not defined within the survey, but the intended meaning was payment for services rendered. As shown in Table 4, the majority of pharmacists providing immunizations were compensated all of the time. Most pharmacists were not compensated for MTM, diabetes education, and smoking cessation education. The most common methods through which pharmacists are compensated for services include Medicare Part D programs ( $n=187$ , 33.8%), patient self-pay ( $n=155$ , 28%), Mirixa ( $n=117$ , 21.1%), and medical insurance ( $n=77$ , 13.9%).

The majority of pharmacists have a semi-private or private space at all their practice sites ( $n=211$ , 39.1%). Additionally, 205 pharmacists (37.9%) have space at some of their practice sites. Of note, 23% have no space to provide care. When asked about documentation of their patient care services, 67.5% ( $n=361$ ) of pharmacists are routinely documenting as a patient care note or consultation letter; most ( $n=147$ , 41.6%) give a document to the patient and the physician.

Sixty percent of pharmacists ( $n=320$ ) who are currently providing patient care services have working relationships with physicians in their community. Working relationships was defined in the survey as ability to discuss a patient's medication-related needs outside of the traditional dispensing process (e.g. adjustment in a patient's medication regimen). The majority ( $n=164$ , 51.3%) have working relationships with 2-5 physicians, followed by 40.7% ( $n=129$ ) have relationships with  $\geq 6$  physicians, and only 7.5% ( $n=24$ ) have a relationship with 1 physician.

### **Barriers**

For MTM, diabetes education, smoking cessation, and immunizations, subjects were asked to select one of the following as their most significant barrier/challenge to providing each service: compensation, training, time to provide care, the need for additional pharmacist(s), or other. Time was the most significant barrier/challenge to providing MTM, diabetes education, and smoking cessation whereas for immunizations it was training.

We looked at barriers for chain, outpatient, and independent pharmacists regardless if providing patient care (Table 5). Time is the biggest barrier across all these practice environments. Space is more of a concern for chain pharmacists whereas the need for an additional pharmacist is more of a concern for outpatient pharmacists.

Compensation—a barrier across all practice environments—is more of a concern for independent pharmacists compared with chain and outpatient pharmacists.

We also examined barriers for those chain, outpatient, and independent pharmacists providing patient care compared with those not providing patient care. Compensation is the biggest barrier for independent pharmacists providing patient care whereas time is the biggest barrier for the remainder of the groups (outpatients providing care were actually tied for time and need for an additional pharmacist). Regarding chain pharmacists, those providing patient care were more concerned about compensation whereas those not providing care were more concerned about space. Management support is more of a concern for chain pharmacists whereas not with independent and outpatient pharmacists. Both physician and patient acceptance tends to be more of a barrier for chain and independent pharmacists providing care compared to outpatient pharmacists providing care. Training is less of a concern for chain pharmacists providing patient care compared with the remainder of the groups. Training on how to provide patient care is more of a concern for chain pharmacists not providing care, whereas training to receive compensation is more of a concern for the remainder of the groups.

### **Joining a statewide practice network**

Out of the 1700 survey respondents, 869 would be interested in joining a statewide network. As expected, those providing care are more likely to join than those not providing care (70.8% vs. 43.8%).

Out of all 2698 survey respondents, 979 (36.3%) are willing to join a statewide practice network.

### **Discussion:**

When the survey was e-mailed to preceptors, some of them could be practicing outside Pennsylvania which is why some of the zip codes were excluded. We are unsure why so many respondents left their zip codes blank, but the majority of those left blank were online respondents.

When assessing the difference between practice sites and response to question 1 (“Are you currently providing patient care services to community-based patients”), we only included respondents who selected one practice site. Thus, we acknowledge potential groups were likely underestimated since we did not attribute patient care services if pharmacists were practicing at multiple sites. “Outpatient” pharmacy was categorized as those respondents who only selected any of the following: outpatient clinic, physician office, free-care clinic, underserved clinic, community health center. It makes sense that this group had the highest percentage of providing patient care services since this is their primary role whereas in the chain or independent setting time has to be divided between dispensing and providing patient care services.

For the purpose of data analysis, we chose to regroup the graduation years based on the transition in pharmacy degrees. Before 1971 represents the 4-year degree, 1971-2000

represents the Bachelor's of Pharmacy degree, and 2001 or later represents the Doctor of Pharmacy degree. The results showing newer graduates were more likely to provide patient care services is expected and correlates with foundation of the Doctor of Pharmacy degree.

We did not define each of the patient care services for which the subjects were asked to respond. While immunizations is self-explanatory, the remainder of the services—MTM, diabetes education, or smoking cessation education—were left to interpretation. It is likely that the APhA/NACDS Core Elements for comprehensive MTM was not used by all respondents as the definition for MTM when answering questions about this service because many noted that these services were provided during the workflow of the dispensing process.<sup>17,18</sup> Additionally, respondents could have interpreted diabetes education or smoking cessation education to mean counseling a patient when dispensing a prescription for a blood glucose meter or nicotine replacement therapy as opposed to the more comprehensive education that is common with collaborative practice agreements/protocols. In Pennsylvania, collaborative drug therapy management had been limited by law to only to those pharmacists working in institutional settings but has now been expanded to all practice settings with the recent passage of PA Act 29 in June 2010.

Based on the question about space to provide care, collectively, we have the infrastructure to be HIPPA compliant. However, our figures might over-represent some practice sites. For example, if two or more pharmacists work at the same practice site, they may really only have/need one space to provide care. It would have been better to ask survey respondents about space according to each site rather than each pharmacist. Additionally, respondent information about documentation shows we have a method to communicate with potential payers.

Understanding the barriers to care provision is necessary in order to design educational programming to meet pharmacists' needs. Looking at chain pharmacists who are not currently providing patient care services, they may not see "physician and patient acceptance" as much of a barrier simply because they are not providing patient care services so are not interacting with physicians and patients in that respect. It is interesting that training was the greatest barrier to immunization provision for all respondents; this shows that pharmacists have effectively integrated immunizations into their workflow without time constraints being a major concern. Additionally, these results are important for PPA to connect those pharmacists who see training as a rate-limiting step to the provision of patient care services with the necessary training programs.

Many services are being provided with limited or no compensation (based on respondents selecting "none of the time" when asked about compensation for most of the patient care services). Respondents were left to interpret the meaning of compensation; some may have selected medical insurance and not recognized Medicare Part D. Additionally, some pharmacists may not think they are being directly compensated for the services they provide, for example immunizations, since in many cases the money goes to the owner of the pharmacy and not the individual pharmacist who provides the immunizations. The more plausible reason



for inconsistent compensation is the lack of a pharmacist practice network; this validates the need for such a network to provide sustainable community-based patient care services in Pennsylvania.

In Pharmaceutical Care Practice: the Clinician's Guide, there is a section entitled "Becoming Financially Viable" in regards to providing direct patient care services which states:

"In order to be successful, you will need to provide care for a minimum of 10-15 patients per day . . . this represents a patient load of approximately 2000 patients at any time."<sup>19</sup>

As seen in Table 6, we could estimate capacity of pharmacists in Pennsylvania to provide patient care services based on this figure. Does this estimated capacity match the need for services in the Commonwealth of Pennsylvania?

In terms of total population, Pennsylvania ranks sixth in the nation<sup>20</sup> with an estimated 12.4 million people, of which roughly 15% or 1.9 million are age 65 and older.<sup>21</sup> The Lewin Group report, commissioned by the American Pharmacists Association to examine existing models of MTM services, is the best tool we have at this time for estimating need for at least the 65 years of age and older Medicare population. The report estimates that 29.3% of this population would qualify for a basic medication therapy review (MTR) while 3% would qualify for a more comprehensive MTR.<sup>22</sup>

- Application to Pennsylvania: Number of MTRs needed
  - Basic : (1.9 million age 65+)(29.3%) = 556,700
  - Comprehensive/Follow-up: (1.9 million age 65+)(3%) = 57,000
  - Total: 613,700

If pharmacists as illustrated in Table 6 were providing care services full-time to a minimum of 10-15 patients per day, we could potentially meet the need for the 65 years and older population in Pennsylvania. However, estimating capacity can be difficult because not all pharmacists are available at the same time and location.

### **Limitations:**

By limiting the survey to only those pharmacists licensed and residing in Pennsylvania, we realize we may have missed pharmacists who reside in a border state but work in Pennsylvania.

The setup of the survey made it hard to fully assess job position/title because some faculty may also be clinical pharmacist or MTM pharmacist but they could only select 1 job position/title. The multiple methods of collecting survey data may also be considered a limitation; some pharmacists may have deleted the e-mail survey or thrown away the paper survey.

We did not define MTM, diabetes education, or smoking cessation education which left respondents to interpret the meaning.

### **Conclusion:**

This research provides substantial evidence that there is interest among Pennsylvania pharmacists to provide community-based patient care services and join a statewide practice network. This research is the first statewide survey to our knowledge that is attempting to collect data to form a statewide pharmacist practice network focused on providing community-based patient care services. Networks can be a source of awareness, innovation, and knowledge transfer.<sup>23</sup> Thus, we would expect the network in Pennsylvania to be a foundation for increased pharmacist-provided patient care. This research has already provided evidence to the Pennsylvania Pharmacists Association Executive Board which has approved the formation of the Pennsylvania Pharmaceutical Care Network (PCCN). Our approach to this research project could serve as a model for other states and thus benefit community pharmacy practice nationally.

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