

Patient Care Services in Community Pharmacy: What is the Bottom Line?

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INTRODUCTION

With the advent of patient-focused care, community pharmacists have become increasingly involved in providing value-added services that go beyond the role of traditional medication dispensing. Included in these specialty services are wellness and screening programs, self-care over-the-counter (OTC) services, vaccination programs, disease state education and management programs, as well as medication management and adherence programs. Although these types of activities are becoming more prevalent in pharmacy, very little data are available to assess the national prevalence and economic impact of these services.

In 1999 McDermott and Christensen conducted a survey of North Carolina pharmacists regarding the provision of pharmaceutical care services.¹ They reported that greater than 30% of North Carolina pharmacists surveyed were providing pharmaceutical care services in 1999. In addition, pharmacies that were independently-owned were more likely to charge for pharmaceutical care services.

Another study was conducted by Mangum, Kraenow, and Narducci to assess whether community pharmacists can effectively screen and refer patients at risk for cardiovascular and cerebrovascular disease.² All the patients who came to an independent community pharmacy were offered a free blood pressure screening and those with elevated blood pressure were referred to their primary care provider. Additionally, patients in a well-elderly care facility were also screened for stroke risk. The authors concluded that community pharmacists

are in an ideal position to provide screening programs and patient education regarding cardiovascular and cerebrovascular disease.

Hong and colleagues published a study in 2005 investigating whether patients would be willing to pay for pharmacist self-care services on properly using OTC medications.³ The results of a survey demonstrated that patients do value pharmacist advice on OTC products and approximately half of those surveyed were willing to pay for those services.

McKenney and colleagues conducted a national survey of pharmacists regarding beliefs about their role in support of patients using cholesterol-lowering therapies.⁴ The authors reported that pharmacists in this study routinely provided more traditional pharmacy services, such as advice regarding self-treatment and encouraging adherence to treatment regimens, but they were less likely to provide services such as monitoring patient response to treatment or cholesterol testing.

Although studies in the current literature have assessed specific aspects of pharmacy patient care services, there has not been a comprehensive study to determine the extent and economic impact of pharmacy services on a national level. The objective of this study was to develop a survey instrument to evaluate the types of patient care services that can be offered by independent pharmacies and to administer this survey to a national sample of independent pharmacies. The ultimate goal of the study is to establish important baseline benchmarks for documenting pharmacist expansion into patient care service niches.

METHODS

The Shenandoah University Human Subjects Review Board reviewed and approved this study prior to its commencement. A survey instrument was developed to assess the type and extent of services offered by independent community pharmacies, as well as the economic impact of those services. The survey was reviewed by the Senior Vice President of Pharmacy Programs for the National Community Pharmacists Association (NCPA), the Executive Director of the National Institute for Pharmacist Care Outcomes, and by the research team members. The revised survey was then pilot tested by ten regional independent pharmacy owners and re-evaluated for content and readability. The ambiguity of the questionnaire was assessed in terms of flow and format of the various types of instruction and also in terms of the respondents' comprehension of the words used in the questionnaire. An *a priori* level of 80% or greater consensus among the respondents was set and accepted. The questionnaire included scientific terms, but considering all our respondents were pharmacists, it was assumed that they would be able to comprehend those terms. The reading comprehension difficulty of the questionnaire was measured in terms of the Flesch reading score and the Flesch-Kincaid grade level. The Flesch reading ease score was found to be 40.0 and the Flesch-Kincaid grade level was found to be 10.0. The comments and suggestions received throughout this extensive development process were utilized to formulate the final survey and cover letter.

The introduction section of the questionnaire focused on demographic information such as pharmacy name, location, population of area, total pharmacy sales, prescription volume and total full time employees. The second section focused on various services provided by the pharmacies, such as blood pressure monitoring, smoking cessation programs, weight management, diabetes training/management, and comprehensive medication reviews. Also included, were questions regarding whether pharmacies are compensated for those services, sources of reimbursement, and general questions about documentation and outcomes measures. In addition, the questionnaire collected economic information such as the total estimated revenue generated by each of these services. The utilization of CPT (Current Procedural Terminology) codes to bill for medication therapy management services (MTMS) was also assessed. The cover letter accompanying the questionnaire stated that all responses would be treated confidentially and that the pharmacies would not be identified by their responses.

Four thousand members of NCPA were randomly selected to receive the survey. It was mailed with a cover letter and postage-paid return envelope to the 4000 pharmacies on April 28, 2006. The survey was also referenced in *America's Pharmacist* and accessible through the NCPA website (<http://www.ncpanet.org/pdf/community-pharmacy-pcs-srvy.pdf>) allowing independent pharmacists to complete the survey and fax it to the research team. A follow-up reminder post card was mailed on May 16, 2006 referencing both the mailed survey and the website.

The completed questionnaires were coded and analyzed using SPSS version 14 statistical software. The study objectives were assessed by a series of descriptive analyses.

RESULTS

Demographics

We received 182 completed surveys for a response rate from the mailed surveys of 4.5%. The average reported annual total pharmacy sales for the pharmacies in our sample were \$3 million with a range of \$150,000 to \$12 million. The average reported annual prescription sales volume was \$3 million with a range of \$9,000 to \$10 million. Figure 1 depicts the percentage of respondents by prescription volume with the most common being 42% of respondents filling between 100 and 199 prescriptions per day and 29% fill between 200 and 299 prescriptions daily. Only 15% fill an average of 300 or more prescriptions per day. Figure 2 represents the percentage of respondents by population area served with 43% of pharmacies serving population areas of less than 20,000 people, while 27% are located in areas with populations greater than 50,000. On average, respondents had 9 total full-time equivalent (FTE) employees with a range of 1-40, including two FTE pharmacists, with a range of 1-6, and three FTE technicians with a range of 1-15. The pharmacy employee credentials most frequently reported were Certified Pharmacy Technician (53%), Cardiopulmonary Resuscitation (CPR) Certification (29%), Certified Diabetes

Educator (11%), and Certified Disease Manager (8%). In addition, 12% of pharmacies reported having medical billing specialists.

Forty-three percent of respondents have private counseling rooms in their pharmacies with an average self-reported size of 121 square feet with a range of 15 to 600 square feet.

Services and Compensation

A summary of patient care services offered by pharmacies is presented in Table 1. Figure 3 also presents the frequency of services offered. Among the most commonly offered services were blood pressure monitoring (52.7%), comprehensive medication reviews (46.7%), diabetes training/management (39.6%) and influenza immunizations (36.8%). On average immunizations appear to generate the most pharmacy revenue at \$17,703 annually. However, due to misinterpretation of the question, the immunizations information may include sales of immunizations, and not just administration of immunizations by pharmacy personnel. In addition, the hospice care information was not included in the Table 1 due to apparent misinterpretation of services versus prescription sales. In general, the results may also demonstrate a response bias as well, due to the respondents possibly having a particular interest in special services.

For those pharmacies offering a particular service, the ones for which patients were most often charged a separate fee were pneumococcal (70.7%) and influenza (59.7%) immunizations, osteoporosis screening/management (72.2%), and dyslipidemia monitoring/management (50%). However, for all

services included in the survey except Acquired Immune-Deficiency Syndrome (AIDS) specialty services and cancer awareness education, at least some pharmacies reported charging a separate fee.

For those pharmacies offering a particular service, the services for which the pharmacies most often billed third parties were pneumococcal (26.8%) and influenza (11.9%) immunizations and asthma management (18.2%). No respondents reported billing third parties for anticoagulation therapy monitoring, blood pressure monitoring, nutrition management, osteoporosis screening/management, pain management, or weight management. However, separate fees were charged by at least some pharmacies for these services.

Respondents indicated that, on average, the percent of patient care services revenue was received from the following sources: private pay (47% with a range of 0 to 100%), private third party (28% with a range of 0-100%), Medicare (15% with a range of 0-94%), and Medicaid (10% with a range of 0-80%). Eleven percent of pharmacies surveyed reported having medical billing specialists on staff. However, only 1.6% of pharmacies reported using CPT codes (0115T, 0116T, 0117T) to bill for MTMS, and the pharmacies that had billed with these codes reported that they had used them only one or two times.

Scheduling and Documentation

Figure 4 presents the frequency of patients' initial access to specialty services. Fifty-two percent of pharmacies reported that patient access to services is most often initiated by patient self-referral. Pharmacist-referral was reported by

19% of respondents and pharmacy screening programs were used to identify patients in an additional 14% of responding pharmacies. Ten percent of respondents indicated that patients were referred by physicians and 2% by other healthcare providers. Fifty-five percent of pharmacies reported that walk-in patients are accepted for provision of specialty services and 51% scheduled individual appointments. Only 3% of pharmacies stated that they schedule blocks for specific disease states.

Forty-nine percent of responding pharmacies document patient care services either utilizing written or electronic patient charts. Forty-six percent of pharmacies also measure and document outcomes to determine the effectiveness of patient care services. The most common outcomes utilized were patient quality of life (64%) and patient-specific parameters (57%).

Providing Services

Seventy-six percent of respondents reported that patient care services are provided by pharmacy employees and 20% stated that non-employees are brought in to perform patient care services. Of the pharmacies that bring in outside groups to provide services, 72% utilized non-employees to provide immunizations and 28% for diabetes training/management. Pharmacies also reported using outside groups to perform other services such as blood pressure monitoring (25%) and osteoporosis screening (17%).

Thirty-four percent of respondents perform one or more patient care services under a collaborative practice agreement and the frequency of these

services is presented in Figure 5. Of these collaborative practice agreements, the most common were for immunizations (58%) and diabetes management (24%). Other services performed under collaborative agreements are blood pressure monitoring (16%), anticoagulation therapy monitoring (10%), and dyslipidemia monitoring/management (10%).

DISCUSSION

As reimbursement rates for prescriptions have decreased, resulting in decreased revenue for many independent pharmacies, many community pharmacists have become increasingly involved in providing patient care services that go beyond the role of traditional medication dispensing. Greater than 90% of respondents reported offering one or more patient care services. However, only 62% reported charging an additional fee for these specialty services. Among the most frequently offered services were blood pressure monitoring, comprehensive medication reviews, also referred to as “brown bags”, diabetes training and management, and immunizations. With the exception of immunizations, less than 40% of the pharmacies offering these services charged a separate fee and less than 10% billed third parties for any of these services. Conversely, for pneumococcal and influenza immunizations, more than half of responding pharmacies charged a fee and a more pharmacies billed third parties for immunizations than for other services. In addition, most of the pharmacies that charged fees for services received payment from the patients rather than from third parties and very few pharmacists indicated that they have used CPT

codes to bill for MTMS. The fact that many pharmacies do not bill for patient care services may be due to lack of staff or lack of knowledge regarding third party reimbursement for services. Many community pharmacists may benefit from training programs that include implementation and billing for patient care services.

In addition to reimbursement for services, pharmacies may benefit from learning how to market their specialty services to the public. The fact that more than half of patients' initial access to specialty services is by self-referral may indicate good advertisement of the availability of these services, or it could indicate a lack of proper utilization of other means of identifying patients who desire these services. For example, only 14% of patients' initial access to specialty services was the result of pharmacy screening programs. Screening programs may be a valuable opportunity to further promote pharmacy specialty services and should be further investigated.

Limitations of this study may include a low response rate and possible response bias. Many pharmacists may not have responded due to the length and complexity of the survey. The results from this survey provide an overview of patient care services in community pharmacy, but there is a need for more research in this area. Surveys that focus on specific services and include more detailed information on how services are provided and billed would be beneficial. Future directions may include a national survey that encompasses both independent pharmacies and chain pharmacies. In addition, future surveys should clearly differentiate between patient care services related to specific

disease states and sales for prescriptions for that particular disease state, since many respondents did not accurately interpret these types of questions. The information obtained from this and future studies will be useful in training pharmacy students as well as current practitioners to provide optimum patient care.

ACKNOWLEDGEMENTS

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Figure 1. Percentage of Pharmacies by Prescription Volume

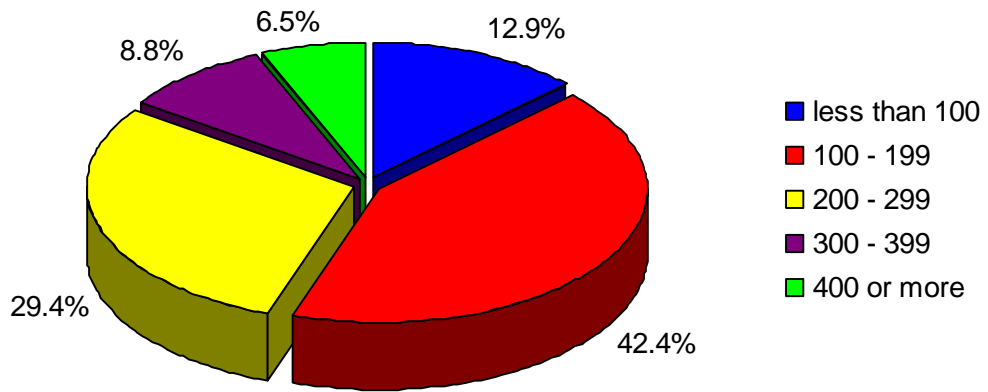


Figure 2. Percentage of Pharmacies by Population Served

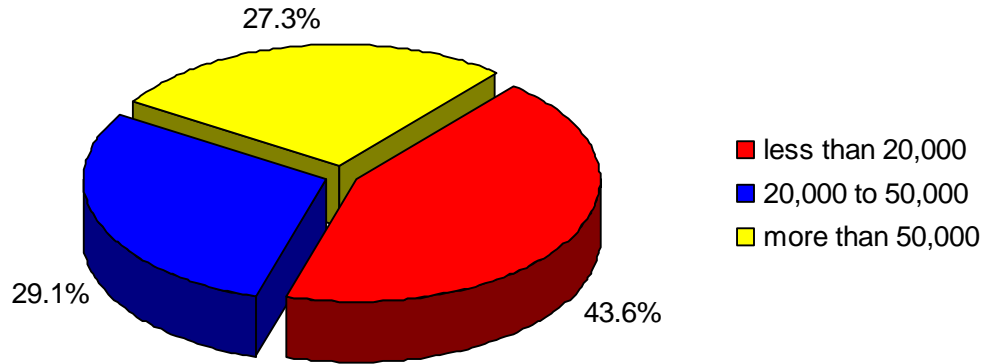


Figure 3. Frequency of Specialty Services Offered

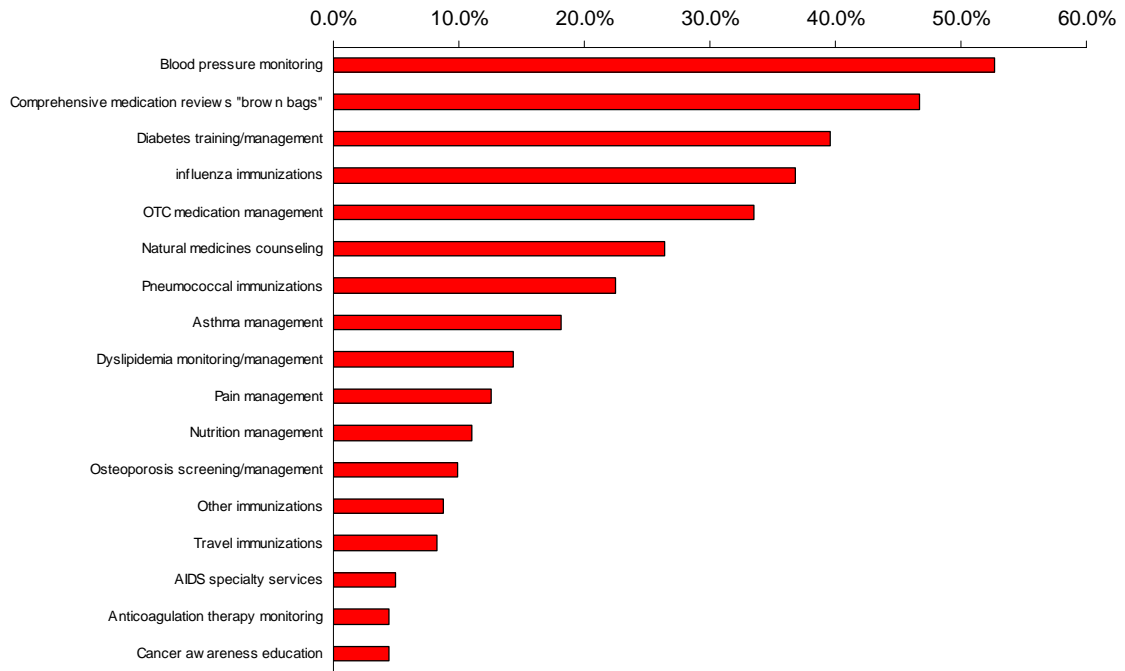


Figure 4. Frequency of Initial Patient Access to Specialty Services

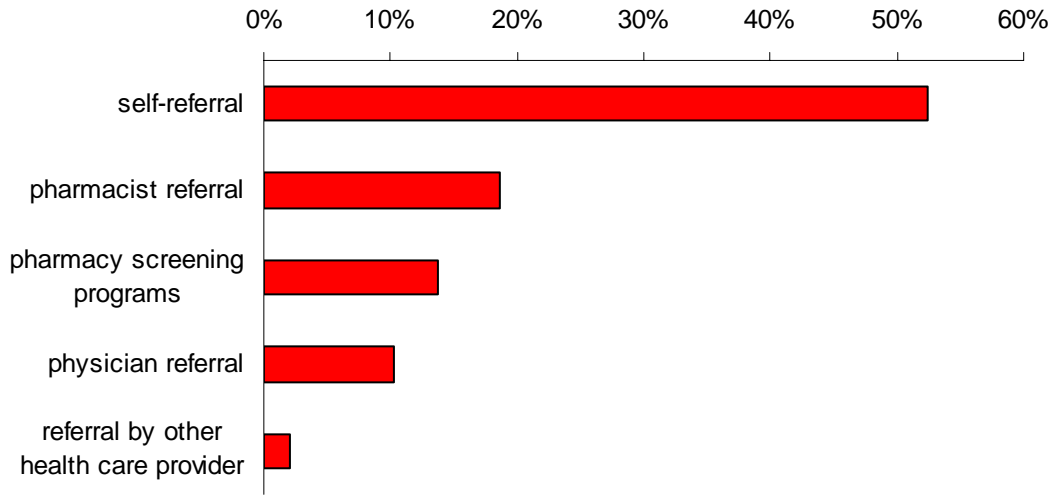


Figure 5. Frequency of Different Types of Collaborative Practice Agreements

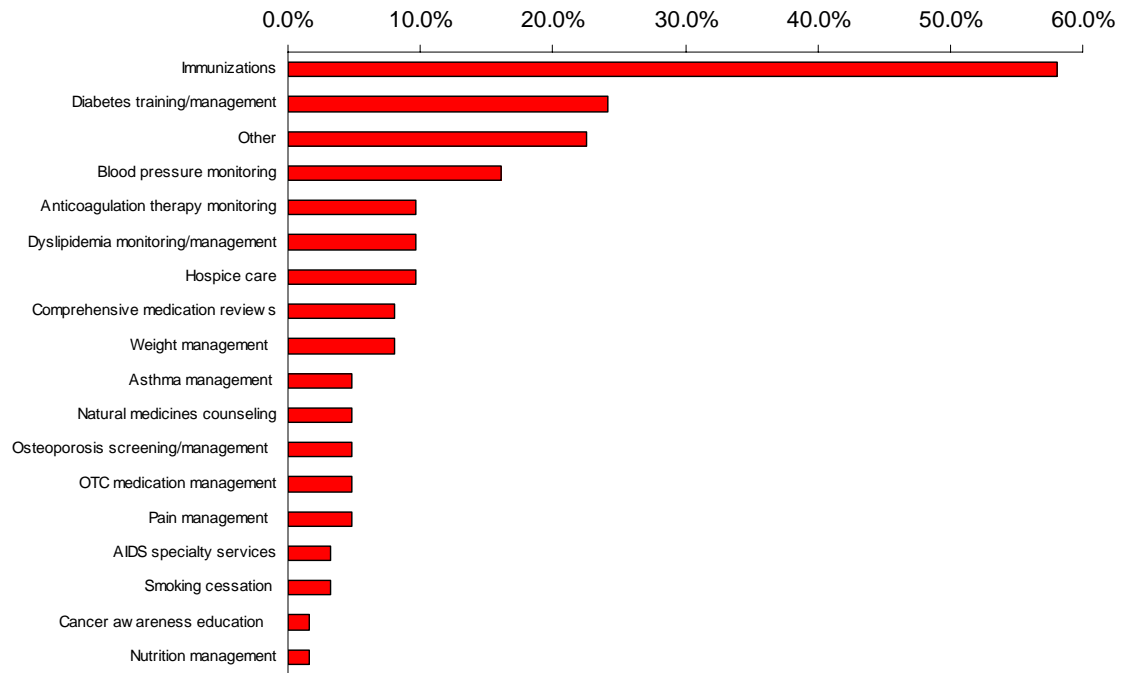


Table 1. Summary of Self-Reported Specialty Services Provided

Service	Percent Respondents Offering (%)	Percent of Those Offering that Charge a Separate Fee (%)	Mean (range) Cash Payment (\$)	Percent of Those Offering that Bill Third Party (%)	Mean (range) Annual Revenue of Those Offering (\$)
AIDS specialty services	4.9	0.0	NR	33	NR
Anticoagulation therapy monitoring	4.4	38.0	25 (15-35)	0.0	2188 (200-5000)
Asthma management	18.1	27.3	56 (15-200)	18.2	387 (100-5000)
Blood pressure monitoring	52.7	13.5	6 (1-40)	0.0	471 (100-2000)
Cancer awareness education	4.4	0.0	NR	0.0	NR
Comprehensive medication reviews ("brown bags")	46.7	37.6	16 (5-75)	2.4	600 (100-1500)
Diabetes training/management	39.6	18.1	77 (22-300)	9.7	4088 (100-20,000)
Dyslipidemia monitoring/management	14.3	50.0	42 (25-100)	11.5	1907 (100-10,000)
Immunizations					
pneumococcal	22.5	70.7	28 (12-60)	26.8	17,703 (100-200,000)
influenza	36.8	59.7	24 (12-40)	11.9	
travel	8.2	40.0	NR	6.7	
other	8.8	18.8	33 (5-70)	6.3	
Natural medicines counseling	26.4	18.8	71 (5-150)	4.2	2829 (300-5000)
Nutrition management	11.0	45.0	106 (25-180)	0.0	2933 (1000-10,000)
Osteoporosis screening/management	9.9	72.2	28 (20-35)	0.0	1423 (400-5000)
OTC medication management	33.5	6.6	22 (3-50)	0.0	488 (100-1000)
Pain management	12.6	4.3	200	0.0	10,000
Smoking cessation	13.7	24.0	208 (50-500)	4.0	3463 (50-10,000)
Weight management	9.9	33.3	197 (35-495)	0.0	9050 (150-50,000)

NR – not reported