Published in final edited form as:

Res Social Adm Pharm. 2011 September ; 7(3): 272–280. doi:10.1016/j.sapharm.2010.07.001.

Concordance between Observer Reports and Patient Survey Reports of Pharmacist Communication Behaviors

Bupendra Shah, BSPHarm, MS, PhD and

Assistant Professor, Arnold and Marie Schwartz College of Pharmacy, Long Island University, Brooklyn, New York. At the time of the study, he was a dissertator at the University of Wisconsin-Madison, Madison, Wisconsin

Betty Chewing, PhD

Professor, School of Pharmacy, University of Wisconsin-Madison, Wisconsin

Abstract

Background—Findings from studies on pharmacist-patient communication differ on the extent of communication by pharmacists. This disagreement could be due to different methods of data collection, samples and concepts used to measure pharmacist-patient communication.

Objectives—This research compared findings from two widely used methods of data collection (survey and observation) to identify: 1) how much pharmacists communicate with patients, 2) agreement between observation and patient report data on pharmacist information giving and question asking and 3) how patient perceptions of question asking vary according to the structure of the question asked.

Results—While there was good agreement between the two measures regarding pharmacist information provision, this was less true of question asking. Certain types of questions showed greater concordance with the observed pharmacist questions. Patients were less likely to report having been asked a question when it took the form of a nonspecific closed ended questions, i.e., “Any questions?”

Conclusions—One of the most frequent questions pharmacists ask patients may not be either remembered or perceived by patients as a serious question, let alone an invitation to raise a concern. Second, during the selection of a specific method of data collection, researchers need to weigh specific strengths and weaknesses of the method of data collection and evaluate which concepts can be accurately measured by a specific method of data collection. Multi-method studies should be encouraged.

Keywords

Observation; Self-Report; Agreement; Pharmacist Patient Communication

BACKGROUND

Decades of research on pharmacist-patient interaction suggest that effective pharmacist-patient communication is important for improving appropriate medication use and achieving desired patient outcomes such as increased patient knowledge and recall,^{1,2} patient compliance,^{3,4,5,6,7} disease state management,⁸ decreased adverse events,^{9,10} decreased medication errors and decreased hospitalizations.^{11,12} Thus, the importance of evaluating pharmacist-patient communication cannot be overestimated. Not surprisingly, researchers in pharmacy have spent enormous efforts studying the quantity and quality of pharmacist-patient communication. Studied primarily under the rubric of patient counseling, these studies primarily focused on the extent to which pharmacists counsel patients, as well as their style and the content of information communicated by the pharmacist. Results from these studies suggest that the extent of pharmacist-patient communication ranges from 25%–75% of encounters, often depending on whether the assessment was conducted quantitatively or qualitatively, via self report, observation or shopper method.¹³ While results from different studies have been systematically reviewed for differences by method utilized, no known study has examined pharmacist-patient communication by utilizing multiple methods in the same study. Such a study is important as fair descriptions of patient-provider communication behaviors rely on the accuracy of the methods used for its assessment.

Several important methodological questions arise given that the same communication behaviors can be evaluated by different methods of data collection such as patient surveys (self-reports), nonparticipant and participant observations (observer and shopper reports), and audio-video recordings. Such questions include “how do different methods of study compare across findings for different communication behaviors within the same encounter”, and “how can we explain the discrepancy in findings from using different methods for the same communication behaviors within the same encounter?” Since, validity of the methodology used to measure behaviors is crucial to successful decision-making, it is important to cross validate findings from one method to the other.

One approach to answering these questions has been to use triangulation or multiple methods in a study, measure the same behaviors and then utilize descriptive or correlation statistics to examine the concordance between the patient-provider behaviors documented by different sources of data.¹⁴ While descriptive statistics can reveal the extent to which different methods report on the occurrence of a particular event, correlation statistics can examine the strength of the relationship between different reports for the same event. In this article, we present findings from a study of pharmacist communication behaviors where patient self-report and non-participant observation method was used to collect data. This article also discusses the implications of the findings for research on patient-pharmacist communication and pharmacy practice.

OBJECTIVES

The main aim for this study is to examine the concordance between observer reports and patient survey reports of pharmacist communication behaviors. A secondary aim is to

identify and explain possible sources of discrepancy between observer reports and patient survey reports of pharmacists' communication behaviors. Specifically, this research compared findings from two widely used methods of data collection to identify: 1) how much pharmacists communicate with patients, 2) agreement between observation and patient report data on pharmacist information giving and question asking and 3) how patient perceptions of question asking vary according to the structure of the question asked.

CONCEPTUAL FRAMEWORK

The concepts used in the broader field of communication can be applied to pharmacist-patient consultation. The transmission model of communication describes communication as a linear, one-way process between the sender and receiver where the receiver could be seen as passive.¹⁵ In contrast, a transaction model of communication sees communication as a two-way process, where shared meaning is negotiated between the two participants.¹⁶ Applying the transmission model to pharmacy, the pharmacist is the sender and the patient is the passive recipient in many instances. In contrast, the transaction model presents the patient and pharmacist in mutual exchange to achieve shared meaning. The Indian Health Service model of consultation,¹⁷ widely taught in Schools of Pharmacy, embodies the transaction model of communication where the pharmacist strategically asks key open-ended questions to solicit and encourage patient interaction. For this model to work effectively, the pharmacist solicits patient knowledge, problems, concerns and questions and tailors the consultation accordingly.

A recent review examined how prior studies conceptualized and operationalized pharmacist communication and found that pharmacist communication could be divided into two major categories - pharmacists' information provision behaviors and pharmacist question-asking behaviors.¹⁸ Further, the information provision was largely divisible into directions for medication use, side effects and interactions. In the transmission model this information would be delivered in one-way messages, without the encouragement of patient interaction and open ended questions characterizing the transaction model. The review argued that analysis using the transaction model of communication is sorely needed and can be accomplished using multiple methods of data collection in the same study.

No known study has attempted to use multiple methods of data collection to analyze patient pharmacist encounters. Yet such multi-method studies have the advantage of providing a more complete and potentially more accurate picture of the phenomenon being studied since each method has its own strengths and weaknesses. For example, recall, interpretation of questions, and social desirability bias are important weaknesses of the survey method of data collection and yet it provides important insights about the perceptions and knowledge of the respondent. (CITATION) In contrast the Hawthorne effect, researcher bias or perception of others behaviors and limited sample of observation are the primary weaknesses of the observation method and yet this method codes the actual behavior rather than perceived behavior. (CITATION) To gain the advantages of each method and help overcome the weaknesses, methodological triangulation can be used to compare data collected through multiple methods and to study construct validity.¹⁹ For the purposes of this study, we used methodological triangulation to compare data collected on pharmacist communication

behaviors through observer reports and patient surveys. To enable methodological triangulation of the survey and observation tools as well as comparison of this study's results to earlier research in the area, these same domains of information provision and question asking were recorded regarding pharmacist communication behaviors. (Bupendra – don't you have a top page margin?)

METHODS

Data utilized in this research were collected as part of a larger dissertation study examining the influence of pharmacists' work environment on their patient safety behaviors. The protocol for the dissertation study was approved by the University of Wisconsin Institutional Review Board. It utilized a cross-sectional, fieldwork design to collect data from a stratified random sample of thirty community pharmacies in southeast and south-central Wisconsin. The stratification of community pharmacies was based on the urban/rural status of counties where pharmacies were located and by the type (traditional chain, independent/franchise, and supermarket/grocery) of pharmacy. The pharmacy manager of each selected pharmacy was approached for their approval to recruit participants in the study. If approval was denied, another pharmacy was randomly selected. At each participating pharmacy, patients entering the pharmacy to fill their prescriptions were approached by the observer. A total of 12 patients (6 filling a new medication and 6 receiving their refill medications only) were recruited at each pharmacy. Each participating patient was asked for their consent to observe their interaction with the pharmacist and was required to complete an exit survey with the researcher. Prior to recruiting patients, pharmacists who were dispensing ($n = 30$) prescriptions were asked for their consent to participate in the study. To alleviate concerns related to confidentiality and privacy of their responses, each participant was assigned a unique identification number which was linked to the pharmacy identification number but not to the employee or pharmacy name or patient name. This procedure was explained verbally to each participant. Data were collected during the spring and summer of 2006. Overall, 360 patients (180 filling new medications and 180 receiving refill medications) were recruited for the study; each patient was observed when they interacted with the pharmacy staff and completed a survey afterwards.

Observations

Observations at each pharmacy were conducted unobtrusively and upon patient consent. Pharmacy settings did not have special accommodations to encourage privacy during consultations. During all observations, the researcher was at least 10 feet behind the patient. A warm-up period of 15 minutes was used to let the pharmacy staff get used to the researcher and resume old patient encounter habits. When the pharmacy staff appeared to settle into their normal routine, the researcher randomly selected and recruited patients for observations. Upon consent from the patient, a patient-specific observation coding tool designed to collect pharmacy staff-patient interactions was used to record observer notes. This coding tool was developed by adapting a prior pharmacist-patient communication observation tool and was pretested before the study.²⁰ For each patient receiving a prescription, pharmacist information provision was measured dichotomously based on whether the pharmacist provided any oral information on directions of use, side effects and

interactions (score 1 for each information type and 0 for no information). Pharmacists' question-asking behavior was measured dichotomously based on whether the pharmacist asked a question(s) or not (score 1 or 0). Additionally, the observer also recorded the type of questions that were posed by the pharmacist. Pharmacist questions were classified into three categories: 1) *closed or open ended non-specific assessment* questions such as "do you have questions?" "how are you doing today?" or its variants such as "any questions?", "questions?", "What questions do you have?", 2) *closed ended medicine- specific assessment* questions such as "have you tried this medication before?" and 3) *open ended medicine-specific assessment* questions "what do you know about this medication?", "How has this medication been working for you?" and the Indian Health Service questions such as "How did the doctor tell you to take this medication?".

Patient Self-Report

After each patient-specific observation, a survey was provided to the participating patient. These patient surveys collected data on patient demographics, patient perceptions of their pharmacy visit experience including pharmacist communication behaviors, perceived privacy, and satisfaction. Also, information on the type of prescription received from the pharmacy staff and the length of its use was collected.

Data Entry and Analysis

All patient surveys and observer reports were entered in SPSS version 14.0 and linked by this seven-digit code number. Descriptive statistics analyzed patient demographics and the observer and patient survey reports of pharmacist information provision and question-asking behaviors. Correlations were run to examine the nature and strength of the relationship between the two reporting methods.

To understand the nature of discrepancies between observer and patient reports of pharmacists' question asking and information provision, each behavior was classified as: 1) reported by the survey but not the observer, 2) reported by both, 3) reported by neither or 4) reported as occurring by the observer but not the survey. Cross-tabs were conducted to identify the types of discrepancies between observer and patient reports which were most frequent

RESULTS

Response Rate and Demographics

In order to enroll 30 pharmacies, a total of 39 pharmacies were contacted during the enrollment period resulting in a 77% pharmacy participation rate. Details about the pharmacy and pharmacists who were observed are presented in Table 1. To enroll twelve patients, the number of patients approached at each pharmacy varied from 14 to 32. Thus, patient participation rates varied from 38 percent to 92 percent across pharmacies, with an average participation rate of 62% across all pharmacies. Details about patients who participated in the study are presented in Table 2. Overall, sixty percent of all patients were females and a majority had patronized the pharmacy for more than a year (87%). Sixty percent of the participating patients received a medication expected to be used for a chronic

condition, whereas one-fourth received a medication expected to be used for an acute condition. There was a significant difference in the demographic characteristics of patients who filled a new prescription at the pharmacy compared to patients who filled a refill prescription at the pharmacy (Table 2).

Observer and Survey Reports on Pharmacists' Information Provision Behaviors

Based on observer reports, in 62% of all encounters, pharmacists provided at least one item of information to the patient. Patients receiving new medications were significantly more likely to receive at least one item of information than patients receiving refill medications. Pharmacists provided information on side effects and drug-drug or food-drug interactions in a little more than one-fourth of all encounters. By comparison, pharmacists provided information on directions of medication use in 58% of all encounters. Again, patients receiving new medications were significantly more likely to receive information about side effects, interactions, and directions than patients receiving refill medications (Table 3).

The results for survey reports on pharmacists' information provision behaviors were similar to observer reports. Exactly the same figure of 62% of patients indicated that pharmacists provided information about their medications. Similar to results from the observer reports, patients receiving new medications were significantly more likely to report receiving at least one item of information than patients receiving refill medications. Among those indicating that pharmacists had provided information, approximately a quarter of patients indicated that the pharmacists had provided information on side effects and interactions (24% and 28% respectively) whereas sixty percent of patients indicated that they received information about directions for use during the encounter. Again, patients receiving new medications were significantly more likely to report receiving information about side effects, interactions, directions than patients receiving refill medications (Table 3).

A strong positive correlation was found between observer reports and survey reports on pharmacist provision of at least one item of information ($r=0.906$, $p=0.0001$), pharmacist provision of information on side effects ($r=0.850$, $p=0.0001$), pharmacist provision of information on interactions ($r=0.875$, $p=0.0001$), and pharmacist provision of information on directions ($r=0.920$, $p=0.0001$). All correlations were found to be statistically significant.

Observer and Survey reports of Pharmacists' Question Asking Behaviors

The observer noted that the dispensing pharmacist asked questions to the patients in the majority of the interactions (96%). Based on observer notes, pharmacists posed *open or closed ended non-specific assessment questions* such as "do you have any questions" in approximately three-fourth of all encounters (74%), *closed ended medicine-specific assessment* questions in 18% of all encounters and *open-ended medicine-specific assessment* questions in 8% of all encounters.

There were greater differences between observed and reported question asking by pharmacists than was true for their information giving. Patients were not asked about the type of questions posed by pharmacists, but were just asked about whether the pharmacist asked questions. Seventy five percent of the patients reported that pharmacists had asked

questions during their encounter. Overall, there were 79 instances of disagreements between the patient reports of pharmacist question-asking behaviors versus observer reports of the same. The majority of the discrepancy (n=77; 97.5%) was found to be a type 2 discrepancy where patients reported that the pharmacist did not ask a question, but the observer reported that the pharmacist had asked a question (Table 4). A weak positive correlation ($r=0.284$, $p=0.034$) was found between observer reports and survey reports on the occurrence of pharmacist question asking behavior.

To further examine why the observer reported that the pharmacist asked questions and a probable reason for why the patient may have indicated a “no” for the same phenomena of interest, we examined the discrepancy data in relation to the type of questions used by the pharmacist as reported by the observer. We found that in the majority of the instances (n=69; 90% of the type 2 discrepancy), the observer noted that the pharmacist had used a non-specific open or closed ended question such as, “Do you have any questions?”. In these discrepancy situations the patient reported that the pharmacist did not ask a question, but the observer reported that the pharmacist had asked a question. Only 4% of the type 2 discrepancy was related to an open-ended medicine-specific question such as “how are the medications working for you?”.

DISCUSSION

This study provides insight into the nature and extent of specific aspects of pharmacist consultations by examining: 1) how much pharmacists communicate with patients, 2) agreement between observation and patient report data on pharmacist information giving and question asking and 3) how patient perceptions of question asking vary according to the structure of the question asked.

The results show that the extent of communication between patients and pharmacists fit within the range reported in prior studies of pharmacist counseling behaviors. This study found that in 62% of the visits, pharmacists addressed at least one of the information areas coded. A review of empirical studies, reported that the pharmacist verbal counseling rates across several studies ranged from 13–70%.²¹ Looking just at pharmacist information provision behaviors in Wisconsin pharmacies, 62% is somewhat lower than the findings (74%) by Schommer and Wiederholt (1995).²² This could be due to our operationalization of pharmacist communication behaviors as provision of information on only three information elements (directions, side effects and drug interactions) as compared to Schommer and Wiederholt (1995) conceptualization as occurrence of communication or lack of it.²² Question asking behavior by pharmacists was higher in this study than has been reported elsewhere. In a study of New Mexico community pharmacists’ question asking behaviors, Sleath (1995) reported that pharmacists asked questions only in one-third of all interactions with patients and that only 7% of these were open-ended.²³ In this study we found that pharmacists asked questions in almost all encounters, but the rate of open-ended questions was similar to that reported by Sleath (1995).²³ This continues to be low, especially given the preferred open-ended format questions prescribed by the Indian Health Service consultation model taught widely in U.S. schools of pharmacy. Instead the most common type of question format used is the non-specific closed question such as, “Any

questions?”. Future studies need to explore reasons for such low rates of assessment questions by practicing pharmacists.

The assessments of the pharmacist-patient communication process in this study explored the extent to which an external observer sees similar pharmacist communication behaviors recalled by patients. This study’s results were consistent with those of prior studies which found that raters or observers of others’ behavior can have high validity, especially if those behaviors are carefully defined (Ambady and Rosenthal, 1993).²⁴ The strong, positive correlations between patient survey reports and observer reports of pharmacist information giving behaviors suggests that this could be accurately assessed by third-party raters of a pharmacy visit when information elements such as side effects, interactions, and directions are well defined. However, there was a lower but positive agreement between research observers and patients’ survey reports of pharmacist question-asking behavior. This means that careful consideration needs to be taken to measure pharmacist question-asking behaviors. Our detailed examination of the discrepancy between patient and observer reports suggests that when pharmacists use *closed or open ended non-specific assessment* questions such as “do you have any questions” or “how are you doing today?” patients may not remember or may not consider these as questions about their medications. Patients may associate these types of questions with issues ranging from insurance or cost to a courteous gesture by the pharmacist. From a pharmacy practice perspective, this finding suggests that pharmacists need to include targeted assessment specific questions if they are looking to assess patients’ knowledge, recall or doubts. From a researcher perspective, it raises a question about the conceptual agreement between patient perceptions of questions about medications and observer perceptions of questions about medications. As Street (1992) noted, “objective observations and counts of specific communication processes and patients’ subjective evaluation of the same communication processes may be entirely different constructs”.²⁵ Future research should explore this potential conceptual difference in greater detail. One alternative would be to explore patient perceptions of the questions through audio or video-recordings showing what occurred during a visit. Another alternative would be exploring pharmacists’ rationale for the use of different types of questions. Such an analysis would also help understand why the Indian Health Service model widely taught in Schools of Pharmacy remains underutilized in practice.

This study has several limitations. First, although there was excellent agreement between patients and observer reports of the frequency that consultation topics were addressed, it is entirely possible that both patients and observers did not report pharmacist behaviors accurately. Patient and observer bias may have played a role in their reports of pharmacist communication behaviors. Second, the sample size of patients is small and comes from a sample which was willing to allow extensive data collection, limiting the generalizability of the study. Also, these findings are applicable only to community pharmacy practice. The generalizability of this study is also limited by having 30 sites from a single state.

CONCLUSION

This study reinforces the value of mixed methods data collection to examine issues in pharmacist-patient communication. Results of this study suggest that there is very good

agreement between different methods on elements of communication such as provision of information whereas agreement between different methods on the “question-asking” element is weak. Researchers may need to be careful in choosing a particular methodology while studying constructs within pharmacist-patient communication. Patient survey reports provide important insight into patient understanding and experience of the visit. Similarly, observation data offers important specific data regarding the actual rather than perceived behavior as a valuable complement. Recording the pharmacy visit and the communication process may provide the richest source of analysis of the interaction process, but self-report and observation can be less costly, cumbersome and can help identify key aspects of the pharmacy visit.

More research is needed to identify the nature of pharmacist questions to patients and how this varies by characteristics of the pharmacists, the pharmacy site, the patient, and their regimen. Although this research suggests that the majority of community pharmacists asked patients at least 1 question in their consultation, a further research query is why pharmacists ask a medication specific assessment question so infrequently given the usefulness of such questions to tailor consultation to patient needs consistent with the Indian Health Service model of consultation.

References

1. Crichton E, Smith D, Demanuele F. Patient recall of medication information. *The Annals of Pharmacotherapy*. 1978; 12:591–599.
2. Woroniecki C, McKercher P, Flagler D, Berchou R, Cook J. Effect of pharmacist counseling on drug information recall. *American Journal of Health-System Pharmacy*. 1982; 39:1907–1910.
3. Slama PJ, Gurwich EL. Effect of pharmacist consultation on medication compliance. *Contemporary Pharmacy Practice*. 1978; 1:71–77. [PubMed: 10241630]
4. Powell MF, Burkhart VD, Lamy PP. Diabetic patient compliance as a function of counseling. *The Annals of Pharmacotherapy*. 2006; 40:747–752. [PubMed: 16569793]
5. Wandless I, Whitmore J. The effect of counseling by a pharmacist on drug compliance in elderly patients. *Journal of Clinical and Hospital Pharmacy*. 1981; 6:51–56. [PubMed: 7345096]
6. Williford S, Johnson D. Impact of pharmacist counseling on medication knowledge and compliance. *Military Medicine*. 1995; 160:561–564. [PubMed: 8538891]
7. Bouvy ML, Heerdink ER, Urquhart J, Grobbee DE, Hoe AW, Leufkens HGM. Effect of a pharmacist-led intervention on diuretic compliance in heart failure patients: A randomized controlled study. *Journal of Cardiac Failure*. 2003; 9:404–411. [PubMed: 14583903]
8. Tsuyuki RT, Fradette M, Johnson JA, Bungard TJ, Eurich DT, Ashton T, et al. A multicenter disease management program for hospitalized patients with heart failure* 1. *Journal of Cardiac Failure*. 2004; 10:473–480. [PubMed: 15599837]
9. Leape LL, Cullen DJ, Clapp MD, Burdick E, Demonaco HJ, Erickson JI, et al. Pharmacist participation on physician rounds and adverse drug events in the intensive care unit. *Jama*. 1999; 282:267–270. [PubMed: 10422996]
10. Schnipper JL, Kirwin JL, Cotugno MC, Wahlstrom SA, Brown BA, Tarvin E, et al. Role of pharmacist counseling in preventing adverse drug events after hospitalization. *Archives of Internal Medicine*. 2006; 166:565–571. [PubMed: 16534045]
11. Folli HL, Poole RL, Benitz WE, Russo JC. Medication error prevention by clinical pharmacists in two children's hospitals. *Pediatrics*. 1987; 79:718–722. [PubMed: 3575028]
12. Scarsi KK, Fotis MA, Noskin GA. Pharmacist participation in medical rounds reduces medication errors. *American Journal of Health System Pharmacy*. 2002; 59:2089–2096. [PubMed: 12434722]

13. Schommer JC, Sullivan DL, Wiederholt JB. Comparison of methods used for estimating pharmacist behaviors. *J Pharm Technol.* 1994; 10:261–268. [PubMed: 10138739]
14. DiMatteo MR, Robinson JD, Heritage J, Tabbarah M, Tabbarah M, Fox SA. Correspondence among patients' self-reports, chart records, and audio/videotapes of medical visits. *Health Communication.* 2003; 15:393–413. [PubMed: 14527865]
15. Shannon, CE.; Weaver, W. *The mathematical theory of communication.* University of Illinois Press; Urbana: 1949.
16. Gerbner G. Toward a general model of communication. *Theories of Communication.* 1956:91–119.
17. Gardner, M.; Boyce, RW.; Herrier, RN. *Pharmacist-Patient Consultation Program. An Interactive Approach to Verifying Patient Understanding.* Pfizer; New York: 1991.
18. Shah B, Chewning B. Conceptualizing and measuring pharmacist-patient communication: A review of published studies. *Research in Social and Administrative Pharmacy.* 2006; 2:153–185. [PubMed: 17138507]
19. Harvey, L.; MacDonald, M. *Doing sociology: A practical introduction.* Macmillan Press; London: 1993.
20. Schommer, JC. Unpublished doctoral dissertation. University of Wisconsin; Madison: 1992. The roles of pharmacists, patients, and contextual cues in pharmacist-patient communication.
21. Wiederholt JB, Clarridge BR, Svarstad BL. Verbal consultation regarding prescription drugs: Findings from a statewide study. *Medical Care.* 1992; 30:159–173. [PubMed: 1736021]
22. Schommer JC, Wiederholt JB. A field investigation of participant and environment effects on pharmacist-patient communication in community pharmacies. *Medical Care.* 1995; 33:567–584. [PubMed: 7760574]
23. Sleath B. Pharmacist question-asking in New Mexico community pharmacies. *American Journal of Pharmaceutical Education.* 1995; 59:374–376.
24. Ambady N, Rosenthal R. Half a minute: Predicting teacher evaluations from thin slices of nonverbal behavior and physical attractiveness. *Journal of Personality and Social Psychology.* 1993; 64:431–431.
25. Street RL Jr. Analyzing communication in medical consultations: Do behavioral measures correspond to patients' perceptions? *Medical Care.* 1992; 30:976–988. [PubMed: 1434961]

Table 1

Pharmacy and Pharmacy Demographics

Pharmacies (N=30) (Range)	Mean (Std. Dev)
Rx Volume/Day (20–300)	143.33 (67.53)
Number of Pharmacists Employed (1–5)	2.87 (1.17)
Number of Technicians Employed (1–7)	3.73 (2.00)
Hours Open (59–92)	72.90 (11.82)
Pharmacists (N=30)	Mean (SD) or %
Age	40.30 (10.57)
Experience	15.20 (9.65)
Number of Hours/Week Worked	36.59 (8.27)
Number of Rx Dispensed/Day	128.33 (63.28)
Gender (% Female)	56.7%
Working Full Time	55%
Mentor to Pharmacy Students (% Yes)	23.3%

Table 2

Patient Demographics

Variable	New (N=180)	Rx Refill (N=180)	Rx Overall (N=360)	Significance
Mean Age (SD)	43.64 (15.30)	54.99 (13.63)	49.33 (15.55)	P=0.042
Gender (% Female)	54.7%	64.6%	59.7%	P=0.039
Patronage				
Less than a year	20.9%	4.4%	12.6%	P=0.040
More than a year	79.1%	95.6%	87.4%	
Expected Rx Use				
Acute (less than 3 months)	44.1%	7.2%	25.6%	P=0.023
Chronic (more than 3 months)	55.9%	92.8%	74.4%	

Table 3

Observer and Survey reports on Pharmacists' Information Provision Behaviors

Pharmacist Information Provision Behavior	Observer Report (%)			Survey Report (%)		
	New Rx (N=180)	Refill Rx (N=180)	Overall (N=360)	New Rx (N=180)	Refill Rx (N=180)	Overall (N=360)
At least one item of information	92 %	28%	62%	93%	28%	62%
Information on Side Effect	49%	6%	27%	44%	5%	24%
Information on Interactions	49%	7%	28%	49%	5%	27%
Information on Directions	92%	24%	58%	92%	25%	58%

Table 4

Cross-Tabulation of Observer and Survey Report of Pharmacist Question Asking Behavior

Observer Report: Did the RPh Ask Questions	Survey Report: Did the Pharmacist Ask Questions		
	No	Yes	Total
No	12 (13.5%)	2 (.7%)	14 (3.9%)
Yes	77 (22.3%)	268 (77.7%)	345 (96.1%)
Total	89 (24.8%)	270 (75.2%)	359