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Julianne M. Kowalski PharmD
University of Arizona, College of Pharmacy – Tucson, AZ, juleskowals@gmail.com

Amanda R. Margolis PharmD, MS
University of Wisconsin, School of Pharmacy – Madison, WI, amanda.margolis@wisc.edu

Nicole Schreiner PharmD
Streu's Pharmacy Bay Natural – Green Bay, WI, nschreiner@streuspharmacy.net

Jeff Kirchner RPh
Streu's Pharmacy Bay Natural – Green Bay, WI, jkirchner@streuspharmacy.net

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Cover Page Footnote
*At the time of this study, Dr.Kowalski was a PGY-1 resident at Streu's Pharmacy Bay Natural with the University of Wisconsin-Madison School of Pharmacy Community Residency Program. At the time of this publication, she is a PGY-2 ambulatory care with the University of Arizona College of Pharmacy.
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Julianne M. Kowalski PharmD[1]; Amanda R. Margolis PharmD, MS[2]; Nicole Schreiner PharmD[3]; Jeff Kirchner RPh[3]
[1]University of Arizona, College of Pharmacy; [2]University of Wisconsin Madison School of Pharmacy; [3]Streu's Pharmacy Bay Natural, Green Bay, WI

Abstract

***Objectives**: To identify characteristics of patients who accepted or declined an appointment for a transition of care service provided by an independent community pharmacist and identify the most common reasons patients declined the service.*

***Methods**: A transition of care service was offered by a community pharmacy to patients discharged to home from the cardiac unit of a local hospital. The community pharmacist approached patients prior to discharge for recruitment into the service. Outcomes included service acceptance rate, LACE score at discharge, readmission risk category, age, gender, geographic home location, and reason for refusing the service. Descriptive statistics and logistic regression were used to compare characteristics between those who accepted or declined the service. Reasons for decline were assessed using content analysis.*

***Results**: Of the 87 patients that were included in the analysis, 21 patients received the transitions of care service (24.1%). None of the characteristics were found to be statistically significant between patients who received or declined the service. Patients at a moderate risk for readmission seemed more likely to accept the pharmacist-run appointment than those at high risk (27.9% vs 15.3%; P = 0.29). Of the 66 patients who declined, 51 gave a reason (77.3%). Thirty-nine patients saw no benefit (76.5%), five patients had perceived barriers (10%), and seven patients gave reasons that fell into both categories (13.5%).*

***Conclusions**: This evaluation did not find a statistically significant difference in characteristics between those patients who accepted or declined participation in a pharmacist-run transition of care service. Patients may be less likely to accept pharmacist-run transition of care appointments primarily due to no perceived benefits. To increase participation, we need to understand the patient's health beliefs, educate patients on pharmacy services, and implement changes to recruit potential patients.*

Background

The transition from hospital to home can be a confusing time for patients.[1-2] Many patients are given changes in their medications or new prescriptions resulting in an increased risk for medication errors and adverse events. Without an appropriate follow-up, medication errors and adverse effects may not be discovered until a patient presents to the emergency room and is readmitted to the hospital.

Pharmacists are uniquely trained and qualified to assess indications, duplications, interactions, and adverse effects of drugs.[3] These skills allow pharmacists to provide unique, clinical pharmaceutical care services such as medication therapy management (MTM), complete medication reconciliation, medication education, and transition of care appointments. Pharmacy clinical services incorporating medication reviews can help to reduce adverse drug events and readmissions.[4-8] For example, in the community setting an absolute risk reduction of 13.1% in hospital readmissions was seen for patients participating in a pharmacist-run transition of care service.[4]

Although evidence demonstrates the success of these pharmacy-run services, patients are not always eager to participate.[9] Some evidence suggests that patients may not have a clear understanding of the pharmacist's role or the usefulness of clinical pharmacy services such as medication reviews.[9-12] Even less information exists to identify which types of patients may decide to use optional clinical pharmacy services; but limited evidence suggests patients with more complex conditions are more likely to participate.[13] The objective of this evaluation was to identify characteristics of patients who accept or decline an appointment for a transition of care service provided by an independent community pharmacist. A secondary objective was to identify the most common reasons a patient may decline the service. This information can allow pharmacists to strategize ways to overcome barriers to patients accepting appointments.

Corresponding author: Julianne Kowalski, Pharm D
University of Arizona, College of Pharmacy
Tucson, AZ 85704
P: 219.508.0484
juleskowals@gmail.com

Methods

This prospective, observational evaluation of patient participation in a transition of care service provided by a community pharmacist was determined to not fit the federal definition of research using the University of Wisconsin-

Madison research decision tool.[14] Patients were not required to complete informed consent for the evaluation as this was considered a quality improvement project. Streu's Pharmacy Bay Natural, an independent community pharmacy in Green Bay, partnered with Bellin Hospital to provide a pilot transition of care service for the cardiac unit. Patients were eligible for the service if they were a Wisconsin resident on the cardiac unit with moderate to high risk for readmission and plans for discharge home. Readmission risk was assessed using the LACE scoring tool which evaluated the patient's likelihood of readmission using the patient's length of stay, acuity of care, comorbidities, and number of emergency room visits in the last six months.[15] Patients with a LACE score of 5 or greater were eligible for inclusion. Patients were excluded if they were discharged to an inpatient rehabilitation or long-term care facility. The pharmacist would meet with an available member of the nursing staff on the floor prior to approaching patients to identify which patients on cardiac unit were eligible for the service. The hospital staff did not participate in direct recruitment of patients.

Eligible patients were approached only by a single pharmacist, the community pharmacy resident, at the hospital during his or her stay at any convenient time prior to discharge in order to explain and offer the service. While the introduction was individualized for each patient and not scripted, the introduction generally included informing patients that the service was free of charge, explaining that patients did not have to get their medications at Streu's Pharmacy to participate, and a brief description of what would occur during and after their appointment. During the one-hour appointment with the pharmacist, patients had a complete medication review, received further education on medical conditions and medications, and had a chance to ask questions related to their health. Afterwards, a letter was sent to his or her provider(s) by the pharmacist with a summary of the appointment and any noted concerns. A handout reinforcing this information was given to each patient approached about participating in the service. If a patient was interested in an appointment, the community pharmacist telephoned the patient after discharge to schedule an appointment. All patients had the option to schedule an appointment at the community pharmacy or by phone. Patients living within Green Bay or DePere, Wisconsin could schedule appointments at their home or at a local Bellin provider's office. Patients living in Wisconsin near Iron Mountain, Algoma, Oconto, and Marinette could schedule a telehealth appointment through their local Bellin provider offices. Patients who did not show up for their appointments were called to reschedule.

The primary outcome of the evaluation was patient acceptance of an appointment. In order to determine both the characteristics and reasons that increased the likelihood of a person declining the pharmacist-run transitions of care service, a mixed methods approach of quantitative and qualitative analysis was used. The quantitative analysis included five characteristics: LACE score at discharge, readmission risk category, age, gender, and geographic location. A LACE score of 5 to 9 and 10 or greater was defined as moderate and high risk for readmission respecively.[15] Data was collected from a chart review by the community pharmacist.

A qualitative analysis evaluated patient reasons for decline. If a patient refused the service at any time, he or she was marked as declined and was not contacted again. The pharmacist kept field notes and immediately recorded any verbal comment given as a reason for decline during or directly after the patient interaction. Audio recording was not used for collecting reasons for decline. Reasons for decline were collected throughout the entire evaluation period. If the patient did not provide a reason for declining participation, the pharmacist did not ask for one. Patients were also marked as decline if they were unreachable or did not respond to messages left by the pharmacists. Only patients who were scheduled and successfully met were marked as accepted.

Descriptive statistics were used to describe the characteristics between the patients who accepted and declined the transitions of care service. Fisher's Exact Test, Mann Whitney U Test, and logistic regression were used to compare patient characteristics between the two groups. A sensitivity analysis was done excluding patients who were unreachable and marked as declined.

The reasons patients shared for declining the transitions of care service were assessed utilizing content analysis. Two investigators participated in reviewing the documented comments. After an initial review, the first investigator (ARM) recognized two themes from The Health Belief Model: no perceived benefit and perceived barrier. Patients were coded into one or both of these constructs by the second investigator (JMK) prior to a final review of the coding by the first investigator.

Results

Data was collected over a 6-month period during September 2015 and January 2016. Eligible patients were identified to the pharmacy resident by the nursing staff available on the days the pharmacist went to the hospital to recruit. However, some eligible patients were not available to meet with the pharmacist during the recruitment time as they were asleep or out of the room for imaging or procedures. Of the 114 patients identified as eligible, 87 patients were approached and

included in the analysis: 21 patients participated in the transitions of care service (24.1%), 56 patients declined (64.4%), and 10 patients were not reached and marked as declined (11.5%) (See Figure 1). Of the 87 patients included in analysis, the majority were at moderate risk for readmission (70.1%) with an average LACE score of 8.7±2.4 points. LACE scores ranged from 5 to 16 points across all eligible patients (See Table 1).

There were no statistically significant differences in the characteristics between the 66 patients who declined and the 21 patients who accepted for any characteristics (See Table 1 and Table 2). When assessing readmission risk in this evaluation, it was found that moderate risk patients may be more likely to accept than those at high risk (27.9% vs 15.3%; P = 0.29). When evaluating the average LACE scores, a one point increase (higher readmission risk) can be seen in the average LACE score for those who declined versus those who accepted (8.9 points vs 7.9 points; P = 0.09). The logistic regression yielded similar results; for a one-point increase in LACE score, a patient was less likely to accept an appointment (OR 0.79 [95%CI, 0.61 – 1.02]; P = 0.065). The sensitivity analysis without patients who were not reached was consistent with the primary analysis.

Of the 66 patients who declined, 51 patients (77.3%) gave a reason for decline, 5 patients (7.5%) gave no reason, and 10 patients (15.2%) were not reached. When performing content analysis, two constructs of the health belief model stood out: no perceived benefit and perceived barriers. All reasons for decline fell into one or both of these categories; there were no negative cases. Examples of no perceived benefit included "*my doctor takes care of everything*" and "*I have been on the same medications for years*". Perceived barriers often had to do with the patient citing a busy schedule such as "*I have too many doctor appointments right now*". Of the 51 patients who gave reasons for decline, 39 patients saw no benefit (76.5%), 5 patients had perceived barriers (10%), and 7 patients gave reasons that fell into both categories (13.5%).

Discussion

Patients at a moderate risk for readmission appear more likely to accept pharmacist-run transition of care appointments than patients at a high risk for readmission. This finding conflicts with previous research where patients with diabetes at a higher risk for complications and more complex regimens used pharmacist-run MTM appointments more frequently than patients at lower risk for complications.[13] By including a qualitative approach, this evaluation can begin to describe why these finding differ. While it was expected those at a higher risk for readmission would seek additional services to prevent readmission, it appears those individuals felt they already had comparable services in place.

The majority of patients who declined the pharmacist-provided transition of care appointment did not see a benefit to participating in the additional service. A study of patient perceptions and interest in a pharmacist-provided MTM service found patients were more willing to participate when they had high expectations of increased knowledge, improved medication management capability, and decreased medication concerns.[12] However, most patients had low expectations regarding the extent of benefits to be gained. Evaluations have also demonstrated that when patients lack an understanding of the pharmacist's role, patients are less likely to pursue interactions with the pharmacist.[10-11] In these situations, providing patient education about the pharmacist's role improved and increased patient-pharmacist engagement. Marketing clinical pharmacy services can be a challenging task. However, if pharmacists are to be seen as providers, patients need to understand what it is that the pharmacists can provide. Pharmacists are medication experts who can provide in-depth drug education, monitoring for interactions and adverse effects, and patient-centered drug therapy recommendations.[3] For those who see little benefit, the uniqueness and value of the clinical pharmacy service needs to be explained. Patients may be more willing to participate when they understand that the benefits offered by pharmacy services are unique and cannot be similarly obtained through visits with other health care providers.[16] By sharing information through pamphlets, on-on-one discussions, or group classes, pharmacists can work to clarify misunderstandings and try to increase acceptance rates for clinical pharmacy services.

Pharmacists would also benefit from having an increased awareness of how their patients view their own healthcare situations. The Health Belief Model was developed to predict health behaviors by assessing the attitudes and beliefs of patients regarding their health.[17] During content analysis two constructs of The Health Belief Model were identified: no perceived benefits and perceived barriers. By knowing the population being targeted, pharmacists can adjust the advertising and recruitment procedures as necessary. In order to capture as many patients as possible, it is important to tailor the message separately for those likely to accept versus those likely to decline. In this case among patients declined the service, the reason was often no perceived benefit, they felt they already had the service through other healthcare professionals. The message should be adjusted based on the reason for declining, in this case by explaining how a pharmacist-run appointment can compliment their physician or other resources.

Modifications to the recruitment protocol may help to increase patient participation. In this evaluation, the service was introduced to the patient as an optional appointment by a non-hospital staff member on select days. It may have been more efficient and effective to have a hospital staff member discuss the service with every patient prior to discharge. When other healthcare team members endorse clinical pharmacy services, patient acceptance rates increase.[16,18] The pharmacy would be responsible for providing literature, such as a pamphlet, to explain the uniqueness and value of the clinical pharmacy service in order to increase perceived benefit for the patients. The discharge staff could provide a brief explanation of the service, distribute the literature, and schedule the appointment at bedside if accepted by the patient.

There were several limitations to this evaluation. One pharmacist completed recruitment, and when the pharmacist had competing obligations, patients were not offered the service. Since patients were only offered appointments when the pharmacist was available, the time between the pharmacist visit and discharge was not uniform. During the time between the pharmacist's visit and when the pharmacist called the patients after discharge, patients may have changed their mind about participating. There were also 3 cases where patients who were initially eligible during the pharmacists visit but were later discharged to an inpatient facility and no longer eligible. As a result, this evaluation had a small sample size which limited the power of the analysis. Modifying the recruitment protocol may help to overcome this obstacle as well as training additional pharmacists to help run the service. Additionally, this evaluation was not designed to assess other characteristics that may have affected patient decisions such as health beliefs, health literacy, and accessibility to other health services. For example, patients with established primary care and/or specialty cardiology services may have been less likely to accept the service, however, this data was not available in this evaluation. While other reasons for declining the pharmacist-run transition of care service may not have been captured in this analysis, these were the patients' unprompted reasons for declining the service and this was an initial evaluation of reasons for declining the service.

To have a full understanding of a patient's health behaviors, a full comprehension of the patient's perceptions regarding all elements of The Health Belief Model should be collected. Future evaluations would benefit from the development and administration of a survey using the complete Health Belief Model to better understand why patients accept and decline pharmacist-run appointments. The other constructs of The Health Belief Model include perceived threat of conditions, belief in personal ability to handle one's own health care, and triggers that might cause the patient to take action to improve their health.[17] While this evaluation was not originally designed to evaluate all of these aspects, a full understanding of all elements of The Health Belief Model may help us to explain patient motivation in regards to clinical pharmacy services. Additionally, the impact of patient acceptance of pharmacist-run services from pharmacist role education, endorsements of the service by other members of the healthcare team, and bedside appointment scheduling should be evaluated.

Conclusions

This evaluation did not find a statistically significant difference in characteristics between those patients who accepted or declined participation in a pharmacist-run transition of care service. The primary reason for decline was no perceived benefit. To increase participation in pharmacist-run services, we need to understand the patient's health beliefs and change the perception and understanding of pharmacist roles.

References

1. Forster AJ, Murff HJ, Peterson JF, Gandhi TK, Bates DW. The incidence and severity of adverse events affecting patients after discharge from the hospital. *Ann Intern Med*. 2003; 138(3):161-167.
2. Institute for Safe medication Practices. A call to action: Protecting U.S. citizens from inappropriate medication use; 2007. Available at https://www.ismp.org/pressroom/viewpoints/CommunityPharmacy.pdf. Accessed June 8, 2016.
3. Davies EC, Green CF, Mottram DR, et al. Emergency re-admissions to hospital due to adverse drug reactions within one year of the index admission. *Br J Clin Pharmacol*. 2010; 70(5):749-755.
4. Luder HR, Frede SM, Kirby JA et al. TransitionRx: impact of community pharmacy postdischarge medication therapy management on hospital readmission rate. *J Am Pharm Assoc*. 2015; 55(3):246-254.
5. Royal S, Smeaton L, Avery A, Hurwitx B, Sheikh A. Interventions in primary care to reduce medication related adverse events and hospital admissions: systematic review and meta-analysis. *Qual Saf Health Care*. 2006; 15(1): 23-31.
6. Snyderman D, Salzman B, Mills G et al. Strategies to help reduce hospital readmissions. J Fam Pract. 2014; 63(8):430-438.
7. Kilcup M, Schultz D, Carlson J, Wilson B. Postdischarge pharmacist medication reconciliation: impact on readmission rates and financial savings. *J Am Pharm Assoc*. 2013; 53(1):78-84.

8. Balling L, Erstad B, Weibel K. Impact of a transition-of-care pharmacist during hospital discharge. *J Am Pharm Assoc*. 2015; 55(4): 443-448.
9. Kucukarslan A, Shimp L, Lewis N, et al. Patient desire to be involved in medication treatment decisions. *J Am Pharm Assoc*. 2012; 52(3): 333-341.
10. Chewning B, Schommer J. Increasing Clients' Knowledge of Community Pharmacists' Roles. *Pharm Res*. 1996; 13(9): 1299-1304.
11. Martin B, Chewning B, Margolis A, et al. Med Wise: A theory based program to improve older adults communication with pharmacists about their medicines. *Res Social Adm Pharm*. 2016; 12(4): 569-577.
12. Carter S, Moles R, White L, et al. Patients' willingness to use a pharmacist-provided medication management service: the influence of outcome expectancies and communication efficacy. *Res Social Adm Pharm*. 2012; 8(6): 487-498.
13. Soliman A, Carlson A, Maclehose R, et al. Patient characteristics predicting the frequency of medication therapy management visits for patients with diabetes. *Clin Ther*. 2013; 35(4): 534-540.
14. Guidance on Research vs Quality Improvement and Program Evaluation. University of Wisconsin website. https://kb.wisc.edu/hsirbs/33386. Updated September 16, 2013. Accessed April 9, 2016.
15. LACE Index Scoring Tool. Society of Hospital Medicine Website. http://www.hospitalmedicine.org/Web/Quality___Innovation/pdf/LACE_toolNEW.doc. Published September 2014. Accessed January 23, 2016.
16. Voelker S, Trapskin K. Six shortcuts for marketing your MTM services. *J Pharm Soc Wis. 2016; 19(4): 12-14.*
17. U.S. Department of Health and Human Services. Theory at a glance: A guide for health promotion practice. Washington, DC: U.S. Department of Health and Human Services. 2005.
18. Carter S, Moles R, White L, Chen T. Consumer's willingness to use a medication management service: the effect of medication-related worry and the social influence of the general practitioner. *Res Social Adm Pharm*. 2013; 9(6): 431-445.

Figure 1: Patient Flow Diagram

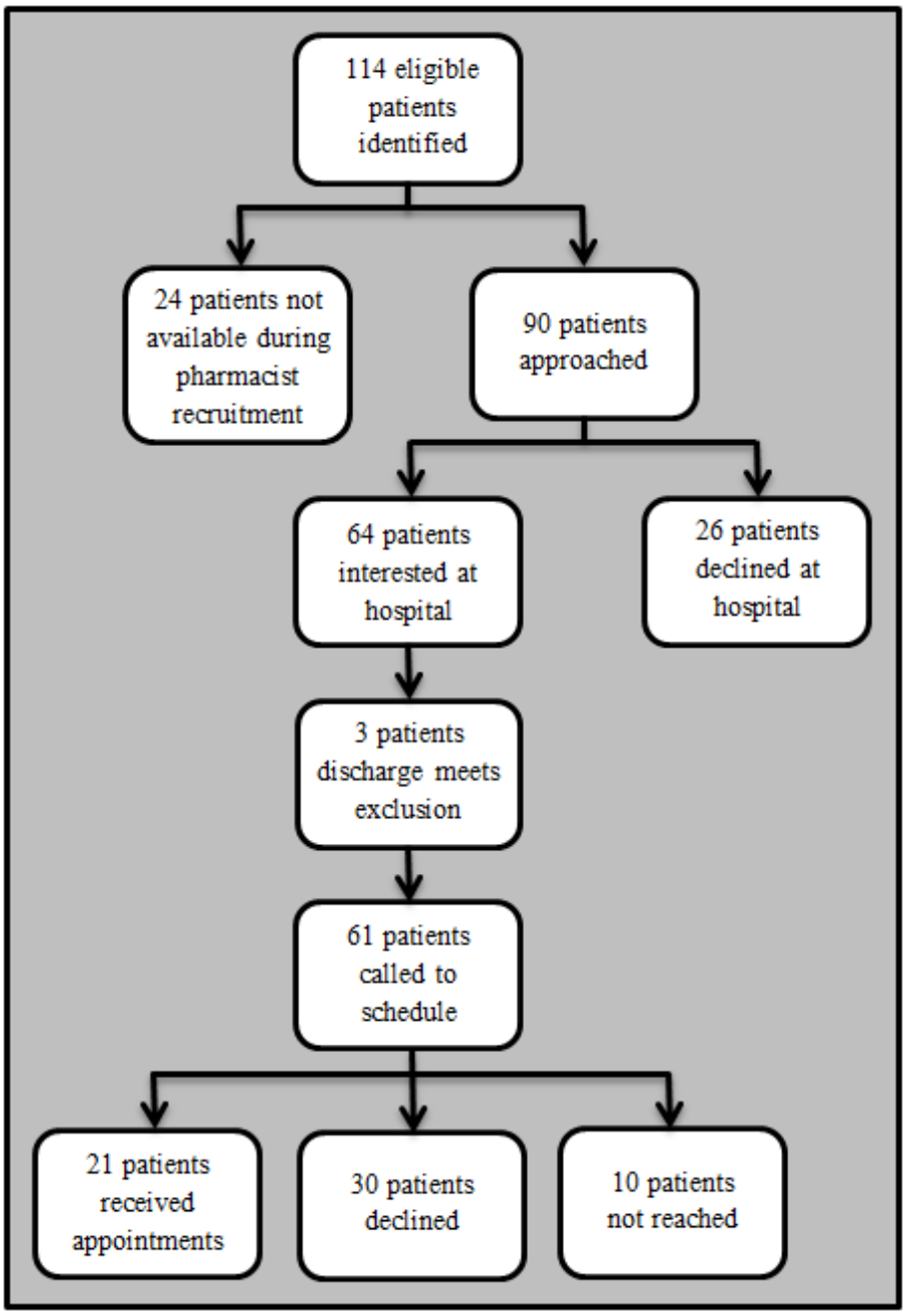

Table 1: Descriptive Statistics

Characteristics	Total Patients (n=87)	Declined (n=66)	Accepted (n=21)	P-Value
Gender				
Males, patients (%)	57 (65.5%)	44 (77.2%)	13(22.8%)	0.79
Females, patients (%)	30 (34.5%)	22 (73.3%)	8 (26.7%)	
Geographic Location				
Living in Green Bay/DePere, patients (%)	32 (36.8%)	23 (71.9%)	9 (28.1%)	0.61
Living Outside, patients (%)	55 (63.2%)	43 (78.2%)	12 (21.8%)	
Mean Lace Score at Discharge, points (SD)	8.7 (2.4)	8.9 (2.4)	7.9 (2.1)	0.09
High Risk for Readmission [LACE≥10], patients (%)	26 (29.9%)	22 (84.7%)	4 (15.3%)	0.29
Moderate Risk for Readmission [LACE 5-9], patients (%)	61 (70.1%)	44 (72.1%)	17 (27.9%)	
Mean Age, years (SD)	66.4 (13.2)	65.7 (14.0)	68.80 (10.2)	0.53

SD = Standard Deviation

Table 2: Logistic Regression of likelihood of accepting the service

Characteristics	Odds Ratio	95% CI		P-Value
Gender (M vs F)	0.81	0.28	2.37	0.70
Location (GB/DP vs Outside)	1.30	0.46	3.69	0.62
LACE Score at Discharge (Increase of 1 point)	0.79	0.61	1.02	0.065
Age (Increase of 1 year)	1.03	0.98	1.07	0.22

M vs F = Male versus Female; GB/DP = Green Bay/DePere