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Assessing intradisciplinary pharmacy communication related to transitions of care

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ABSTRACT

Background: Pharmacists play an important role in transitions of care, where successful communication is vital. The primary objective of this study was to assess the extent of intradisciplinary communication between pharmacists during patient transitions of care. Secondary objectives were to evaluate pharmacist communication practices and to explore the potential barriers and facilitators to effective health communications.

Methods: A twenty item online survey was administered by email to all pharmacists practicing within a multisite regional healthcare system in central and northeastern Pennsylvania. Statistical analysis consisted of descriptive statistics for multiple choice, select all that apply, and Likert-type questions. Themes were summarized for open ended questions.

Results: A total of 132 (32%) pharmacists responded to the survey of which 90 responses were included in the analysis. The majority of pharmacists felt either extremely comfortable (53.3%) or somewhat comfortable (33.3%) reaching out to another pharmacist within the same health system. However, most contacted other pharmacy disciplines within the health system ≤25% of their work week. The ability to reach the pharmacist was the most important factor to pharmacist comfort (extremely important $n = 56$, somewhat important $n = 27$). Not knowing who to contact was the biggest barrier (44.8%). The electronic messaging systems Microsoft Teams (almost always $n = 33$, often $n = 25$) and TigerText (almost always $n = 17$, often $n = 23$) were the forms of communication utilized most often.

Conclusions: Pharmacists feel comfortable communicating with pharmacists across different entities within the health system, however, intradisciplinary communication related to transitions of care activities is limited. Improving awareness of system-wide pharmacist directories (34.2%) and distribution of pharmacist schedules (18.4%) were identified as tools that may improve communication.

1. Background

Transitions of care is an evolving field that describes the process in which patients move from one level of care to another, often accompanied by a change in healthcare providers. This can include admission to hospital, discharge from hospital, and transition between long-term care and home. Gaps in transitions of care can result in undesirable outcomes including medication errors and hospital readmissions.[1,2] Although there are many factors that impact transitions of care,[3,4] research has demonstrated that the incorporation of a pharmacist into initiatives aimed at transitions of care such as medication reconciliation and discharge counseling can improve clinical outcomes for patients.[5–9]

Likewise, strategies to promote increased communication among inpatient and community pharmacists during transitions of care have proven to be beneficial in reducing 30-day readmission rates along with costs.[10] Initiatives such as these which focus on communication between inpatient and community pharmacist have demonstrated positive impacts on the community pharmacists' feeling that they had adequate information about the patient[11] while also being time efficient when information is provided ahead of the hospital discharge.[12] These pharmacy trends in transitions of care are promising, but do not fully evaluate the scope of bidirectional electronic communication systems available at large health systems in the United States with pharmacy services embedded across multiple entities such as hospitals, outpatient

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clinics, community pharmacies, long term care facilities, and mobile/at home services.

Hospitals waste an estimated 12 billion dollars yearly as a result of communication inefficiency among providers.[3,4] Moreover, poor communication creates additional work for healthcare professionals and also decreases their confidence in decision making.[13,14] This study seeks to assess the intradisciplinary communication practicesbetween pharmacists from different practice settings within the same health system and to identify potential barriers and opportunities in communication.

2. Objectives

The primary objective of this study was to assess the extent of intradisciplinary communication between pharmacists practicing within a multisite regional healthcare system during transitions of care. Secondary objectives were to evaluate pharmacist communication practices and to explore the potential barriers and facilitators to intradisciplinary communication between pharmacists during transitions of care.

3. Methods

Geisinger Health, a multisite regional healthcare provider with ten hospital campuses that serves over one million patients across central and northeastern Pennsylvania, was chosen as the site for this study due to its integrated system which encompasses all aspects of healthcare, the high level of pharmacist integration across multiple disciplines, and system-wide electronic health record. Pharmacists within the healthcare system are employed in a variety of pharmacy disciplines to include hospital, ambulatory care, telepharmacy, home care, community, and mail order.

A twenty question survey assessing the extent of intradisciplinary communication between pharmacists during transitions of care was developed for release to all licensed pharmacists employed by Geisinger Health. Question types included multiple choice, select all that apply, Likert-type scale, and open ended questions. Survey questions were validated by a pharmacist expert trained in quantitative and qualitative research. The survey was then pilot tested by three pharmacists practicing in hospital, community, and ambulatory care settings outside the healthcare system. These individuals were asked to attend a debrief session and provide written feedback surrounding the survey length, duration, question clarity, and scope of content. Finally, the survey was sent for review by upper pharmacy administration within the healthcare system before being deployed. Practicing pharmacists within the healthcare system did not pilot test the survey to avoid impacting response rates.

An email explaining the purpose of the study was sent to all 412 licensed pharmacists within the healthcare system and included a link to the online Qualtrics (Qualtrics International Inc., Provo, UT) survey (Appendix A). Participation was voluntary and pharmacists were instructed to not fill out the survey if they did not consent to participate in the study. Moreover, all responses were anonymous, and no study incentive was offered. A reminder email was sent one week after the survey deployment in order to obtain maximum participation during the two week survey period. The study time was limited to two weeks in order to ensure consistent responses within the timeframe. Responses were excluded if the participant did not provide patient care, did not reach out to other pharmacists within the health system, or did not complete all multiple choice, select all that apply, and Likert-type scale questions. Statistical analysis consisted of descriptive statistics for multiple choice, select all that apply, and Likert-type questions. Themes were summarized for open ended questions. This project was submitted to the Geisinger Health and Wilkes University Institutional Review Boards and received an exemption. This project was funded by a Cardinal Health Grant.

4. Results

Of the 412 pharmacists who received the survey between September 29, 2021 and October 13, 2021, there were 132 responses (32% response rate). Responses were excluded from the final analysis if the participant did not provide direct patient care ($n = 12$), did not reach out to other pharmacists within the health system ($n = 4$), or did not complete all multiple choice, select all that apply, and Likert-type scale questions ($n = 26$), which left 90 responses for analysis. Of the respondents who did not complete the survey, 13 stopped after the demographic questions.

Most respondents were females (66.8%) age 25–44 (72.2%). Years in practice varied, and the most common practice sites were reported as inpatient (38.8%) and ambulatory care (32.2%). The majority (86.7%) worked or trained in other pharmacy disciplines within the health system, while only 32.2% completed some form of training in transitions of care (Table 1). Most described the role of the pharmacist in transitions of care as either extremely important (62.2%) or somewhat important (18.9%). Yet, the percentage of time spent on transition of care activities varied with most pharmacists spending ≤25% of their work week performing any one transition of care activity.

The extent of intradisciplinary communication was limited, with most pharmacists contacting other pharmacy disciplines within the health system ≤25% of their work week (Table 2). Sixty-two (68.9%) participants reported reaching out to pharmacists in settings outside the health system of which 47 (75.8%) reporting only doing so ≤10% of their work week. Further characterizing pharmacist communication practices, the majority of pharmacists felt either extremely comfortable (53.3%) or somewhat comfortable (33.3%) reaching out to another pharmacist within the health system. The ability to reach the pharmacist was the most important factor to pharmacist comfort (extremely important $n = 56$, somewhat important $n = 27$) followed by friendliness of the pharmacist (extremely important $n = 29$, somewhat important $n = 33$). The electronic messaging systems Microsoft Teams (almost always n = 33, often $n = 25$) and TigerText (almost always $n = 17$, often $n = 23$) were the forms of communication utilized most often, followed by phone (almost always $n = 13$, often $n = 20$). Negative interactions between the different pharmacy disciplines were rare (Table 2). Open-ended responses found that not knowing who to contact was the biggest barrier (44.8%). Other barriers included lack of time (27.6%) and long response times (15.5%). Pharmacist level of satisfaction was

Table 1
Pharmacist Demographics ($n = 90$).

Characteristic	n (%)
Gender	
Female	60 (66.7)
Male	27 (30.0)
Prefer not to answer	3 (3.3)
Age Range, years	
≤24	1 (1.1)
25–44	65 (72.2)
45–64	20 (22.3)
≥65	4 (4.4)
Years in Practice	
<5 years	22 (24.4)
5–10 years	25 (27.8)
10–15 years	15 (16.7)
15–20 years	4 (4.4)
>20 years	24 (26.7)
Primary Discipline	
Inpatient	35 (38.9)
Ambulatory Care	29 (32.2)
Telepharmacy	12 (13.4)
Community	4 (4.4)
At-home services	4 (4.4)
Other	6 (6.7)
Completed Training Focused in TOC	29 (32.2)
Worked or Trained in Other Disciplines	78 (86.7)

Table 2
Survey Results (n = 90).

Percentage of a 40 h work week pharmacists spent contacting other discipline within the same health system*					
	0–10%	11–25%	26–50%	51–75%	76–100%
Community *n* = 86	61	14	4	6	1
Inpatient *n* = 55	34	14	3	2	2
Ambulatory Care *n* = 61	28	20	7	6	0
Telepharmacy *n* = 78	56	15	5	2	0
Mail Order n = 90	75	9	2	3	1
At Home Services n = 86	77	8	1	0	0

Factors important to pharmacist comfort level					
	Extremely Impt.	Somewhat Impt.	Neither	Somewhat Un- Impt.	Extremely Un-Impt.
Met In-Person	7	23	25	15	20
Ability to Reach	56	27	4	0	3
Met Remotely	9	30	27	13	11
Reputation	8	30	31	9	12
Friendliness	29	33	18	5	5

Forms of communication utilized					
	Almost Always	Often	Sometimes	Rarely	Never
Face-to-face	0	2	15	28	45
Phone	13	20	26	26	5
Email	2	9	29	34	16
Video Chat	0	1	5	19	65
TigerText	17	23	23	19	8
Microsoft Teams	33	25	16	9	7

Positivity of interaction across pharmacy disciplines					
	Extremely Positive	Somewhat Positive	Neither	Somewhat Negative	Extremely Negative
Community	30	29	27	3	1
Inpatient	40	32	16	1	1
Ambulatory Care	49	28	12	1	0
Telepharmacy	38	19	32	1	0
Mail Order	26	13	49	1	1
At Home Services	25	9	56	0	0

* Pharmacist responses from the discipline in which they practice were removed.

positively impacted by pharmacist response rate (83% positive), conversation length (67% positive), relevance of conversation (87% positive), and results from the conversation (90% positive). Improving awareness of system-wide pharmacist directories (34.2%) and distribution of pharmacist schedules (18.4%) were identified as tools that may improve communication from open-ended responses.

5. Discussion

Although this study was conducted at a large multisite regional healthcare system with pharmacists embedded across multiple disciplines, intradisciplinary pharmacist communication surrounding transition of care occurred on a limited basis. Strategies to improve health communication are ultimately desired by pharmacists and are important to enhance patient outcomes.[11,15–18] However, communication issues are not unique to pharmacy and contribute to medication errors across many healthcare disciplines, particularly during transitions of care.[19–21]

Pharmacists felt comfortable communicating with other pharmacists within the same healthcare system, yet barriers to communication included not knowing which pharmacist to contact, followed by lack of time and long response times. These issues are consistent with the existing literature as previously identified barriers include delays in receiving patient information and lack of time,[22] as well as challenges related to utilizing digital communication tools.[23] Although there are now multiple communication platforms available within healthcare systems, literature shows that increasing technology capabilities within the workplace can lead to technology overload, which can ultimately contribute to communication overload.[24] A study by Saunders and colleagues proposed strategies to reduce technology overload, which include providing adequate training on the available technology platforms, establishing office norms to reduce communication overload, and taking into account staff preferences.[25] Moreover, identifying a preferred communication platform for the different practice settings could also limit confusion when multiple communication platforms are available. This could be achieved by establishing structured communication protocols that describe what technology platform to use in each scenario, as well as strategies to ensure messages are received in a timely manner.

Moreover, pharmacists within this health system preferred the electronic messaging platforms Microsoft Teams and TigerText over other traditional methods of communication such as email, phone, or fax. These communication practices align with evidence demonstrating the benefits and preferences of using text message based platforms within patient care settings.[22,26–28] These platforms are HIPPA compliant and allow for secure transfer of patient information.[29,30] Electronic messaging platforms such as these continue to advance and now include the ability to create group messages with multiple team members, and to sign into pre-assigned roles, making it easier for members of the healthcare team to communicate efficiently regarding patient care.[29,30] Even with these recent advancements, research

demonstrates that healthcare workers still face communication challenges during transitions of care due to digital communication failures and a lack of communication within the healthcare team.[23]

Finally, the ability to reach the pharmacist was the most important facilitator to pharmacist comfort when reaching out to pharmacists in other practice settings. Health systems are complex with many individuals at different hierarchical levels who must interrelate.[31] Based on results from this study, health systems should focus on creating accessible internal staff directories and schedules to help identify the correct person to contact for patient related issues. Large health systems with multiple entities may also benefit from incorporating education sessions to help employees gain a better understanding of whom they may be communicating with. Results from this study were distributed to upper pharmacy administration within the healthcare system to encourage change.

To the authors knowledge, this is one of the first studies that evaluates the pharmacist impact on transitions of care within a multisite and multi-entity health system. This study adds to the literature by highlighting challenges in communication between pharmacists within the same health system. In addition, this study provides insight on practical steps health systems can take to improve communication between pharmacists.

6. Limitations

This study is subject to limitations. First, the overall number of participants was relatively low and may introduce non-response bias, with only 132 pharmacists responding out of the 412 who were invited to participate for a 32% response rate. Efforts were made to reduce the chance of underrepresentation through a follow-up email inviting participants to participate. Second, although the representation of pharmacists in some disciplines was lower than others, the distribution of pharmacists who participated from each practice area did correspond to that within the health system. Third, asking pharmacists to quantify percent of time during the work week spent performing transitions of care activities may have resulted in recall bias. Likewise, the interpretation of what activities fall under transitions of care may vary across pharmacy practice settings. In addition, the survey availability was limited to two weeks which may have impacted the number of participants who responded to the survey. Additionally, healthcare systems in the United States are not uniform and generalizability of the study may not be applicable to other health systems who do not have pharmacists placed in all disciplines. Results also should be interpreted with caution as the survey was not validated nor was a reliability test conducted since this would have impacted the number of participants. Future studies may also consider evaluating communication differences found between different geographic regions and ethnic groups.

7. Conclusion

Multiple studies demonstrate that poor health communication leads to negative outcomes for patient care,[13,14] and that intraprofessional communication between pharmacists is beneficial for patient care and ultimately desired by pharmacists.[11,15–18] Results from this study further demonstrate that pharmacists feel comfortable communicating with other pharmacists within the same health system, yet provide evidence that intradisciplinary communication surrounding transitions of care is limited. Health systems should work to remove barriers to communication by delineating clear pathways and procedures for communicating within healthcare disciplines.

Ethics

All subjects gave their informed consent for inclusion before they participated in the study. The study protocol was granted exemption by the Geisinger Health and Wilkes University Institutional Review Boards.

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Previous presentations

Poster presentation at The American Pharmacists Association 2022 Annual Meeting and Exposition, San Antonio, Texas, March 19, 2022.

CRediT authorship contribution statement

Letitia N. Warunek: Writing – review & editing, Writing – original draft, Methodology, Investigation, Formal analysis, Data curation, Conceptualization. **Brenda Gruver:** Writing – review & editing, Writing – original draft, Methodology, Investigation, Funding acquisition, Formal analysis, Data curation, Conceptualization. **Liam Bartko:** Writing – review & editing, Writing – original draft, Methodology, Investigation, Formal analysis, Data curation, Conceptualization. **Jaycee Blair:** Writing – review & editing, Writing – original draft, Methodology, Investigation, Formal analysis, Data curation, Conceptualization.

Declaration of competing interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper. The authors alone are responsible for the writing and content of this article.

Data availability

The data that support the findings of this study are available from the corresponding author, LW, upon reasonable request.

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Appendix A. Supplementary data

Supplementary data to this article can be found online at https://doi.org/10.1016/j.rcsop.2024.100438.

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