

University of Rhode Island DigitalCommons@URI

Pharmacy Practice Faculty Publications

Pharmacy Practice

2019

Unlocking the Value: Communicating the Value of the Pharmacist to the Patient

Saumitra V. Rege

Celia P. MacDonnell
University of Rhode Island, cmac@uri.edu

Follow this and additional works at: https://digitalcommons.uri.edu/php_facpubs

The University of Rhode Island Faculty have made this article openly available. Please let us know how Open Access to this research benefits you.

This is a pre-publication author manuscript of the final, published article.

Terms of Use

This article is made available under the terms and conditions applicable towards Open Access Policy Articles, as set forth in our Terms of Use.

Citation/Publisher Attribution

Rege, S., & MacDonnell, C. (2019). Unlocking the value: Communicating the value of the pharmacist to the patient. *Pharmacy Education*, 19(1). Retrieved from http://pharmacyeducation.fip.org/pharmacyeducation/article/view/608 Available at: http://pharmacyeducation.fip.org/pharmacyeducation/article/view/608

This Article is brought to you for free and open access by the Pharmacy Practice at DigitalCommons@URI. It has been accepted for inclusion in Pharmacy Practice Faculty Publications by an authorized administrator of DigitalCommons@URI. For more information, please contact digitalcommons@etal.uri.edu.

Unlocking the Value: Communicating the Value of the Pharmacists to the Patients

Saumitra V. Rege^{1,2}, Celia MacDonnell²

¹ Department of Emergency Medicine, Division of Medical Toxicology, University of Virginia School

of Medicine, 1222 Jefferson Park Avenue, Charlottesville, VA, 22903.

Department of Pharmacy Practice, College of Pharmacy, University of Rhode Island, 7 Greenhouse

Road, Kingston, RI 02881.

Word Count: 4000

References: 32

Tables: 1

Figures: 3

Source of Funding: None

Conflict of Interest: None

Corresponding Author: Saumitra Rege

Department of Emergency Medicine, University of Virginia School of Medicine

1222 Jefferson Park Avenue, Charlottesville, VA 22903

Email: svr5d@hscmail.mcc.virginia.edu

Tel: 434-243-7406

Fax: 434-971-8657

Keywords: Pharmacy services; value; Students, Pharmacy; clinical counseling; customer service.

Disclosure: The authors declare no conflicts of interest or financial interests in any product or service

mentioned in this article, including grants, employment, gifts, stock, holdings, or honoraria.

Meetings: American Association of Colleges of Pharmacy Annual Meeting, Dallas, TX, July 26-30,

2014.

Author Contributions: Design and conduct of the study (All); collection, management, analysis, and

interpretation of the data (All); and preparation, review, or approval of the manuscript (All).

Acknowledgement: Colleen Moffitt, Senior Regional Medical Liaison at Alnylam.

1

Abstract

Objective: To evaluate student pharmacists' perspectives of the value that they provide to their patients. Methods: Third (P3) professional year pharmacy students were required to complete an educational workshop program integrated into Professional Practice Skills Laboratory. Prior to, and after the completion of the audio-visual teaching, an IRB-approved, anonymous, voluntary paper-based survey was handed to all students. These surveys were intended to assess the perceptions of pharmacy students towards the value of the services they provide. We examined the student opinions regarding the services most important to their patients, as well as, their response to the contents of the workshop. The post-workshop survey also evaluated the impact of the exercise on the students' ability to have gained new insights on addressing the issues they might have in communicating their value and their ideas regarding the ideal patient attitude to the services provided by the pharmacist. The survey was analyzed descriptively.

Results: Four hundred and seventy-seven students completed the survey. In the baseline survey, 37% of the students believed that providing accurate clinical information was the most critical service they provided to the patients, with 50% of the students highlighting cost and insurance questions as the most frustrating aspect of their daily routine. The educational workshop was generally well received with 66% of the students strongly agreeing that the speaker met the goals. In the post-workshop survey, 77.7% of the students reported being better equipped to communicate their value to the patients by moving the conversation from other issues to the clinical aspects of care. In the baseline survey, 30.2% of the students indicated that clinical information and accurate dispensing were most important services to the patients. As a result of the exercise, a higher proportion of students (66%) in the post-workshop survey wanted this to be the most valuable service according to the patients.

Conclusions: Clinical aspects of care were of most value according to the pharmacy students. As a result

of the educational workshop, students gained a new perspective to shift the conversations with the

patients to these aspects. The workshop demonstrated a positive impact on the student perceptions of

ideal patient attitude towards the role of the pharmacists.

Keywords: Pharmacy services; value; Students, Pharmacy; clinical counseling; customer service.

3

Introduction

Comprehensive and effective drug therapy is critical for preventing, treating, and managing diseases. Advances in drug therapy have produced reductions in morbidity and mortality, as well as costs associated with many other disease conditions including heart failure, myocardial infarction and stroke (Cowper, DeLong, Whellan, Allen LaPointe, & Califf, 2004; Cutler et al., 2007; Johnson, Simpson, Toth, & Majumdar, 2005). There has been a sustained increase in the health care costs in the U.S. (Dieleman et al., 2016). The most recent National Health Expenditure Projections Data issued by the Centers for Medicare and Medicaid Services, reports prescription drug spending in 2015 to be \$324.6 billion. Spending on prescription drugs surpassed all other health expenditures during that year (Centers for Medicare & Medicaid Services, 2007). In 2010, prescription drug costs accounted for 21.4 percent of all healthcare expenses, with inappropriate medication use accounting for 10% of the total health care costs (Farley, Ferreri, Easter, & McClurg, 2017). Adverse events for incorrect use of medications result in negative health outcomes, as well as, higher healthcare costs (Ernst & Grizzle, 2001). Considering the growing prevalence of both, acute and chronic diseases, as well as rising health care costs, pharmacists play a key role in ensuring positive health and economic outcomes.

Prescription medicines and pharmaceutical care are key in the managing the health of the population. The role of a pharmacist has traditionally been limited to dispensing these medications rather than providing a comprehensive set of clinical services (Blouin & Adams, 2017). As drug delivery systems become more complex, the services provided by pharmacists have assumed greater importance. Pharmacists, being at the forefront of the health care delivery system, are a vital component of teambased care, by ensuring optimal medication use and the resulting positive health and quality of life outcomes in the community, while also limiting the healthcare costs (Abrons & Smith, 2011; Altilio,

2009; Center for Health Workforce Studies., 2006; El Hajj, Hammad, & Afifi, 2014; C. P. MacDonnell, Derreza, A. J., Lavin, M. D., Cohen, S. A., & Cohen, L, 2011; Moczygemba, Goode, Silvester, & Matzke, 2012). Both hospitals and physicians will employ more pharmacists in the future as their role in clinical care broadens. For example, in ambulatory care settings, pharmacists often offer disease management programs to patients with chronic conditions in which they provide assessment and monitoring (Alghurair, Simpson, & Guirguis, 2012). Considering the vital role pharmacists fulfill, it is imperative for pharmacists to accurately communicate their clinical knowledge to the patients in order to ensure that the patients reap the maximum benefit from their therapy.

A review of existing research also suggests that pharmacists could be a vital component of team-based care, by ensuring optimal medication use and the resulting positive health outcomes in the community (Abrons & Smith, 2011; Altilio, 2009; El Hajj et al., 2014; C. P. MacDonnell, Derreza, A. J., Lavin, M. D., Cohen, S. A., & Cohen, L, 2011; Moczygemba et al., 2012). Despite this evidence, patients, policymakers and payers often fail to recognize the value of drug therapy and community pharmacists (Smith, Bates, Bodenheimer, & Cleary, 2010). Pharmacists themselves often do not recognize the impact that they have on improving patient care. There appears to be a disconnection between what pharmacists believe to be the duties that are primarily performed by them, and the evidence behind what activities improve patient outcomes (Loewen, Merrett, & Lemos, 2010). In a study investigating hospital pharmacists' perceptions of the impacts of their clinical activities, Loewen et al. (2010) reported that pharmacists would continue to "spend their time doing activities that they believe to be most impactful" (Loewen et al., 2010). The study hypothesized that "If the pharmacist's perceptions of their impact on the patients could be addressed during their educational curriculum, would this cause them to change how they spend their time?" (Loewen et al., 2010). Similarly, studies conducted in Canada and the United Kingdom found that pharmacists were unclear of the role they had in the overall healthcare of

patients, with medication dispensing being the prominent responsibility (Blouin & Adams, 2017; Schindel et al., 2017).

Literature surrounding patient and pharmacy student perceptions of the services provided by pharmacists are lacking. There is a significant difference in the views of the pharmacists and the patients regarding specific aspects of the patient-pharmacist interaction that improve patient outcomes and satisfaction (Alghurair et al., 2012). While attention is focused on ever-increasing health care expenditures and medication therapy management (MTM) services under Medicare Part D, it is also important to assess and shape the perceptions of future pharmacists regarding the clinical, economic and humanistic aspects of care provided by them to the patients (Loewen et al., 2010). Literature suggests that pharmacists favor a greater role in the overall care of their patients with a 2009 survey suggesting that pharmacists are underused, with only as much as 16% of their time being spent on direct patient care activities (Abrons & Smith, 2011; C. P. MacDonnell, Rege, Misto, Dollase, & George, 2012; Mehta, Shah, & Zlott, 2007; Moczygemba et al., 2012). A study conducted by Assa-Eley et al. (2005) sought to examine the perceptions of both patients and pharmacists regarding the benefits of pharmaceutical care. They examined what each perceived as "patient needs" and the resulting services performed by pharmacists. Those patients who had received MTM services were more likely to find these services beneficial. The patients receiving MTM services from the pharmacist also reported that the information regarding the instructions and use of medications were potentially the most beneficial services (Assa-Eley & Kimberlin, 2005).

The objective of the study, therefore, was to evaluate the views of pharmacy students regarding the value they offer through the practice of pharmacy, as well as, understand their opinions regarding the current scope of activities carried out by the pharmacists and their importance to the patients.

The goals of this descriptive study are:

- 1. To evaluate pharmacy students' attitudes about the value they provide to patients.
- 2. To help pharmacy students develop ways to communicate their value to patients.

A workshop was carried out using some common patient/pharmacist encounters that are experienced in the community pharmacy setting. The hypothesis was that following this workshop, student survey responses would reflect better perceptions of their value to the patients and that they would feel more confident to address some of the more frustrating issues that they are faced with while interacting with their patients.

Material and Methods

This is a survey-based descriptive study, which evaluates the attitudes and perspectives of the third year professional pharmacy students (P3) regarding their perceptions of the value they provide to the patients. "Unlocking the Value: Communicating Value to the Patients We Serve", was an educational workshop developed by the Institute for the Advancement of Community Pharmacy. This workshop was included in the curriculum of PHP 515, a Professional Practice Skills Laboratory at the University of Rhode Island, College of Pharmacy. Each year this lab is conducted following a standard format. The student sample consisted of P3 students enrolled in the required course. The workshop was conducted in every fall semester for five consecutive years.

A brief description of the survey contents and goals was given to the students prior to the exercise. Three video vignettes presenting common scenarios where pharmacists can provide education to consumers about the value of pharmacists and drug therapy were viewed and discussed during the workshop. The videos were: 1) Communicating the importance of adherence with a patient who has just received a newer, more expensive pain medication; 2) Explaining to a customer why filling a prescription takes time; 3) Discussing the cost of medication and the risks associated with purchasing prescription drugs from other countries. Each video demonstrated a pharmacist patient encounter where the pharmacists demonstrated their value and expertise by addressing the key issues that were faced by the patients. These practice-based vignettes were chosen as they are commonly encountered in community pharmacies and hence would provide an audiovisual resource to supplement other standard teaching methods. These video vignettes were provided to the college of pharmacy at no cost by a pharmaceutical company as a part of their outreach efforts.

Additionally, to put the value of the pharmacist in context, we also reviewed the literature regarding the current prescription drug spending, out-of-pocket expenditures by patients, and research on consumers' attitudes towards their pharmacist. Students participated individually and there was no requirement of a follow-up assignment. This workshop was conducted by a clinical faculty member with considerable experience in pharmacy settings, as well as teaching.

Prior (pre-workshop baseline survey) to the exercise of viewing the videos and immediately after (post-workshop survey) the exercise, the students were given a voluntary survey to complete (Appendix 1). Data was collected by anonymous survey and the researchers were blinded to individual student responses with no student identifiers specified in order to preserve student confidentiality. All the questions in the survey were developed using relevant literature regarding the pertinent issue and inputs from investigators (Martin, 1997). Before the workshop each year, the survey was reviewed for conciseness and scope of the items on the survey.

The survey was designed specifically to address the perceptions of the pharmacy students regarding the value of the services they offer to the patients and the role they play in the delivery of healthcare. The survey questions were intended to highlight the perceived importance of the clinical and non-clinical services to the patients. An attempt to understand if the workshop was beneficial in strengthening the attitudes of students regarding the view they wanted their patients to have was also investigated. Response categories to the pre- and the post-survey questions were appropriately developed keeping in view the goals of the study. How the videos and the presenter were received by the students was evaluated by asking them to review the entire workshop. The responses to this section of the questions were provided by the students using a 5-point whole-number Likert scale; from 1- strongly agree up to 5- strongly disagree. All completed student responses were included in the data. Descriptive analyses were conducted and frequencies were presented in order to evaluate the student attitudes before and after

the workshop. We performed all statistical analyses using Microsoft Excel (Version 2010, Redmond, WA) and SAS (Version 9.3, SAS Institute, Cary, NC).

The survey had previously undergone review and approval by the University of Rhode Island's Institutional Review Board.

Results

The voluntary survey was completed by 477 of the 491 workshop participants with a 97.1% response rate. The number of students who completed this survey during the study period had increased from 77 in the year 2007 to 113 in the year 2011, which might be as a result of the increased intake in the College of Pharmacy during this time period. The majority of the respondents had prior in a community pharmacy setting with a few students reporting having worked in hospital pharmacy.

Insert Figure 1 about here

Figure 1 describes the results of the baseline survey given to the students. As shown in Figure 1, the student's baseline survey reflected important differences in the way the students themselves perceived their role as a pharmacist and their opinions regarding the patient's perceptions towards the role of the pharmacist. For example, only 178 students (37.3%) believed that patients considered clinical information and accurate dispensing as the greatest value provided by the pharmacist in health care. Notably, 123 students (25.8%) perceived that providing courteous customer service to patients was the primary concern of the patients visiting the pharmacy. The results of the student's perception regarding patient's beliefs of the single most important service provided by them were similar. While 144 students (30.2%) believed the patients found clinical information and accurate dispensing to be the most vital aspect of care provided by the pharmacist, 99 students (20.8%) reckoned that friendly customer service would be considered as the most important duty of the pharmacist by their patients. According to the students themselves, the most important service they provide to the patients was providing accurate clinical information and dispensing, with the majority of the students (59.1%) noting this response. Only 65 students (13.6%) viewed customer service as being the most important service they provided to their patients. A large number of students, 240 (50.3%), found cost and insurance-related questions as the

most frustrating questions to answer, followed by questions regarding time to fill the prescriptions (91, 19.1%), and customer service related questions (18, 3.8%). Not surprisingly, only 5 students (1%) found questions related to clinical information and accurate dispensing as the most frustrating to respond to.

Insert Figure 2 about here

Figure 2 outlines how the students evaluated the overall workshop. The section of the post-workshop survey reflected that this exercise was well-received by the students. A greater fraction of the students (66%), strongly agreed that workshop content; delivery and materials met the goals of the program. Similarly, 301 students (63.2%) strongly agreed that the audiovisual aspects of the workshop ably supported the understanding of the overall objectives of the workshop. A high proportion of students felt that the knowledge and expertise of the presenter added value to the workshop, with 362 students (75.9%) strongly agreeing with this statement. The presenter's delivery style was appreciated by the students with 96.5% stating that it helped with comprehension of the materials used during the workshop.

Insert Table 1 about here

Table 1 describes the last section of the post-workshop survey, which was aimed at establishing student attitudes towards the value they provide to their patients after the exercise. It demonstrated that 407 student respondents (85.3%) indicated that as a result of the workshop they gained one new way of communicating or demonstrating the value provided by pharmacists. More importantly, they were inclined towards implementing these methods in the future. As a result of the workshop, 407 students (85.3%) indicated they felt more confident in addressing the most frustrating questions received from patients. Furthermore, the majority of students (77.7%) felt better equipped to communicate the value of medication by moving the conversation from other issues to clinical information and accurate

dispensing. Lastly, Figure 3 describes the student perception of the ideal attitudes of patients towards pharmacists and the service they provide. Though the responses were split among the group, it could be seen that a significant proportion of the students (66%) wanted clinical information and accurate dispensing of medications to be of the most value to them, followed by customer service (22.9%). Overall, the post-workshop survey largely reflected that as a result of the workshop, a high proportion of students wanted the patients to view clinical information and accurate dispensing as the most important service they provided, thereby reflecting a general shift in the attitudes of students.

Insert Figure 3 about here

Discussion

To our knowledge, this is one of the first studies exploring the perceptions of pharmacy students regarding the value of their services. The use of video vignettes in the training of pharmacy students is uncommon. Therefore, this study is novel in utilizing video vignettes for educating pharmacy students about the expanded role of the pharmacist. The workshop, which was conducted over a period of five years, was unique in its contents and highlighted some of the most important issues that the pharmacist face in their day to day practice, whilst also providing knowledge about dealing with these issues. An added strength of the study was the high response rate, which could be a result of the mandatory nature of the course, of which this workshop was a part of. The workshop was designed in a unique way to enable the analysis of student perceptions. We believe that the findings of this study are generalizable to doctor of pharmacy students with community pharmacy experience.

Prescription drugs, while improving the overall health outcomes of patient' health, create challenges with respect to various aspects like medication access, patient safety, and cost issues (Morgan & Kennedy, 2010). Traditionally, the role of the pharmacist in the care of the patients has been centered solely on medication dispensing, even though they are professionally trained to address issues of greater importance, including clinical care and patient counseling (Blouin & Adams, 2017; Smith et al., 2010). This was evident in the pre-workshop survey conducted in our study where we evaluated the student's attitudes towards the public perception of their role based on the encounters they had in their training. Their opinions reflected that, though the patients generally appreciate the clinical expertise that the pharmacists provide, answering insurance related questions, dispensing medications in a timely manner, and providing courteous customer service were key services that held greater value for them. Moreover, it is important to create awareness among students regarding the expanded and evolving role that pharmacists play in patient care services. With patients increasingly using multiple medications and

multiple health-related services from various providers, there are numerous concerns for patient safety and quality of care. For example, polypharmacy increases the risk of adverse events or drug interactions, and such issues could be suitably addressed by a consultation with a pharmacist (Cadogan, Ryan, & Hughes, 2016).

The vignettes utilized in this study were geared towards helping students focus on key services, including medication management, patient services, and counseling as well as patient education, that would improve patient care. The use of case videos in medical training has shown effectiveness in a variety of settings by highlighting real-life scenarios and help students develop effective responses to such interactions in practice. Such objective teaching methodology can enhance the ability of the pharmacy students to communicate with their patients which can thereby improve the eventual patient outcomes (Arif, Cryder, Mazan, Quinones-Boex, & Cyganska, 2017). The videos used in this study demonstrated how effective communication from the pharmacist regarding both clinical and non-clinical aspects of a pharmacist-patient encounter could lead to greater patient satisfaction. Addressing some of the most common scenarios that the pharmacists may encounter in practice was intended to generate ideas among students regarding interactions with different types of patients and meeting their needs by providing relevant information and services (Mesquita et al., 2010). Such tailored exposure to true-to-life situations that the students can readily relate to has been shown to reduce the apprehension of the students in communicating their core value to the patients (Mesquita et al., 2010).

There have been very few studies that have evaluated the perceptions of pharmacists towards their profession. In a study conducted by Al Hamarneh and colleagues in Alberta, Canada, and Northern Ireland, the authors analyzed the responses of two hundred community pharmacists through telephonic interviews and categorized them into three categories: patient-centered, product-focused and ambiguous. Word count analysis demonstrated that in Alberta, 29% responses were patient-centered, while 45% and

26% responses were product-focused and ambiguous, respectively. Similarly, the percentages of the above categories in Northern Ireland were 40%, 39%, and 21% (Al Hamarneh, Rosenthal, McElnay, & Tsuyuki, 2012). The results of our study are indicative of a higher proportion of the students prioritizing the clinical aspects of patient care, which is broadly aligned with the conclusions of Al Hamarneh et al., (2012). However, in contrast to their study, our sample was comprised exclusively of doctor of pharmacy students. This allowed us to gauge the student population's opinions, provide positive examples as well as guidance allowing them to develop informed beliefs. The results of our study are also similar to those of a study conducted by Schindel et al., (2017), where the objective was to understand the perceptions of pharmacy professionals, students, and the public, on the pharmacist's role in Alberta, Canada (Schindel et al., 2017). The study utilized the insights from focus groups as well as interviews and found that according to the respondents, the role of the pharmacists was expanding and becoming more patient-centered. The study also acknowledged that the public perceptions of the role of the pharmacist were influential in defining the role of the pharmacist. Specifically, pharmacy students demonstrated a strong preference for collaborations and inter-professional education. It should be noted that this study was conducted in Canada, and the general implications may differ due to the differences in pharmacy practice environments prevalent in the US and Canada (Schindel et al., 2017). Rosenthal et al., (2011) in a study evaluating 100 community pharmacist's self-perception of their professional role, reported that community pharmacists primarily considered themselves as "dispensers of medication," and not patient-centered clinical practitioners (Rosenthal, Breault, Austin, & Tsuyuki, 2011). Another study also recognized passive barriers including low self-confidence, aversion to taking risks and waiting for physicians' approval (Rosenthal, Austin, & Tsuyuki, 2010). A 1999 pharmacy cost and productivity study conducted by Arthur Anderson LLP reported that pharmacists spend less than 20% of their time interacting with patients (Arthur Andersen LLP, 1999). This study categorized 89 detailed

pharmacy activities, of which pharmacists are involved in approximately 63 activities. The authors estimated that pharmacists need to be involved in at least 12-15 of these activities. Delegating administrative functions to other personnel would free up approximately 60 - 70% of pharmacists' time to perform more value-added activities, such as disease management and other health-related activities. Modifications to workflow may enable pharmacists to interact more with patients and consequently enhance the value provided to patients and customers (Carlisle, Jacobson, Di Francesco, & Parker, 2011).

In our study, it could be seen that non-clinical questions were seen by the student pharmacists as the most frustrating while approximately one-third of the students felt that clinical aspects of the pharmacist encounter were the most important to the patients. Considering the ever-changing healthcare environment, it is vital that future pharmacists understand and communicate their role in the safe and effective use of medications. Our exercise aimed at helping students focus on fulfilling the medication needs of their patients. The post-workshop results highlighted that the majority of the student did in fact want their patients to value their clinical expertise above all. Exercises demonstrating the benefits of an expanded pharmacist role and communicating the value of the pharmacists to the patients can help build a strong pharmacist-patient relationship by suitably addressing the patient expectations (Schindel et al., 2017). Studies have shown that positive interaction with a pharmacist increases the use of these services, which might eventually lead to better health outcomes (Patterson, Doucette, Urmie, & McDonough, 2013). Educating the future pharmacists at an early stage through such workshops while acquainting them with challenges they might face while fulfilling their role aptly is vital as the scope of their profession widens.

There were several limitations of our study. A noted limitation of our study was the evaluation of student perceptions as opposed to the actual practice indicators. While self-assessment responses might

be useful markers, the survey responses might differ from the actual practices. We were also not able to study the long-term efficacy of the intervention. Our study data was limited to more immediate changes in student attitudes, which could only be broadly generalized. Similarly, though the survey questionnaire was based on validated instruments, adaptations in the nature and framing of the questions that were made for the workshop evaluation may limit the validity of our results. Future studies could be designed to follow the cohort of students who participated in this workshop and track their practice traits after graduation and throughout their professional careers.

Conclusions

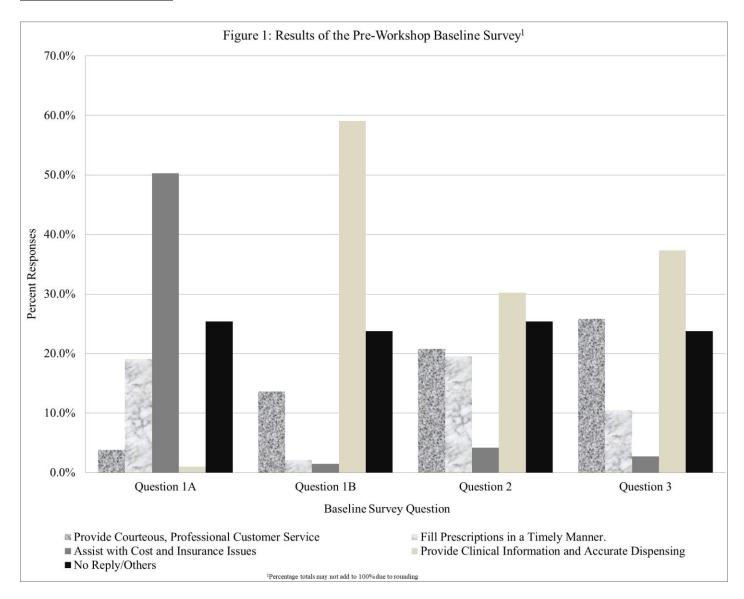
There is a great degree of evidence throughout the literature, demonstrating that pharmacists play a vital role in ensuring positive clinical outcomes in patients. It is vital to communicate the value of the clinical services provided by the pharmacist, especially as the pharmacies are in a unique position of being the final point of contact between the patients and a healthcare expert. Our study "Communicating the Value of the Pharmacists to the Patients We Serve" is one of the first exercises of its kind. We believe that this approach can be an effective tool to educate the future pharmacists about the issues they might face in ensuring the complete utilization of their clinical abilities and the means to deal with them. This laboratory exercise clearly demonstrated that there was a positive change in the attitude of the students. They were more comfortable in communicating their value through interactions and discussion with patients that they serve and the exercise enabled them to learn unique ways of attaining this goal. Today's pharmacy education standards require that our future pharmacists are provided with a variety of educational experiences that foster patient-centered care. It is equally important, however, that student pharmacists be encouraged to recognize the array of services that they provide to the healthcare arena. Exercises like this would undoubtedly help the students in communicating this value to their patients, other healthcare team members and policymakers equally. Providing appropriate training to the students about the most valuable services that they provide to the patients during the course of their educational curriculum will enable them to adapt to the growing role pharmacists play in the healthcare environment.

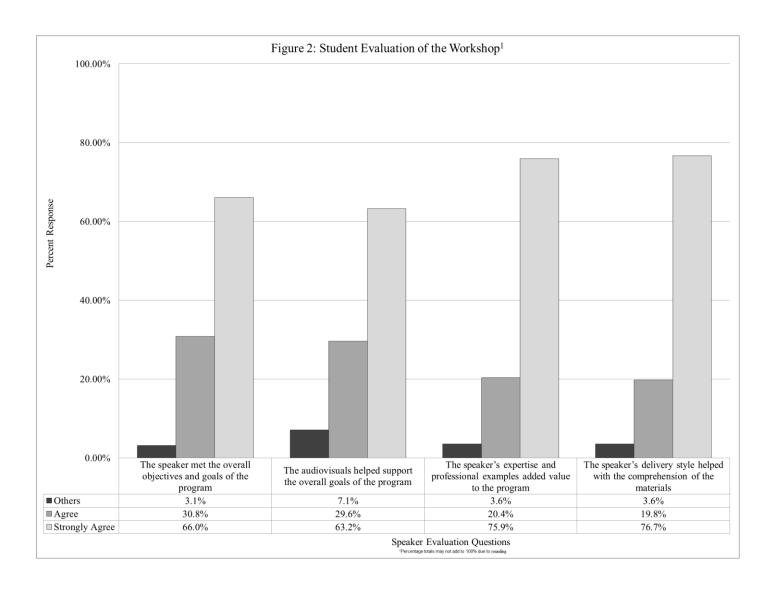
References

- Abrons, J. P., & Smith, M. (2011). Patient-centered medical homes: primer for pharmacists. *J Am Pharm Assoc* (2003), 51(3), e38-48; quiz e49-50. doi:10.1331/JAPhA.2011.11524
- Al Hamarneh, Y. N., Rosenthal, M., McElnay, J. C., & Tsuyuki, R. T. (2012). Pharmacists' perceptions of their practice: a comparison between Alberta and Northern Ireland. *Int J Pharm Pract*, 20(1), 57-64. doi:10.1111/j.2042-7174.2011.00163.x
- Alghurair, S. A., Simpson, S. H., & Guirguis, L. M. (2012). What elements of the patient-pharmacist relationship are associated with patient satisfaction? *Patient Prefer Adherence*, 6, 663-676. doi:10.2147/PPA.S35688
- Altilio, J. V. (2009). The pharmacist's obligations to patients: dependent or independent of the physician's obligations? *J Law Med Ethics*, 37(2), 358-368. doi:10.1111/j.1748-720X.2009.00379.x
- Arif, S., Cryder, B., Mazan, J., Quinones-Boex, A., & Cyganska, A. (2017). Using Patient Case Video Vignettes to Improve Students' Understanding of Cross-cultural Communication. *Am J Pharm Educ*, 81(3), 56. doi:10.5688/ajpe81356
- Arthur Andersen LLP. (1999). Pharmacy Activity Cost and Productivity Study.
- Assa-Eley, M., & Kimberlin, C. L. (2005). Using interpersonal perception to characterize pharmacists' and patients' perceptions of the benefits of pharmaceutical care. *Health Commun*, 17(1), 41-56. doi:10.1207/s15327027hc1701 3
- Blouin, R. A., & Adams, M. L. (2017). The Role of the Pharmacist in Health Care: Expanding and Evolving. *N C Med J*, 78(3), 165-167. doi:10.18043/ncm.78.3.165
- Cadogan, C. A., Ryan, C., & Hughes, C. M. (2016). Appropriate Polypharmacy and Medicine Safety: When Many is not Too Many. *Drug Saf*, 39(2), 109-116. doi:10.1007/s40264-015-0378-5
- Carlisle, A., Jacobson, K. L., Di Francesco, L., & Parker, R. M. (2011). Practical strategies to improve communication with patients. *PT*, 36(9), 576-589.
- Center for Health Workforce Studies. (2006). The Impact of the aging population on the health workforce in the United States: March 2006. National Center for Health Workforce Analysis Bureau of Health Professions Health Resources and Services Administration 7 University Place Rensselaer, NY 12144-3458.
- Centers for Medicare & Medicaid Services. (2007). National Health Expenditure Accounts, Historical (Vol. 2007, pp. http://www.cms.hhs.gov/NationalHealthExpendData/
- Cowper, P. A., DeLong, E. R., Whellan, D. J., Allen LaPointe, N. M., & Califf, R. M. (2004). Economic effects of beta-blocker therapy in patients with heart failure. *Am J Med*, 116(2), 104-111.
- Cutler, D. M., Long, G., Berndt, E. R., Royer, J., Fournier, A. A., Sasser, A., & Cremieux, P. (2007). The value of antihypertensive drugs: a perspective on medical innovation. *Health Aff (Millwood)*, 26(1), 97-110. doi:10.1377/hlthaff.26.1.97
- Dieleman, J. L., Baral, R., Birger, M., Bui, A. L., Bulchis, A., Chapin, A., . . . Murray, C. J. (2016). US Spending on Personal Health Care and Public Health, 1996-2013. *JAMA*, 316(24), 2627-2646. doi:10.1001/jama.2016.16885
- El Hajj, M. S., Hammad, A. S., & Afifi, H. M. (2014). Pharmacy students' attitudes toward pharmaceutical care in Qatar. *Ther Clin Risk Manag*, 10, 121-129. doi:10.2147/TCRM.S56982
- Ernst, F. R., & Grizzle, A. J. (2001). Drug-related morbidity and mortality: updating the cost-of-illness model. *J Am Pharm Assoc (Wash)*, 41(2), 192-199.

- Farley, J. F., Ferreri, S. P., Easter, J. C., & McClurg, M. R. (2017). The North Carolina Experiment: Active Research in the Development and Assessment of New Practice Models. *N C Med J*, 78(3), 186-190. doi:10.18043/ncm.78.3.186
- Johnson, J. A., Simpson, S. H., Toth, E. L., & Majumdar, S. R. (2005). Reduced cardiovascular morbidity and mortality associated with metformin use in subjects with Type 2 diabetes. *Diabet Med*, 22(4), 497-502. doi:10.1111/j.1464-5491.2005.01448.x
- Loewen, P., Merrett, F., & Lemos, J. D. (2010). Pharmacists' perceptions of the impact of care they provide. *Pharm Pract (Granada)*, 8(2), 89-95.
- MacDonnell, C. P., Derreza, A. J., Lavin, M. D., Cohen, S. A., & Cohen, L. (2011). Impact of an Interdisciplinary Practice Laboratory on Pharmacy and Nursing Students' Perceptions of Health Care Roles. *The International Journal of Pharmacy Education and Practice*, 7(1).
- MacDonnell, C. P., Rege, S. V., Misto, K., Dollase, R., & George, P. (2012). An introductory interprofessional exercise for healthcare students. *Am J Pharm Educ*, 76(8), 154. doi:10.5688/ajpe768154
- Martin, M. A. C. a. B. C. (1997). Development of an Instrument to Measure Student Attitudes Concerning Pharmaceutical Care *American Journal of Pharmaceutical Education*, 61, 374 379.
- Mehta, B., Shah, B., & Zlott, D. (2007). Demonstrating pharmacists' value: this is the time and tide to work together. *J Am Pharm Assoc* (2003), 47(1), 12-14, 16-17.
- Mesquita, A. R., Lyra, D. P., Jr., Brito, G. C., Balisa-Rocha, B. J., Aguiar, P. M., & de Almeida Neto, A. C. (2010). Developing communication skills in pharmacy: a systematic review of the use of simulated patient methods. *Patient Educ Couns*, 78(2), 143-148. doi:10.1016/j.pec.2009.07.012
- Moczygemba, L. R., Goode, J. V., Silvester, J. A., & Matzke, G. R. (2012). Pharmacy practice in Virginia in 2011. *Ann Pharmacother*, 46(4), S13-26. doi:10.1345/aph.1Q802
- Morgan, S., & Kennedy, J. (2010). Prescription drug accessibility and affordability in the United States and abroad. *Issue Brief (Commonw Fund)*, 89, 1-12.
- Patterson, B. J., Doucette, W. R., Urmie, J. M., & McDonough, R. P. (2013). Exploring relationships among pharmacy service use, patronage motives, and patient satisfaction. *J Am Pharm Assoc* (2003), 53(4), 382-389. doi:10.1331/JAPhA.2013.12100
- Rosenthal, M. M., Austin, Z., & Tsuyuki, R. T. (2010). Are pharmacists the ultimate barrier to pharmacy practice change? *Can Pharm J*(143), 37-42.
- Rosenthal, M. M., Breault, R. R., Austin, Z., & Tsuyuki, R. T. (2011). Pharmacists' self-perception of their professional role: insights into community pharmacy culture. *J Am Pharm Assoc* (2003), 51(3), 363-367. doi:10.1331/JAPhA.2011.10034
- Schindel, T. J., Yuksel, N., Breault, R., Daniels, J., Varnhagen, S., & Hughes, C. A. (2017). Perceptions of pharmacists' roles in the era of expanding scopes of practice. *Res Social Adm Pharm*, 13(1), 148-161. doi:10.1016/j.sapharm.2016.02.007
- Smith, M., Bates, D. W., Bodenheimer, T., & Cleary, P. D. (2010). Why pharmacists belong in the medical home. *Health Aff (Millwood)*, 29(5), 906-913. doi:10.1377/hlthaff.2010.0209

Tables and Figures





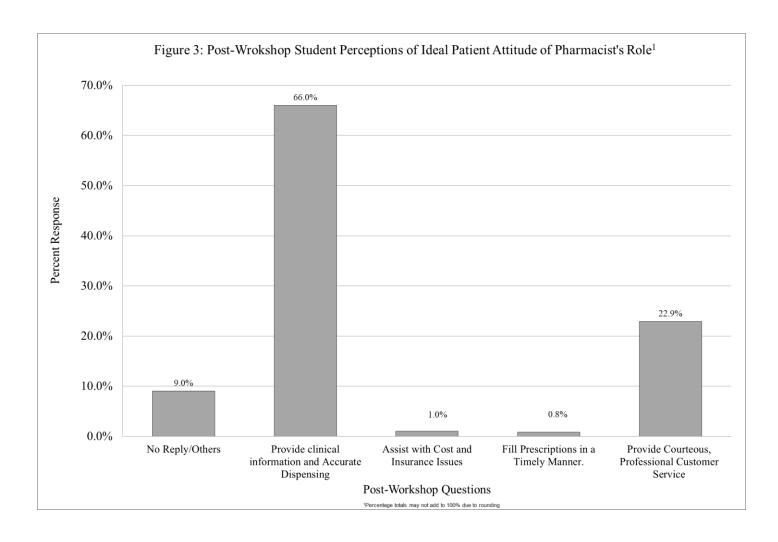


Table 1: Post Survey Evaluation Of The Workshop					
Question ¹	No Response	Yes	No	Not Applicable	Others
As a result of today's presentation, have you learned/gained one new way of communicating or demonstrating your value	13 (2.7%)	407 (85.3%)	15 (3.1%)	31 (6.5%)	11 (2.3%)
As a result of today's presentation, do you feel more confident in addressing the most frustrating questions you get from your patients?	37 (7.8%)	407 (85.3%)	29 (6.1%)	0 (0.0%)	4 (0.8%)
As a result of today's presentation, do you feel better equipped to communicate the value of medication (when a patient's sole focus is on cost alone)? ² 1: Percentages may not add up to 100% due to rounding.	18 (3.8%)	371 (77.7%)	75 (15.8%)	0 (0.0%)	12 (2.5%)

Percentages may not add up to 100% due to rounding.
 There was no response from one student and hence total responses are 476.

Appendix 1

Unlocking the Value: Communicating Value to the Patients We Serve

Baseline Survey

Select the option that best describes your current practice setting.						
☐ Community ☐ Ho	• • •					
Select one response for each	ch questi			7711	l .	
Question		Provide clinical informatio n and accurate dispensing .	Assist with cost and insurance issues.	Fill prescription s in a timely manner.	Provide courteous, professiona l service.	Other (briefly describe)
1A. If your customers/patier were asked what value do provide for them, how woul respond?	you d they					
1B. What one "thing" would customers/patients say you cis most important to them?	•					
2. In your opinion, what is the most important thing you do the customers/patients you s	for					
3. What is the most frustrati of question you get from you customers/patients?	ng type					
Presentation Evaluation Please rate today's program. Select one response for each session:						
Question		Strongly	Agree	Satisfactor	Disagree	Strongly
		Agree		у		Disagree
The speaker met the objectives and goals program						

2. The audiovisuals helped

support the overall goals of

the program			
3. The speaker's expertise and			
professional examples			
added value to the program			
4. The speaker's delivery			
style helped with the			
comprehension of the			
materials			

	PLEASE COMPLETE BOTH SIDES
	Post-Survey Questions
1.	esult of today's presentation, have you learned/gained one new way of communicating or astrating your value?
	Yes, and I'm willing to begin implementing it over the next 30 days and beyond. No
	Not applicable, I am not a practicing pharmacist or technician Other:
2.	esult of today's presentation, what would you WANT your customers/patients to say is the IMPORTANT thing you do for them?
	Provide clinical information and accurate dispensing.
	Assist with cost and insurance issues.
	Fill prescriptions in a timely manner.
	Provide courteous, professional service.
	Other
3.	esult of today's presentation, do you feel more confident in addressing the most frustrating ons you get from your patients?
	Yes
	No
	Other:
4.	esult of today's presentation, do you feel better equipped to communicate the value of ation (when a patient's sole focus is on cost alone)?
	Yes, I now feel more comfortable in shifting the discussion with my customer from "cost" to "value."
	Yes, I can understand the customer's perspective better.

		No, I felt I have always communicated my value and understood the value of medication.
	Ш	Other response:
5.	What	did you find to be most beneficial about the <i>Unlocking the Value</i> Program?

We value your feedback – Thank you for your participation!