

2-24-2016

Pharmacist Behavior Changes Following a Medication Counseling Training Program Targeting Teach-Back and Plain Language

David R. Hager

Katherine Hartkopf

Amanda Margolis

Beth A. Martin

Follow this and additional works at: <http://pubs.lib.umn.edu/innovations>

Recommended Citation

Hager DR, Hartkopf K, Margolis A, Martin BA. Pharmacist Behavior Changes Following a Medication Counseling Training Program Targeting Teach-Back and Plain Language. *Inov Pharm*. 2016;7(1): Article 8. <http://pubs.lib.umn.edu/innovations/vol7/iss1/8>

INNOVATIONS in pharmacy is published by the University of Minnesota Libraries Publishing.

Pharmacist behavior changes following a medication counseling training program targeting teach-back and plain language

David R. Hager, PharmD, BCPS¹; Katherine Hartkopf, PharmD, BCACP¹; Amanda Margolis, PharmD, MS, BCACP²; and Beth A. Martin, PhD, RPh²

¹UW Health Department of Pharmacy; ² UW-Madison School of Pharmacy

Disclosure: This author has no actual or potential conflicts of interest.

Abstract

Purpose: To evaluate whether active learning-based training in teach-back and plain language (TBPL) techniques can lead to observable changes to patient-centered practices in pharmacist-patient counseling.

Methods: All pharmacists in direct patient care roles, inpatient and outpatient, were required to complete a didactic module and a workshop / webinar or small group training. The workshop / webinar and small group modalities incorporated elements of adult education theory. Following completion, pharmacists were surveyed to assess their ability, confidence and commitment to incorporating TBPL techniques into practice. Evaluation of pharmacist-patient counseling was completed pre- and post- training through direct observation. Student pharmacists were trained to evaluate pharmacists' consultations on patients with ≥ 2 new medications. Students recorded completeness rates for 39 communication techniques.

Results: One-hundred and eighteen pharmacists completed the TBPL training program and 59 pharmacists completed an evaluation. A total of 84 direct observations were completed (40 pre-training and 44 post-training). Skills improved included: using plain language ($p < 0.001$), checking for understanding ($p < 0.001$), dividing and organizing key points ($p = 0.003$), and summarizing ($p < 0.001$). Program evaluations demonstrated a significant increase in pharmacist confidence in their overall ability to counsel patients using TBPL ($p < 0.001$).

Conclusion: Implementing a TBPL training program improved observable pharmacist-patient consultation skills. This approach is replicable and could be utilized as a model for other competencies.

Introduction

The Institute of Medicine defines health literacy as the ability of patients to understand information about the state of their health and use this information to make health-related decisions.¹ As many as one in three people in the United States have basic or below basic health literacy.² Although certain patient characteristics (i.e. elderly, ethnic minorities, less formal education) are more commonly associated with lower health literacy, this issue affects all populations. Low health literacy makes it more difficult for patients to actively participate in their own care often translating into higher hospitalization rates, a greater disease burden, and worse overall health outcomes.^{3,4} A patient-centered discharge process, which includes providing verbal and written information about medications, diet and lifestyle modifications in patients' language and literacy level, has been proposed as a mechanism to reduce re-hospitalization rates.^{5,6}

One program, the Re-Engineered Discharge (RED) developed at Boston University Medical Center (BUMC), created and tested activities and materials aimed at engaging all patients, including those with low health literacy, to improve the hospital discharge process and decrease hospital readmissions and emergency department utilization.⁷ As a result of this research, the Agency for Healthcare Research and Quality (AHRQ) contracted with BUMC to prepare a toolkit and make it available to other hospitals with proposed implementation techniques. The RED toolkit includes 12 components that occur during and after hospitalization; four of which incorporate teach-back and plain language (TBPL) techniques to close the communication gap between patients, caregivers and educators.⁸

The teach-back method has the health care provider ask the patient to restate in their own words the education provided. This allows the health care provider to assess the patient's level of understanding and an opportunity to supplement where needed.⁹ Using plain language involves avoiding medical jargon, using simple sentences, and limiting the number of topics covered to help patients better comprehend the new information shared with them.¹⁰ While AHRQ and other previously published studies support incorporation of teach-back and plain language education

Corresponding author: David R. Hager, PharmD, BCPS
Pharmacy Manager, UW Health Department of Pharmacy;
600 Highland Ave, Madison WI 53792
dhager@uwhealth.org

techniques, no reports on training or implementation of this technique have been published.⁸⁻¹⁰

How to effectively train professionals in the various health disciplines in effective strategies to overcome low health literacy is a unique area of inquiry and previously published work has focused mostly on the lack of training. Studies have identified low rates of formal training in health literate knowledge or communication skills for medical students and an unclear extent of training in this area for other health profession students.¹¹⁻¹⁴ Additionally, inconsistent implementation of health literacy practices across disciplines has been identified.¹⁵

Often pharmacist competency development or training is designed as continuing education programming. Continuing education programs have been criticized for failing to directly impact practice or influence patient outcomes.¹⁶ To be effective, a training program should incorporate essential elements of adult education theory and stress skill development and maintenance.¹⁷ Using active learning techniques such as role-play, case discussion, and hands-on opportunities are more effective in influencing the confidence of the practitioner or their perceived self-efficacy to perform specific behaviors.^{16,18} This enhanced self-efficacy, or level of confidence, would lead to a greater likelihood of transferring those skills into their practice. To ensure that practice change was occurring direct observation is often the best method, however, resources to do this work can be difficult to obtain. This is the first training program published where direct observation on a health professionals skills are observed during real patient care.

The purpose of this study is to evaluate whether a teach-back and plain language training (TBPLT) program can lead to observable changes to pharmacist-patient consultation.

Overview of Health System

Training all disciplines who complete patient education in teach-back and plain language was a health system-wide initiative of a 592-bed Midwestern academic medical center and 121 clinics. In 2011, an interprofessional transitions committee was formed to coordinate, organize, and direct all transitions of care efforts for the health system. The interest in improving transitions of care was heightened following implementation of the Centers for Medicare and Medicaid Services payment penalties for hospital 30-day readmissions. Following literature review and assessment of the current discharge process, the teach-back and plain language components of project RED were identified as one organization-wide initiative to implement for all employees involved with direct patient and caregiver education. As a

result, pharmacists in direct patient care roles (inpatient and outpatient) were required to complete training in teach-back and plain language.

To aid in the development of this required training the study team consulted with the school of pharmacy affiliated with the health system. Faculty with expertise and research interest in adult education were recruited to assist in the development of the training evaluation strategy.

The pharmacy department context for the application of this training focuses on the discharge consultation and the transition from inpatient to outpatient. The inpatient practice model is decentralized with all discharge medication counseling completed by pharmacists or student pharmacists. Pharmacists receive reconciled discharge orders from physicians and review those for completeness, appropriateness and accuracy. They then facilitate filling of the medications with the patient, prepare a complete medication list as a patient friendly chart, and educate the patient on their medication therapy. Following education the pharmacist documents all these activities and hands-off any necessary information to the next physician and pharmacist provider of care using electronic tools. During weekday daytime hours, 28 pharmacists staff the inpatient units. The outpatient pharmacy model has all patients using the outpatient pharmacy receiving pharmacist consultation for new and refill prescription medications. At the time of this study, the outpatient pharmacy received 52.8% of discharge prescription orders, filled approximately 270 prescriptions per day, and was staffed by two pharmacists during weekday daytime hours. Discharge patient consultation occurs within patient rooms by inpatient pharmacists and by the outpatient pharmacist either at the counter or within a private consultation room depending on patient needs and pharmacist preference. A total of 118 pharmacists, both inpatient and outpatient, provide discharge consultation and were included in the training.

Training Methods

The TBPLT consisted of two components. The first was a didactic module designed to develop background knowledge and delivered through the health system's online learning and development system. Content was based on the AHRQ Health Literacy Universal Precautions Toolkit and components included patient care consequences related to limited health literacy and key communication strategies (Table 1), including teach-back and plain language.¹⁹ A brief 9-question general knowledge assessment evaluated participant understanding of the didactic training. All employees involved with direct patient care were required to achieve 100% to successfully complete the mandatory

module. The second training component was discipline specific, and was designed to facilitate transfer of learning to practice, using active learning principles. The goal of this training was to complement the didactic module by adding pertinent examples and situations for each discipline's (i.e. nursing, therapies, pharmacy) specific role. The study team prepared a case-based scenario that applied key communication strategies to performing discharge medication counseling in an inpatient or outpatient pharmacy setting. The case centered around a complex discharge on new warfarin and low-molecular weight heparin in a patient with a known history of non-adherence. Participants were introduced to the patient and then a series of questions were asked to the audience and they were provided feedback based on the approach taken. Areas of focus within the case included identifying the primary learner, adjusting physical positioning, setting the agenda, assessing baseline understanding, adapting to what is already known, adapting to patient misunderstandings, dividing and organizing key points, and methods for verifying understanding (i.e. teach-back). To accommodate varying schedules and multiple pharmacy employee locations, workshop / webinar and small group modalities for delivering the active learning module were created. The content was identical and instructional approach was similar across the workshop / webinar and small group formats. The workshop and small group formats utilized the active learning strategy think-pair-share where participants determine their response to the question posed by an assigned non-manager facilitator, discuss it with a colleague and then share with the large group. The webinar had individuals share their responses electronically and then engage in large group discussion led by the facilitator. Non-manager facilitators were used for the case-based scenario across all modes of training to ensure training fidelity. The order of training experiences, evaluations and number of participants are described in Figure 1.

Evaluation Methods

Pharmacists who participated in either the workshop or webinar were asked to complete an anonymous session evaluation form that incorporated 16 survey items and additional questions assessing the overall impact of the program on their practice behaviors including whether the information presented would cause them to make any changes in their patient counseling and how committed they were to making the changes (1= not at all committed to 5=very committed).

The workshop / webinar evaluation form was developed by three of the authors, and based on previous self-efficacy research.^{18,20} The survey items assessed pharmacists' self-reported skills including: overall ability to counsel patients

using plain language and teach-back techniques (2 items; retrospective pre/post-training), skills for patient counseling methods emphasized during training (9 items), self-efficacy (i.e., confidence) for patient consultation skills (5 items), and commitment to change (1 item). Survey items were answered using 5-point rating scales for overall ability and current skills (1=poor to 5=excellent), self-efficacy (1=not at all confident to 5=extremely confident), and commitment to change (1=not at all committed to 5=very committed). The overall ability questions were asked having the pharmacist reflect on their ability prior to the session and at completion of the session. These items are considered post-retrospective items and are validated measures that allow participants to gain a better understanding of the terms used, therefore allowing a more accurate post-training response. The specific items measured for self-rated levels of skill, confidence, and commitment are listed in Table 2.

Practice-based change in pharmacist behavior was measured through direct-observation conducted by trained student pharmacist raters. This project received investigational review board approval. Patients were consented by the student pharmacist prior to the pharmacist entering the room and ensured of the confidentiality of their health information as the student operated as an observer. Each student pharmacist utilized an observation checklist to document pharmacist behavior during discharge consultations for patients with ≥ 2 new medications. Discharge consultation involving two or more new medications was targeted to ensure sufficient opportunities to observe teach-back and plain language techniques existed. The observation checklist was developed based on standardized teaching rubrics from the University of Wisconsin-Madison School of Pharmacy curriculum and Wisconsin state licensure requirements to meet the needs of the study (Figure 2). This form contained elements germane to the training provided including: setting the stage for the learner, assessment of current knowledge, overcoming barriers, teaching strategies and closure. It also contained process assessments that were not trained on during the sessions such as being audible for the patient, offering emotional support, advising patients to use aids, and utilizing additional educational materials.

The observation checklist was piloted prior to use using tapes of pharmacist consultations by the investigators to improve inter-rater reliability. The study investigators trained 24 students during a 90 minute session where the study objectives and methods were reviewed, students were educated on use of the observation checklist, and practiced data collection from a taped consultation. Students were instructed to observe a variety of pharmacists throughout the

health system and no observations were conducted on members of the study team. Student pharmacists observed mostly pharmacists who served on their team of preceptors. To reduce bias students were blinded to whether or not their pharmacists had received the training prior to their observations. See Table 3 for a description of behaviors on the checklist with definitions.

The observation checklists required student pharmacists to choose from four categories (0=not done, 1=done some, and 2=done completely or not applicable) to describe how completely each pharmacist demonstrated the best-practice based behaviors. Behaviors were not-applicable in situations where the patient provided information obviating the need for pharmacist investigation or when there were no opportunities for the behavior to be observed given the medications involved. Student pharmacists' reported duration of observed discharge consultations (in minutes) were calculated. The observation periods took place one month prior to and then over two months after the TBPLT. Observations occurred during discharge counseling on inpatient floors or during consultations at the outpatient pharmacy. Students were instructed to maintain an appropriate distance to allow the patient and pharmacist to have a natural interaction, but close enough to hear all aspects of the consultation. No pharmacist or patient identifiers were collected to maintain anonymity of the pharmacist regarding job performance.

Means and standard deviations for pre and post-TBPLT observation checklist items were calculated. Mann Whitney U Tests were utilized to determine the statistical significance of the pharmacist behavior change between the pre and post-TBPLT. It is possible that some pharmacists were observed during both the pre and post arm of this evaluation, however, the observations were de-identified and it was not possible to pair the observations by pharmacists. Use of an independent ordinal test (Mann-Whitney U Test) for un-paired data but where the same pharmacists may have been observed in the pre and post setting was an appropriate and more conservative statistical test for this scenario, but likely decreases power compared to being able to match the results by pharmacist. As the current and previous overall ability questions appeared on the same de-identified form, a matched score within pharmacist was calculated using the Wilcoxon Signed-Rank Test. An alpha level of 0.05 was utilized a priori. Data analysis was completed with STATA (version 13.1, StataCorp, College Station, TX).

Results

As TBPLT was mandatory, 100% of pharmacists who participate in direct patient care completed the training

(n=118). The training took place over two months. Thirty-seven pharmacists attended the workshop and 22 pharmacists completed the TBPLT via webinar. The remaining 59 pharmacists completed TBPLT through small group instruction.

Fifty-nine pharmacists completed the post TBPLT evaluation (Figure 1). The difference in previous and current self-evaluated ability to use the techniques significantly increased by 0.84 ± 0.58 points on the poor to excellent rating scale (3.44 to 4.29; $p < 0.001$). In general, the mean pharmacists' self-reported perceived level of skill, confidence in counseling, and commitment to making changes to patient counseling based on TBPLT was high (see Table 2). The current skills scale exhibited a Cronbach alpha estimate of internal consistency of 0.88, and the confidence scale exhibited an alpha of 0.78. Of the 57 pharmacists who responded to the question "Will the information presented cause you to make any changes to your patient counseling?" 55 (96%) responded yes with a mean commitment to change of 4.37 ± 0.56 indicating a high commitment to change.

A convenience sample of 84 pharmacist discharge counseling observations were collected (40 pre- and 44 post-implementation of TBPLT program). There were statistically significant improvements in observed behaviors across all major observations except use of open-ended questions. See Table 4 for the results of direct observation of pharmacists' behavior. The pre-TBPLT discharge consultation duration was 6.84 ± 0.89 minutes, which increased to 8.79 ± 0.69 minutes post-TBPLT program ($p = 0.087$). There were many instances where student pharmacist raters determined the behaviors were non-applicable during discharge counseling.

Discussion

As compared to previous studies about health literate techniques, this study focused on evaluating the effectiveness of the training program and the ultimate change in patient consultation behaviors by pharmacists. The TBPLT program was successful in meeting the needs of the health system and the learning needs of the pharmacists. Using two formats (workshop / webinar and small group), 100% of pharmacists in direct patient care roles were trained within a two-month period. The training was effective over several modes of evaluation. First, perceived overall ability to counsel patients using plain language and teach-back techniques was significantly higher following training. This is a validated predictor of instructional efficacy.¹³ This aligns with Bandura's Social Cognitive Theory which posits that individuals are capable of altering their behavior and environment through their belief in their abilities to perform specific tasks to achieve specific results.^{21,22} Individuals tend to engage in

activities in which they feel more confident and competent and avoid those they do not. As a result of this training, pharmacists self-reported high skills and confidence measures which are then predictors of transfer of learning to practice.²³ Furthermore, statistically significant changes in pharmacist behaviors related to the training content were observed post-TBPLT, demonstrating the pharmacists' increase in skills and confidence were associated with positive pharmacist practice behavior change. The student pharmacist observations did not find changes in behaviors outside the scope of the pharmacist training (i.e. use of open-ended questions, use of additional educational resources, and other process measures), reinforcing the behavior change was related to the training program and not other factors.

The teach-back method is a best practice for patient education, applicable to all pharmacist practice settings with direct patient contact. Innovative approaches on how to deploy training across a large staff for this best practice in a way that has demonstrated behavior change are needed. Organizations pursuing pharmacist competency in this or other areas should consider inclusion of adult education principles into formats flexible enough to reach the scope of learners, partnering with a school of pharmacy, and including student pharmacists.

The design of our training had to change long established behaviors around a core skill of pharmacists – patient consultation. Our previous approaches to this were often conventional continuing education, didactic based modules. A new approach was needed that would change behaviors. This training was designed following clear learning objectives, included modeling good communication strategies, encouraged problem solving, and skills application in an active learning environment. Additionally, the training needed to be efficient and delivered using multiple modalities to reach all pharmacists that have direct patient contact across an academic medical center and the accompanying outpatient pharmacies. The content was flexible enough to be done in small group settings, leveraging a small group of non-manager pharmacist trainers from a standing departmental committee to reach all pharmacists efficiently. By utilizing this model, there was an added benefit of creating front-line leaders for the change which helped sustain it throughout the health system.²⁴

Partnership with a school of pharmacy offered many advantages. These educators are well versed in adult and patient education. This partnership helped to guide the creation of a meaningful active learning based training program. Many continuing professional development programs are adding active learning principles to traditional

educational pedagogy.²⁵ Partnership with the school also provided expertise in study design to measure the impact of the training. As measuring competency and demonstrating the value of activities becomes increasingly important, a more scientific approach where statistically significant improvements can be demonstrated should be pursued.

Student pharmacists played an essential role in this study, benefiting both the health system and the students. Many organizations are defining broader roles for student pharmacists as this allows pharmacy departments to reach more patients, however, few organizations are utilizing students to ensure pharmacist competency development is being adopted or requiring students to participate in consenting patients for research. Organizations should also think creatively about how to partner with students and affiliated schools of pharmacy to create additional unique roles. Through this project students were exposed to observational research principles and study design concepts, involved in performing consents and taught the value of measuring the success of programmatic changes. This helps students draw connections between their curricular learning and practice-based learning. From a study validity perspective, utilizing student pharmacist raters may have reduced the potential for a Hawthorne effect compared to having a peer pharmacist, manager or school of pharmacy faculty member observing the interactions. However, pharmacists may have made an effort to model good counseling behaviors or make teachable experiences for students when under observation possibly creating a Hawthorne effect and positively biasing these results compared to the pharmacists' usual care. This is balanced by the fact that students were not aware of whether the pharmacists had completed the training or not and one would expect to find no difference with consistently high scores between time periods.

Future directions and limitations

At the conclusion of the study, results were shared internally with pharmacy stakeholders, the interdisciplinary transitions committee and the Quality Council, which oversees all quality improvement projects within the health system. This brought visibility to the department's efforts to meet an organizational training request in a meaningful way and would be encouraged for health systems replicating this work. Given the positive results, additional presentations were given for the state pharmacy society and the state hospital association. Additional training sessions have been delivered to all new pharmacists, pharmacy residents and student pharmacist interns working within the health system to support continued competence of all who conduct patient consultation. The observation tool utilized by the student

pharmacists in this study continues to be utilized to evaluate pharmacy resident patient consultation to provide consistent, actionable feedback.

All pharmacist and patient interactions were de-identified to meet investigational review board requirements for protecting potentially sensitive job performance data. Therefore, we were unable to link observed behavior change to the training modality or self-reported abilities, skills and confidence measures within individuals. De-identified pharmacist data also made it difficult to obtain demographic information in terms of years of experience, training or specialty practice area; this is a possible area of future study to identify whether these factors impact training effectiveness. An additional limitation to this sample is the lack of random selection of pharmacists for observation, pharmacists who were more willing to be observed or who were assigned students were more likely to be included in the observations. As students identified the pharmacists to observe, it is unlikely that pharmacists who would perform better or who were considered early adopters were more likely to be included in the observations because students identified the pharmacists and would not know those characteristics. The observation checklist was not a validated tool. It was designed to meet the training needs of the study and was based on previously standardized tools for pharmacist licensure and academic evaluation.

Another limitation is that the direct observations took place within a maximum of four months after the training, potentially overestimating the sustained benefit of the training. One method the health system has included to reinforce the new expectations was to change the patient education documentation within the electronic medical record from “verbal instruction” to “teach-back method” to remind and ensure all disciplines engaged in patient education see this as the default method.

Future directions include identifying those patient-centered practice-based behaviors that were inconsistently demonstrated by pharmacists and incorporating them into competencies and departmental training opportunities. Further evaluation of the observation checklist could be done to determine the impact on patient outcomes based on the pharmacists techniques used. A last future direction could be to explore how self-rated skill and confidence relates to the pharmacist’s perceived importance in use of the counseling techniques and the pharmacist’s commitment to change their counseling behaviors.

Conclusion

Implementation of teach-back and plain language training through partnership with a school of pharmacy and student pharmacists can lead to observable changes in established pharmacist behaviors. This approach is replicable and could be utilized as a model for other competencies.

References

1. Neilsen-Bohlman L, Panzer AM, Kindig DA, eds. Health literacy: a prescription to end confusion. Washington, DC: National Academies Press; 2004.
2. Kutner M, Greenberg E, Jin Y, Paulsen C. The Health Literacy of America’s Adults: Results from the 2003 National Assessment of Adult Literacy (NCES 2006-483). US Department of Education (September 2006). <http://nces.ed.gov/pubs2006/2006483.pdf>. (accessed 2013 July 27).
3. Baker DW, Parker RM, Williams MV, Clark WS. Health literacy and the risk of hospital admission. *J Gen Intern Med*. 1998; 13:791-8.
4. Williams MV, Davis T, Parker R, Weiss BD. The role of health literacy in patient-physician communication. *Fam Med*. 2002; 34:383-9.
5. Baker DW, Gazmararian JA, Williams MV, et al. Functional health literacy and the risk of hospital admission among Medicare managed care enrollees. *Am J Public Health*. 2002; 92:1127-83.
6. Greenwald JL, Jack BW. Preventing the preventable: reducing rehospitalizations through coordinated, patient-centered discharge processes. *Prof Case Manag*. 2009; 14:135-42.
7. Jack BW, Chetty VK, Anthony D, et al. A re-engineered hospital discharge program to decrease rehospitalization: a randomized trial. *Ann Intern Med*. 2009; 150:179-97.
8. Jack BW, Paasche-Orlow MK, Mitchell SM, et al. An overview of the Re-Engineered Discharge (RED) Toolkit. (Prepared by Boston University under Contract No. HHS290200600012i.) Rockville, MD: Agency for Healthcare Research and Quality; 2013 March. AHRQ Publication No. 12(13)-0084.
9. Oates DJ, Paasche-Orlow MK. Health literacy: communication strategies to improve patient comprehension of cardiovascular health. *Circulation*. 2009; 119:1049-51.
10. Hironaka LK, Paasche-Orlow MK. The implications of health literacy on patient-provider communication. *Arch Dis Child*. 2008; 93:428-32.

11. Ali NK, Ferguson RP, Mitha S, Hanlon A. Do medical trainees feel confident communicating with low health literacy patients? *J Community Hosp Intern Med Perspect*. 2014; 4(2): 10.3402/jchimp.v4.22893.
12. Howard T, Jacobson KL, Kripalani S. Doctor talk: Physicians' use of clear verbal communication. *J Health Commun*. 2013;18(8):991–1001.
13. Coleman CA, Appy S. Health literacy teaching in U.S. medical schools, 2010. *Fam Med*. 2012; 44:504–507.
14. Coleman CA, Hudson S, Maine L. Health literacy practices and educational competencies for health professionals: a consensus study. *J Health Commun*. 2013; 18(Suppl 1): 82-102.
15. Schwartzberg JG, Cowett A, VanGeest J, Wolf MS. Communication techniques for patients with low health literacy: A survey of physicians, nurses, and pharmacists. *Am J Health Behav*. 2007; 31(Suppl. 1):S96–S104.
16. Davis D, O'Brien MAT, Freemantle N, et al. Impact of formal continuing medical education: do conferences, workshops, rounds and other traditional continuing education activities change physician behavior or health care outcomes? *JAMA*. 1999; 292:867–74.
17. Knox AB. The continuum of professional education and practice. *New Dir for Adult and Contin Educ*. 2000; 86:13–22.
18. Martin BA, Bruskiwitz RH, Chewing BA. Effect of a tobacco cessation continuing professional education program on pharmacists' confidence, skills, and practice-change behaviors. *J Am Pharm Assoc*. 2010; 50:9-16.
19. DeWalt DA, Callahan LF, Hawk VH, et al. Health Literacy Universal Precautions Toolkit. (Prepared by North Carolina Network Consortium, The Cecil G. Sheps Center for Health Services Research, The University of North Carolina at Chapel Hill, under Contract No. HHS290200710014.); Rockville, MD: Agency for Healthcare Research and Quality. 2010 April. AHRQ Publication No. 10-0046-EF.
20. Martin BA, Chui MA, Thorpe JM, Mott DA, Kreling DH. Development of a scale to measure pharmacists' self-efficacy in performing medication therapy management services. *Res Social Adm Pharm*. 2010; 6:155-61.
21. Bandura A. *Social Learning Theory*. New York: General Learning Press; 1977.
22. Bandura A. Self-efficacy: toward a unifying theory of behavioral change. *Psychol Rev*. 1997; 84:191–215.
23. Martin BA, Chewing BA. Evaluating pharmacists' ability to counsel on tobacco cessation using two standardized patient scenarios. *Patient Educ Couns*. 2011; 83:319-24.
24. Pearce J, Mann MK, Jones C, et al. The most effective way of delivering a train-the-trainers program: a systematic review. *J Contin Educ Health Prof*. 2012; 32:215-26.
25. Jin J, Bridges SM. Educational technologies in problem-based learning in health sciences education: a systematic review. *J Med Internet Res*. 2014; 16:e251.
26. Ask Me 3 Words to Watch Fact Sheet. National Patient Safety Foundation (July 2014). <http://www.npsf.org/?page=askme3>. (accessed 2014 December 30).

Table 1: Key communication strategies²⁰

<ul style="list-style-type: none"> • Warm greeting • Eye contact • Listen • Use plain, non-medical language • Slow down • Limit content • Show how it's done • Use teach-back • Repeat key points • Use graphics • Invite patient participation • Encourage questions

Table 2: Pharmacists' perceived level of skill, confidence, and commitment to teach-back and plain language techniques following TBPLT (N=59)

Overall ability to counsel patients using plain language and teach-back techniques ^a	
Before attending the session (post-retrospective)	3.44 (0.65)
At completion of the session	2.49 (0.53)
Self-rated level of skill ^a	Mean (sd)
Identifying the key learner for the medication consult	4.24 (0.59)
Using a conversational style and engaging the learner	4.27 (0.58)
Assessing the learner's baseline knowledge about the medicines	3.93 (0.69)
Choosing appropriate content and words (i.e. plain language) throughout the consult	4.20 (0.58)
Organizing the consult using the "chunk and check" method	3.76 (0.75)
Applying the teach-back method to tailor the consult	3.79 (0.74)
Adapting the information to account for the patient's lifestyle and daily routines	4.02 (0.75)
Summarizing the key points for the consult	4.22 (0.69)
Addressing the learner's misunderstandings in a respectful way	4.17 (0.62)
Self-rated confidence ^b	
Are able to provide adequate counseling when time is limited?	3.85 (0.66)
Can help learners who require additional teaching strategies to overcome learning barriers?	3.97 (0.59)
Can engage learners who seem uninterested in receiving a medication consult?	3.69 (0.70)
Can provide motivation to learners who are struggling with changes (such as medicines, conditions, lifestyle)?	3.97 (0.59)
Know the appropriate methods to "chunk and check" the medication information you provide (divide and organize key points)?	3.97 (0.57)
Commitment to change ^c	
How committed are you to making these changes? ^d	4.37 (0.56)

^a rating scale of 1=poor to 5=excellent

^b rating scale of 1=not at all confident to 5=extremely confident

^c rating scale of 1=not at all committed to 5=very committed

^d N=57

Table 3: Definitions with examples for observed behaviors

Behavior	Example qualifier for meeting behavior
Used plain language	Use of common, non-medical words (<i>Ask Me 3 Words to Watch - Fact Sheet</i>) ²⁶
Introduced self	<i>"Hi. My name is Jamie. I am a pharmacist and I am going to talk with you about your medicines today."</i>
Identified primary learner	<i>"Who takes care of your medicines?" "Who helps you understand your medicines?" "Who helps you take your meds at home?"</i>
Addressed primary concern first	<i>"Before we get started, what questions / concerns do you have for me?"</i>
Used "chunk and check" (Divided and organized key points)	Teach 2-3 main points about the first concept/skill Check for understanding using teach-back (<i>"To make sure I did a good job teaching..."</i>) Does not introduce new points until the learner has mastered the first ones
Used open-ended questions	Greater than five open-ended questions during consultation
Gave practice opportunities	<i>"Now that we have talked through the process for [giving yourself injections], let's have you try so you can do this when you get home."</i>
Provides a summary	Closes conversation by reviewing key take home point of each teaching "chunk" if did not chunk and check, summarizes key items of whole consult
Asked what questions do you have?	Offers patient an opportunity to bring up questions at the end of discharge counseling (open- or closed-ended method)
Checked for understanding	<i>"We've gone over a lot of information today. In your own words, please review what we talked about. How will you make it work at home?"</i>
Used empathy	Relates to the affective state of the patient when showing empathy Engages learner by reflecting back what is heard

Table 4: Direct observations of pharmacists' patient counseling

Behavior	Pre N	Pre TBPLT mean (sd); n=40 observations ^e	Post N	Post TBPLT mean (sd); n=44 observations ^e	p-value
Used plain language	40	1.65 (0.53)	44	1.96 (0.21)	<0.001
Introduced self	40	1.45 (0.78)	44	1.77 (0.64)	0.012
Identified primary learner	38	1.63 (0.75)	40	1.93 (0.35)	0.033
Addressed primary concern first	27	0.59 (0.93)	14	1.79 (0.58)	<0.001
Divided and organized key points	39	0.56 (0.55)	36	1.17 (0.95)	0.003
Used open-ended questions	38	0.87 (0.70)	42	1.09 (0.58)	0.12
Gave practice opportunities	11	0.36 (0.81)	7	1.29 (0.95)	0.039
Provides a summary	38	0.47 (0.73)	44	1.59 (0.73)	<0.001
Asked what questions do you have?	38	1.10 (0.86)	44	1.59 (0.58)	<0.001
Checked for understanding	37	0.05 (0.33)	42	0.86 (0.98)	<0.001
Used empathy	35	1.54 (0.78)	44	2.00 (0)	<0.001

^e 0= not done, 1=done some, and 2=done completely

Figure 1: Training and evaluation study design

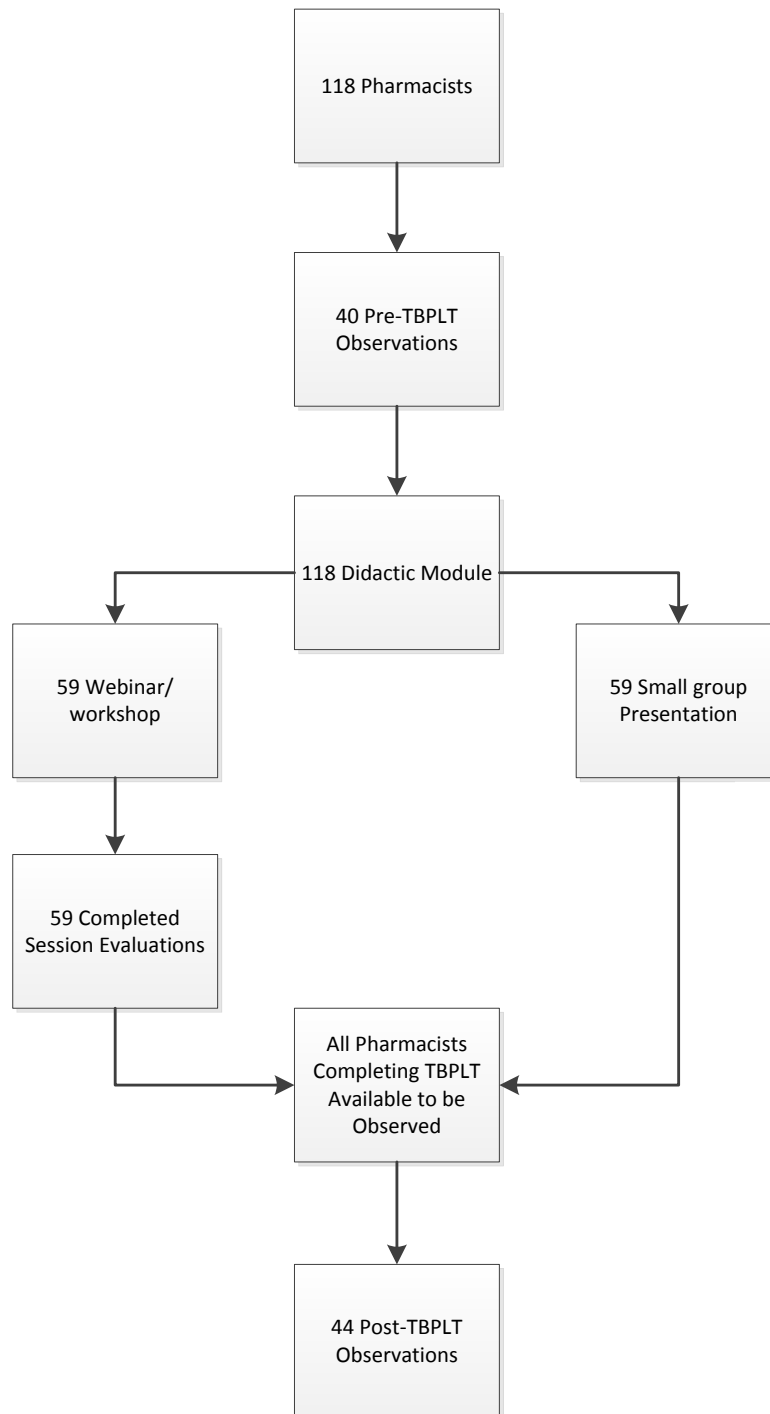


Figure 2: Plain Language and Teach Back Observation Checklist Form

0 – Not done, 1- Done some, 2 – Done completely; Duration of Consultation: _____

# - - - -	0	1	2	N/A	Comments
Setting the Stage					
Introduces self / purpose					
Identifies primary learner (patient/caregiver)					
Adapt positioning to engage learner (sit down, other physical arranging of patient / caregiver)					
<i>"Before we get started, what questions / concerns do you have for me?"</i>					
Assessment of Current Knowledge "What is your understanding of..."					
Indication					
Medication use					
Side effects					
Side effect management					
Strategies Used to Overcome Barriers					
Family member/caregiver present or requested					
Addressed patient's primary concerns first					
Varied teaching approach					
Varied physical position					
Advised patient to use aid (i.e. glasses, hearing aid, be seated)					
Emotional support provided					
Teaching Materials Utilized					
"Show and Tell" medication					
Medication leaflet or brochure					
Medication administration sheet					
Compliance Tools (med box, syringe, cup)					
Video / audiotape					
Support group					
Teaching Strategies Used					
Stated clear expectations					
Chunks and checks					
Demonstrated use of tool/device (leaflet, med box, etc)					
Used open-ended questions (>5?'s = 2 or done completely)					
Provided opportunities to practice					
Clear, specific feedback					
Closure					
Summarizes by repeating key points					
Asks <i>"What questions do you have?"</i>					
Checks for understanding (using "tell me" or "show me" placing accountability on teacher not learner)					
Addresses patient's misunderstandings					
PROCESS	0	1	2	N/A	
Audible					
Uses plain language					
Connects new information to previous experience of the patient					
Focuses on positive statements and behaviors					
Uses a conversational style					
Shows respect, care and concern for the patient					
Maintains eye contact					
Uses reflective listening / empathy					
Uses a pace appropriate for learner					