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The development of a pilot training program for peer leaders in diabetes: Process and content

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Abstract

Purpose—The goal of this study is to describe the process of developing a program that trains peers to facilitate an empowerment-based diabetes self-management support (DSMS) intervention.

Methods—To guide and advise the development process, we formed a peer leader training (PLT) action committee. The committee was an interdisciplinary group (principal investigator, nurse and dietitian certified diabetes educators, nutritionist, physician, and three community members) that met every three months over a one-year period for continuous quality improvement (CQI) meetings. During CQI meetings, the committee reviewed and supervised the curriculum development, provided feedback, and informed modifications and improvements.

Results—The resulting PLT program is a 46-hour training program with two training sessions conducted per week over a 12-week period. The competency-based training program is based on the theory of experiential learning and consists of three major components including building a diabetes-related knowledge base, developing skills (communication, facilitation, and behavior change), and applying skills in experiential settings. All components are integrated within each training session using a wide range of instructional methods including group brainstorming, group sharing, role-play, peer leader simulations, and group facilitation simulations.

Conclusion—Through the process described above, we developed a training program that equips peer leaders with the knowledge and skills to facilitate empowerment-based DSMS interventions. Future directions include conducting and evaluating the peer training program.

Keywords

peer support; self-management; diabetes

Introduction

Diabetes self-management is a critical component of effective diabetes care.^{1–4} According to the American Diabetes Association and the American Association of Diabetes Educators,⁴

diabetes self-management education (DSME) is defined as “the ongoing process of facilitating the knowledge, skill, and ability necessary for diabetes self-care,” and diabetes self-management support (DSMS) is defined as “activities to assist the individual with diabetes to implement and sustain the ongoing behaviors needed to manage their illness.” Given the increasing burden of diabetes, reduced time for physician visits, and rising cost of health care, not all patients have access to DSME and DSMS, particularly patients from medically underserved and low resource communities.^{5–9} For this reason, there is a growing interest in using “peer support” as a potential model for diabetes management.^{10–14}

According to Dennis¹⁵ peer support is “the provision of emotional, appraisal, and informational assistance by a created social network member who possesses experiential knowledge of a specific behavior or stressor and similar characteristics as the target population.” In a systematic review of diabetes interventions involving peer support, Norris et al, found participation to be associated with improved diabetes-related health clinical, behavioral, and psychosocial outcomes.¹¹ For example, some studies have reported improvements in metabolic and cardiovascular functioning including A1C,^{16–20} cholesterol,^{19–20} blood pressure,^{19–21} and weight.¹⁶ Other studies have demonstrated a greater frequency performing self-care behavior such as following a healthy diet,^{19,24–26} engaging in physical activity,^{19,23,25–27} and monitoring blood glucose^{19–22,27} Finally, participation has had a positive impact on quality of life outcomes including improved health status,²⁸ fatigue,²⁵ and self-efficacy.²⁶

To date, peer support research has focused predominantly on the implementation and evaluation of the intervention itself rather than the training process peers undergo to competently perform support-related functions. Of the studies that report a peer training component, few provide a comprehensive and detailed description of the training process.^{14,29–34} For example, Paul and colleagues^{29–30} conducted a 2-evening workshop training peers how to deliver a 9-session, group-based intervention in a primary care setting. Peer training addressed a wide range of topics including the role of peer support, core self-management content areas, issues of confidentiality, in-depth understanding of the study, communication strategies, and group facilitation skills. However, aside from using role-play as an educational training tool, the authors did not discuss how the training was implemented, who conducted the training, what other instructional methods were utilized, what training outcomes candidates were expected to achieve, and whether a post-training assessment was conducted.

Without a clear blueprint of training-related objectives, expected competencies, instructional approaches, learning opportunities, and evaluation methods, we cannot establish whether peers have been adequately prepared to facilitate the self-management intervention under examination nor can we replicate the training process for future investigations.

Some studies report a more rigorous and formalized peer training process to enable peers to deliver discrete, time-limited DSME programs.^{20,35–37} For example, the peer-led intervention component of Project Dulce is an 8-session DSME program based on a standardized curriculum and delivered by trained peer educators.³⁵ During each session, peer educators address a specific diabetes content area (e.g., diet, physical activity,

medications, monitoring) and also encourage participants to share self-management beliefs and experiences. To become a peer educator, candidates must complete a 4-month training curriculum that involves attending 12 weekly classroom-based sessions (2 hours per session) and co-facilitating 8 DSME sessions with a health professional. To successfully graduate, candidates must achieve the pre-specified competencies at each level of training. Evaluation approaches include oral exams, written exams, and field observations. Similar to Project Dulce, Lorig et al's³⁶ diabetes self-management program (DSMP) requires peer leader candidates to undergo an intensive 4-day training process that prepares peer leaders to facilitate tightly scripted DSMS sessions over a 6-week period. While DSMP sessions are highly structured, participant interaction is encouraged and supported by program activities. DSMP trainees receive a detailed peer leader manual and a copy of the workshop's textbook. To qualify as a peer leader, candidates must demonstrate proficiency in delivering 2 practice DSMP sessions.³⁶

Without question, formalized training protocols such as Project Dulce's³⁵ and the Stanford Chronic Disease Self-management Program³⁶ make the preparation and qualification of peer educators clearly defined and transparent. In addition, it allows researchers to replicate this process when designing other peer support interventions.

To date, however, there is a lack of information on training peers to facilitate ongoing, long-term DSMS rather than closely scripted DSME and DSMS sessions. Considering that health care coverage only reimburses for short-term, professionally-led DSME programs, it would seem that peer support could be ideally utilized as a low to no cost, sustainable approach for delivering ongoing, community-based DSMS. To our knowledge, no studies have investigated using peers to serve in this specific role.

To address this deficiency, this paper will describe the systematic process of developing a program training peer leaders to facilitate an ongoing, long-term diabetes DSMS intervention for patients who have recently received short-term DSME. Specifically, we will discuss the following aspects of the program development process (1) forming a Peer Leader Training (PLT) action committee, (2) choosing a theoretical framework, (3) identifying program components, (4) building a program structure, (5) outlining instructional methods, (6) creating an integrated program, and (7) mapping out an assessment plan. While there are multiple terms (e.g., peer supporter, peer educator, community health worker) for individuals who provide peer support, in this paper, we will use the term "peer leader."

Methods

This study was approved by the University of Michigan Institutional Review Board. The goal of the Peer Leader Training (PLT) program is to equip participants with the diabetes-related knowledge, communication and facilitation skills, and behavior change strategies to provide ongoing DSMS. The PLT program was developed by a clinical psychologist and nurse certified diabetes educator (CDE) in consultation with a dietician CDE and physician with expertise in diabetes management. Four health professionals (two nurse and one dietician CDEs, and a clinical psychologist) with extensive experience leading DSME and DSMS interventions for African Americans conducted the PLT program.

PLT Action Committee

At the outset of program development, we formed a PLT action committee. The PLT action committee is an interdisciplinary group whose purpose is to guide and advise the development of the PLT program. Members of the committee include the principal investigator, a nurse CDE, a dietitian CDE, a physician, and three community representatives with type 2 diabetes. In addition to being a member of the community we were targeting, we also intentionally invited community representatives who possessed the interpersonal characteristics (e.g., considerate, responsible, dependable, understanding) we were seeking in our potential peer leader candidates. Given that program development is an iterative process, we built in a series of continuous quality improvement (CQI) sessions. The purpose of the CQI sessions was to facilitate a collaborative interdisciplinary approach to the process of program development. During each CQI session, the committee would review and supervise the development of the curriculum and activities, provide feedback, and inform modifications and improvements. CQI sessions were conducted once every three months.

As an example of a modification made during the CQI sessions, early on in the program development process the committee discussed the eligibility criteria for becoming a peer leader. Specifically, do peer leaders have to have a diagnosis of diabetes or can they also be caregivers/family members of a person with diabetes. Feedback from our three community representatives indicated a clear preference for peer leaders who had a personal history of diabetes and understood, first-hand, what it is like living with diabetes. In addition to this recommendation, they also insisted that training include an in-depth and extensive curriculum on diabetes education topics even if peer leaders were not expected to deliver diabetes clinical content in the subsequent peer support intervention. From the perspective of the community representatives, the more information they knew about diabetes, the more confident they would feel in facilitating groups.

Theoretical framework

We utilized Kolb's experiential learning theory (ELT)^{38–39} as the conceptual framework to guide the development and implementation of the PLT program. ELT postulates that learning occurs in a four-stage process in which individuals can start at any stage (See Figure 1). In the context of peer leader training, an example of this four-stage process would be the following:

Concrete experience: During a group simulation, the peer leader uses a “blaming” statement about a participant's weight loss efforts

Observation and reflection: The peer leader notices how the participant shuts down and disengages.

Abstract conceptualization: The peer leader concludes that, in general, people do not respond positively when they feel “blamed.”

Active experimentation: Using an alternative approach, the peer leader asks the participant what he/she feels is the most difficult aspect about eating a healthy diet. Then, the peer leader uses communication strategies to facilitate reflection and open

discussion, to elicit statements from participants reflecting the desire to make changes (i.e., change talk), and help participants identify of a specific behavioral goal.

In training activities, we created numerous opportunities to engage in the experiential learning cycle.

Program components

The PLT program consists of three core training components: knowledge acquisition, skills development, and experiential learning (see Table 1).

Component 1: Knowledge acquisition—The focus of this component is to help participants build a solid knowledge-base of diabetes-related educational topics including the principles of patient empowerment and the core content areas identified in the National Standards for DSME⁴ (e.g., diabetes disease process, monitoring, long-term complications, etc.) even though peer leaders would not be independently providing this component of the program.

Component 2: Skills development—The focus of this component is to help participants develop the communication, facilitation, and behavior change skills necessary to facilitate an empowerment-based DSMS intervention for patients who recently completed of a short-term, professionally-led DSME program. Specifically, this training program will teach peer leaders how to use active listening skills (e.g., asking open-ended questions, making reflections), empowerment-based facilitation skills (e.g., focusing on feelings, exploring the problem), motivation building skills (e.g., rolling with resistance, eliciting statements reflecting desire to change), and the empowerment-based 5-step behavioral goal-setting process (identify problem, recognize feelings, choose a goal, make an action plan, and experience and evaluate outcome) to accomplish participant-identified goals.

Component 3: Experiential learning—The focus of this component is to create opportunities for participants to apply, practice, and refine their newly acquired skills in experiential scenarios. These scenarios include (1) peer leader simulations where each participant plays the role of a peer leader and presents training-related topics to fellow group participants; (2) role-plays where participants are paired with another participant and take turns playing the role of the peer leader during a training-related interaction, and (3) group facilitation simulations where two participants play the role of two peer leaders who co-facilitate a discussion with the larger group of participants.

Following each simulation, participants are encouraged to complete self- and peer-assessments using a structured feedback forms. This feedback form addresses the following: how comfortable the participant felt working with a partner or presenting to the group, how accurate the information or content was, and how well the participant connected with the partner/group. Following these quantitative ratings, the participants were then asked to respond to two qualitative questions: (1) Describe one positive aspect of their presentation and (2) Describe one area that they could improve and why.

Program structure

To provide an organizational framework for the 12-week program, we devoted each week to a specific core self-management topic (See Table 2). For instance, week one addressed patient empowerment, week two addressed making behavioral changes; week three addressed the diabetes disease process, etc. Two sessions (2 hours per session) were conducted per week. It is important to note that topics that addressed a substantial amount of information (e.g., healthy eating and long-term complications) were allotted three sessions rather than two. Alternatively, topics that could be addressed in a shorter time period (e.g., acute complications, solving problems) were allotted one session.

Instructional methods

We employed a wide variety of instructional methods that were integrated within each training session. These methods include self-assessment, self-graded brief quizzes, peer leader simulations, group brainstorming, group sharing, lecturettes, skills building, role-plays, pair and share, and group facilitation simulations. Table 3 presents the instructional methods used, the purpose of the method, and an example of the method.

Program integration

Table 4 shows how the training domains, training activities, and instructional methods were integrated within each week across the 12-week PLT program. For example, the core self-management topic of week 2 was making changes. In week 2, each session starts with a quiz on materials learned from the previous session. The quiz is followed by the peer leader simulation activity where each participant plays the role of a peer leader and presents on a topic that was addressed in the previous session (e.g., what is patient empowerment). During the skills development activity, the trainers introduce the 5-step behavioral goal-setting model. Finally, to provide an experiential learning opportunity, participants are asked to pair up with another participant and perform a role-play using the 5-step behavioral goal-setting model. Each training session follows this general structure.

Assessment Plan

To successfully graduate from this competency-based PLT program, participants must achieve the pre-established criteria across four competency domains at the summative evaluation (post-program assessment). The four competency domains include diabetes-related knowledge, empowerment-based facilitation skills, active listening skills, and self-efficacy.

Table 5 presents the measures and approaches for conducting both formative and summative assessments across the four competency domains. Formative assessment occurs during the course of training and is educational in nature. Feedback from formative assessment helps participants recognize their strengths and weaknesses and provides the opportunity to reinforce knowledge and improve skills. Summative assessment occurs at the end of the training and is evaluative in nature. Results from the summative assessment is utilized to determine whether participants meet the pre-established criteria for successful graduation.

Pre-established criteria for graduation at summative evaluation includes achieving a (1) score ≥80% on the Diabetes Knowledge Test (DKT)⁴⁰ and Diabetes Knowledge Questionnaire-24 (DKQ-24),⁴¹ (2) mean score of ≥4 on a 5-point Likert scale on the Understanding Management Practice (UMP) scale,⁴² (3) score +2 on at least three of the six empowerment-based facilitation video vignettes and score at least +1 on the remaining vignette responses,⁴³ and (4) mean score of ≥4 on a 5-point Likert scale on an adapted version of the Active Listening Observation Scale-global (ALOS-global),⁴⁴ and a mean score of ≥4 on a 5-point Likert scale on a self-efficacy scale adapted from Heisler&Piette.⁴⁵ To assess active listening skills, we used a standardized patient interview simulation that instructed participants conduct a 15-minute interview with a patient using the 5-step goal-setting process. Participants are given up to three attempts (within a 2-week window following the PLT program) to pass each competency domain for the summative evaluation.

Discussion

Although peer support interventions show promise in improving diabetes-related health outcomes, little published information is available describing the process and necessary content to train peer leaders effectively. The purpose of the present study was to illustrate the process of developing a training program that equips peer leaders with the knowledge and skills to facilitate an ongoing, empowerment-based DSMS intervention.

Some key lessons can be gleaned through the program development process we followed. First, a critical step at the start of the program development process is assembling a team of individuals (i.e., PLT action committee) who will provide important and relevant feedback over the entire course of the development process. Our decision to invite three community members who possess characteristics of our “ideal” peer leader was essential in designing a training program that is feasible and acceptable.

A second important lesson is the need to identify the conceptual framework that will drive the training process. The theoretical underpinnings of the training process should be consistent with and support the theoretical framework of the intervention itself. Our peer-led, DSMS intervention is guided by principles of patient empowerment.^{46–48} A fundamental aspect of patient empowerment is that self-management decisions need to be patient-driven and patient-determined in order to produce meaningful and sustainable behavior change. Patients derive the most benefit from setting their own self-management goals and designing a plan to achieve those goals. If the goal is not achieved, then it is the patient who decides how he/she will modify their plan to increase the chance of achieving success. In other words, it is a process of creating and evaluating a series of behavioral experiments guided primarily by the patient.^{44–47}

To complement the peer-led, empowerment-based DSMS intervention we selected Kolb’s experiential learning theory (ELT) as the conceptual framework for the training program. According to ELT,^{38–39} learning is seen as a process of trial and error where peer leaders make their own decisions, experience the outcome of their decisions, reflect on what factors contributed to the outcome, and then modify future decisions or actions based on their reflection. For example, during our training process, we invite participants to perform peer

leader or group facilitation simulations. Immediately following the simulation, we ask participants to conduct a self-assessment and then ask fellow participants to conduct a peer-assessment of the simulation. Using feedback from the self- and peer- assessments, participants modify or refine the skills needed to improve their future performance. By using a theoretical framework, we have a model to explain or understand the process by which the participants learn and develop.

To date, few diabetes-related peer training programs report using a collection of different instructional methods. In fact, the instructional methods that appear to be most frequently cited are role-play and some form of simulation (e.g., telephone intervention simulation). Given that learners have different learning styles, there may be an advantage to utilizing a wide variety of teaching tools to optimize learning across different individuals. Furthermore, some instructional methods are better suited for the type of information being learned. For instance, to learn the common symptoms of hyper and/or hypoglycemia, group brainstorming might be a preferred teaching approach as it allows participants to call out answers without feeling any pressure to produce a list of symptoms on his/her own. Alternatively, role-play may be most useful when learning and practicing communication skills such as “asking open-ended questions.” Finally, some instructional approaches create a unique environment to practice a specific skill. For example, a group facilitation simulation creates an ideal setting for helping participants learn how to work in a peer leader team, facilitate group discussion, and manage group dynamics. Alternatively, an individual peer leader simulation would not foster the same learning environment.

Sometimes overlooked in peer training programs is the inclusion of a well-defined assessment plan (formative and summative). To determine whether an individual is properly trained to deliver the “intervention”, we need to clearly articulate training expectations and outcomes at the outset of training. Training outcomes establish the specific knowledge areas and skills required to be an effective peer leader and the level of mastery that is expected to successfully graduate from the training program. Also important in the training process is the inclusion of formative assessment opportunities. Formative assessment provides feedback on participant performance during the training process so participants have the opportunity to intervene early if they not applying knowledge or skills appropriately.

Given the long-term demands of living with diabetes, this training development process will be especially important in taking full advantage of the potential flexibility and sustainability of peer support efforts that move beyond the previous short-term, programs. Using peer support as a model for ongoing DSMS underscores the importance of establishing detailed protocols for peer training programs. Without formalized training protocols, it will be difficult to evaluate the value of different aspects of the training process in preparing participants for the duties they are expected to perform as peer leaders. By reporting pre-determined training expectations and outcomes and incorporating a post-training assessment component, we are establishing, upfront, the specific qualifications we are seeking in a peer leader. Finally, should we demonstrate that these peer support interventions are effective, a detailed blueprint of the peer “training process” will be critical when translating these evidence-based interventions with other patient populations and into other self-management support settings.

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References

1. Norris S, Nichols P, Caspersen C, et al. The effectiveness of disease and case management for people with diabetes: A systematic review. *Am J Prev Med.* 2002; 22 (4 Suppl):15–38. [PubMed: 11985933]
2. Norris SL, Engelgau MM, Narayan KMV. Effectiveness of self-management training in type 2 diabetes. *Diabetes Care.* 2001; 24:561–587. [PubMed: 11289485]
3. Mangione C, Gerzoff R, Williamson D, et al. The association between quality of care and the intensity of diabetes disease management program. *Ann Int Med.* 2006; 145(2):107–116. [PubMed: 16847293]
4. Funnell MM, Brown TL, Childs BP, et al. National standards for diabetes self-management education. *Diabetes Care.* 2007; 30:1630–1637. [PubMed: 17526822]
5. Simminerio L, Piatt G, Zgibor JC. Implementing the chronic care model in a rural practice. *Diabetes Educ.* 2005; 31:225–234. [PubMed: 15797851]
6. Agency for Health Care Research and Quality. [Accessed April 27, 2010.] Diabetes disparities among racial and ethnic minorities. <http://www.ahrq.gov/research/diabdisp.htm>
7. Jovanovic L, Harrison RH. Advances in diabetes for the millennium: Diabetes in Minorities. *Med Gen Med.* 2004; 6(3 Suppl):1–13.
8. Zgibor JC, Songer TJ. External barriers to diabetes care: addressing personal and health systems issues. *Diabetes Spectrum.* 2001; 14:23–28.
9. Sprague MA, Shultz JA, Branen LJ, Lambeth S, Hillers VN. Diabetes educators' perspective on barriers for patient and educators in diabetes education. *Diabetes Educ.* 1999; 25:907–916. [PubMed: 10711072]
10. Report of a WHO consultation. World Health Organization; Nov 5–7. 2007 Peer support programmes in diabetes
11. Norris SL, Chowdhury FM, Van Le K, et al. Effectiveness of community health workers in the care of persons with diabetes. *Diabet Med.* 2006; 23:544–556. [PubMed: 16681564]
12. Nettles A, Belton A. An overview of training curricula for diabetes peer educators. *Fam Pract.* 2009;1–7.10.1093/fampra/cmn102 [PubMed: 19176572]
13. Heisler M. Different models to mobilize peer support to improve diabetes self-management and clinical outcomes: evidence, logistics, evaluation considerations and needs for future research. *Fam Pract.* 2009;1–10.10.1093/fampra/cmp003 [PubMed: 19176572]
14. Brownson CA, Heisler M. The role of peer support in diabetes care and self-management. *The Patient: Patient-Centered Outcomes Research.* 2009; 2:5–17.
15. Dennis C. Peer Support within a healthcare context: a concept analysis. *Int J Nurs Stud.* 2003; 40:321–32. [PubMed: 12605954]
16. Wilson W, Pratt C. The impact of diabetes education and peer support upon weight and glycemic control of elderly persons with non-insulin dependent diabetes mellitus (NIDDM). *Am J Public Health.* 1987; 77:634–5. [PubMed: 3565666]
17. Brown SA, Hanis CL. A community-based, culturally sensitive education and group-support intervention for Mexican Americans with NIDDM: a pilot study of efficacy. *Diabetes Educ.* 1995; 21:203–210. [PubMed: 7758387]
18. Corkery E, Palmer C, Foley ME, Schechter CB, Frisher L, Roman SH. Effect of a bicultural community health worker on completion of diabetes education in a Hispanic population. *Diabetes Care.* 1997; 20:254–257. [PubMed: 9051367]

19. Gary TL, Bone LR, Hill MN, Levine DM, McGuire M, Saudek C, et al. Randomized controlled trial of the effect of nurse case manager and community health worker interventions on risk factors for diabetes-related complications in urban African Americans. *Prev Med.* 2003; 37:23–32. [PubMed: 12799126]
20. Philis-Tsimikas A, Walker C, Rivard L, Talavera G, Reimann JOF, Salmon M, et al. Improvement in diabetes care of underinsured patients enrolled in Project Dulce: A community-based, culturally appropriate, nurse case management and peer education diabetes care model. *Diabetes Care.* 2004; 27:110–115. [PubMed: 14693975]
21. McDermott R, Tulip F, Schmidt B, Sinha A. Sustaining better diabetes care in remote indigenous Australian communities. *BMJ.* 2003; 327:428–430. [PubMed: 12933731]
22. Hawthorne K, Tomlinson S. One-to-one teaching with pictures-flashcard health education for British Asians with diabetes. *Br J Gen Pract.* 1997; 47:301–304. [PubMed: 9219407]
23. Keyserling TC, Samuel-Hodge CD, Ammerman AS, et al. A randomized trial of an intervention to improve self-care behaviors of African-American women with type 2 diabetes: Impact on physical activity. *Diabetes Care.* 2002; 25:1576–1583. [PubMed: 12196430]
24. Brown S, Garcia A, Kouzekanani K, Hanis CL. Culturally competent diabetes self-management education for Mexican-Americans: the Starr County Border Health Initiative. *Diabetes Care.* 2002; 25:259–268. [PubMed: 11815493]
25. Holtrop JS, Hickner J, Dosh S, Noel M, Ettenhofer TL. “Sticking to it-diabetes mellitus”: a pilot study of an innovative behavior change program for women with type 2 diabetes. *Am J of Health Educ.* 2002; 33:161–166.
26. Lorig K, Gonzales VM. Community-based diabetes self-management education: definition and case study. *Diabetes Spectrum.* 2000; 13:234–238.
27. Lorig K, Ritter PL, Gonzalez VM. Hispanic chronic disease self-management: a randomized community-based outcome trial. *Nurs Res.* 2003; 52:361–369. [PubMed: 14639082]
28. Griffin JA, Gilliland SS, Perez G, Helitzer D, Carter JS. Participants satisfaction with a culturally appropriate diabetes education program: The Native American Diabetes Project. *Diabetes Educ.* 1999; 25:351–363. [PubMed: 10531855]
29. Paul G, Smith SM, Whitford D, O’Kelly F, Dowd T. Development of a complex intervention to test the effectiveness of peer support in type 2 diabetes. *BMC Health Serv Res.* 2007; 7:136.10.1186/1472-6963-7-136 [PubMed: 17764549]
30. Paul G, Smith SM, Whitford D, O’Shea E, O’Kelly F, Dowd T. Peer support in type 2 diabetes: a randomized controlled trial in primary care with parallel economic and qualitative analyses: pilot study and protocol. *BMC Family Pract.* 2007; 8:45.10.1186/1471-2296-8-45
31. Dale J, Caramlau I, Sturt J, Friede T, Walker R. Telephone peer-delivered intervention for diabetes motivation and support: The telecare exploratory RCT. *Patient Educ Couns.* 2009; 75:91–98. [PubMed: 19013741]
32. Dale J, Caramlau I, Docherty A, Sturt J, Hearnshaw H. Telecare motivational interviewing for diabetes patient education and support: a randomised controlled trial based in primary care comparing nurse and peer supporter delivery. *Trials.* 2007; 8:10.1186/1745-6215-8-18
33. Joshi CE, Rangel L, Garcia O, Brownson CA, O’Toole ML. Integration of a promotor-led self-management program into a system of care. *Diabetes Educ.* 2007; 33 (6 Suppl):151S–158S. [PubMed: 17620395]
34. Thompson JR, Horton C, Flores C. Advancing Diabetes Self-Management in the Mexican-American population. A community health worker model in a primary care setting. *Diabetes Educ.* 2007; 33(6 Suppl):159S–165S. [PubMed: 17620396]
35. Gilmer TP, Philis-Tsimikas A, Walker C. Outcomes of Project Dulce: A culturally specific diabetes management program. *Ann Pharmacother.* 2005; 39:817–822. [PubMed: 15769828]
36. Lorig K, Ritter PL, Villa F, Armas J. Community-based peer-led diabetes self-management: A randomized trial. *Diabetes Educ.* 2009 DOI:10.1177.0145721709335006.
37. Baksi AK, Al-Myrat M, Hogan D, Thomas Z, Whittingstall E, Wilson P. Training programme for peer advisors in diabetes: Are they the expert patients in diabetes? *Practical Diabetes Int.* 2005; 22:119–124.
38. Kolb, DA. *Experiential Learning.* New York, NY: Prentice-Hall; 1984.

39. Johnson, DW.; Johnson, FP. *Joining Together: Group theory and group skills*. 8. Boston, MA: Allyn and Bacon; 2003.
40. Fitzgerald JT, Funnell MM, Hess GE, et al. The reliability and validity of a brief diabetes knowledge test. *Diabetes Care*. 1998; 21:706–710. [PubMed: 9589228]
41. Brown S, Garcia A, Kouzekanani K, Hanis CL. Culturally competent diabetes self-management education for Mexican-Americans: the Starr County Border Health Initiative. *Diabetes Care*. 2002; 25:259–268. [PubMed: 11815493]
42. Fitzgerald JT, Anderson RM, Gruppen LD, et al. The reliability of the Diabetes Care Profile for African Americans. *Eval Health Prof*. 1998; 21:52–65. [PubMed: 10183339]
43. Anderson RM, Funnell MM, Barr PA, Dedrick RF, Davis WK. Learning to empower patients. Results of professional education program for diabetes educators. *Diabetes Care*. 1991; 14:584–590. [PubMed: 1914799]
44. Fassaert T, van Dulmen S, Schellevis F, Bensing J. Active Listening in medical consultations: Development of the Active Listening Observation Scale (ALOS-global). *Patient Educ Couns*. 2007; 68:258–264. [PubMed: 17689042]
45. Heisler M, Piette JD. “I help you, and you help me”: Facilitated telephone peer support among patients with diabetes. *Diabetes Educ*. 2005; 31:869–879. [PubMed: 16288094]
46. Anderson RM, Funnell MM. Patient empowerment: reflections on the challenge of fostering the adoption of a new paradigm. *Patient Educ Couns*. 2005; 57:153–157. [PubMed: 15911187]
47. Funnell MM, Anderson RM. Empowerment and self-management of diabetes. *Clinical Diabetes*. 2004; 22:123–127.
48. Funnell MM, Anderson RM. Patient empowerment: A look back, a look ahead. *Diabetes Educ*. 2003; 29:454–464. [PubMed: 12854337]
49. Anderson, RM.; Funnell, MM. Using the empowerment approach to help patients change behavior. In: Anderson, Barbara J., PhD; Rubin, Richard R., PhD CDE, editors. *Practical Psychology for Diabetes Educators*. 2. American Diabetes Association; 2002.

Figure 1.
Kolb's theory of experiential learning

Table 1

12-week Peer Leader Training (PLT) program

TRAINING DOMAINS	TRAINING ACTIVITIES
Building a diabetes-related knowledge-base	<ul style="list-style-type: none"> • Principles of patient empowerment • Nine critical content areas for diabetes education (e.g., healthy eating, medications, monitoring) • Community-specific resources (e.g., health and mental health clinics for uninsured, government-sponsored health plans)
Developing skills	<ul style="list-style-type: none"> • Active listening • Asking open-ended questions • Making reflections • 5-step behavioral goal-setting • Making a diabetes action plan • Problem-solving • Knowing when to defer and/or refer to a health care provider's expertise
Applying skills in experiential scenarios	<ul style="list-style-type: none"> • Peer leader simulation • Role-play • Group facilitation simulation

Table 2

Program Structure

WEEK	SESSION	TOPIC
Week 1	Session 1	Patient Empowerment
	Session 2	
Week 2	Session 3	Making changes
	Session 4	
Week 3	Session 5	What is diabetes
	Session 6	
Week 4	Session 7	Healthy eating
	Session 8	
Week 5	Session 9	Healthy eating
	Session 10	Stress, coping, and depression
Week 6	Session 11	Solving problems
Week 7	Session 12	Physical activity
	Session 13	
Week 8	Session 14	Acute complications
	Session 15	Long-term complications
Week 9	Session 16	Long-term complications
	Session 17	
Week 10	Session 18	Taking medications
	Session 19	
Week 11	Session 20	Monitoring
	Session 21	
Week 12	Session 22	Refining skills
	Session 23	

Table 3

Instructional methods of PLT program

INSTRUCTIONAL METHOD	PURPOSE	EXAMPLE
Quizlettes	Helps participants reinforce the information and skills learned in the previous training session	List the steps of the 5-step behavioral goal-setting process.
Peer leader simulations	Provides an opportunity for participants to become comfortable taking in a group setting by presenting “lecturette” topics they heard in the previous session.	<ul style="list-style-type: none"> • What is diabetes? • The role of insulin
Group Brainstorming	Invites participants to generate ideas, examples, or responses to a question posed by the trainers.	What are symptoms of high blood sugar?
Group sharing	Invites participants to discuss personal experiences, feelings, and thoughts.	Why do you think you developed diabetes?
Lecturette	Introduces core self-management topics to participants in a brief and succinct manner (no more than 2 minutes)	<ul style="list-style-type: none"> • A1C • Blood pressure • Cholesterol
Skills building	Teaches participants effective communication, facilitation and behavior change skills	Making reflections
Role-plays	Provides the opportunity works in pairs to apply the skills learned.	Each participant will pick a partner and take turns playing the role of the “Peer Leader.” Practice the skill of making reflections using the sample question, “What has taking care of your diabetes taught you about yourself?” After 5 minutes, debrief the interaction.
Pair and share	Encourages participants to share personal diabetes-related experiences and feelings with one another.	Work with a partner to make a list of ways to increase activity in every day life.
Group facilitation simulations	Provides an experiential environment for participants to work in pairs and practice facilitation skills in a group setting.	Two participants are selected to co-facilitate a discussion on Step 5 of the behavioral goal setting process (evaluating how the behavioral experiment went)

Table 4

Example of training process within an integrative structure

Week One Patient Empowerment	Week Two Making Changes	Week Three What is diabetes?	Week Four Healthy eating	Week Five Stress, coping, depression	Wrap-up: Debriefing and Review
Introduction and patient empowerment	Knowledge review: quizlette	Knowledge review: quizlette	Knowledge review: quizlette	Knowledge review: quizlette	
Experiential learning: "being a peer leader"	Peer leader simulation: Patient empowerment	Peer leader Simulation: Focusing on feelings	Peer leader simulation: What is A1C?	Peer leader simulation: Carbohydrate counting	
Knowledge Acquisition: Principles of patient empowerment	Knowledge Acquisition National Standards of DSME: Core areas disease process – healthy eating – monitoring blood glucose and blood pressure - physical activity chronic complications – emotional coping – health behavior change medications				
Skills development: Behavior Change	Self-reflection care appt. Eliciting change talk services Problem-solving Goal-setting Making an action plan		Scheduling and preparing for health Identifying sources for health care Patient-provider communication Applying for health care coverage		
Experiential learning: "being a group participant"	Role-play: 5-step goal setting model	Role-play: Making reflections	Group facilitation simulation: Evaluate action plans	Group facilitation Simulation: Discuss meal planning experiments	
Feedback and Self-Assessment	Structured Feedback and Self-assessment				
Knowledge Exam followed by debriefing of each exam item Group leader simulation: In 2-person teams, peer leaders will be assigned facilitate a session. Structured Feedback Form: Empowerment and MI-based facilitation skills Self-reflection Discussing emotion Eliciting Change Talk Problem-solving Goal-setting Making an action plan					

Table 5

PLT Assessment – Formative and Summative

Competency	Type of Assessment	Formative	Summative
Diabetes-related knowledge	Written exams	Topic-specific quizzes at the start of each session	DKT, DKQ-24 and UMP
Empowerment-based facilitation skills	Self-management video vignettes	During the second training session of each week, participants will be asked to write a 1-sentence response to self-management training vignettes. All participants will self-assess using a rating form. Feedback from trainers will be provided as well.	Participants will watch a series of 6 video vignettes and then write a 1-sentence empowerment-based response.
Active listening skills	Role-play	Two participants are paired and take turns playing the role of the “peer leader” At the end of the interaction, participants are instructed to conduct a self-assessment and to provide feedback to his/her partner using the active listening evaluation form.	---Not applicable---
	Peer leader co-facilitation simulation	Two participants are selected to co-facilitate a group discussion on a topic designated by the trainers. At the end of the discussion, trainers and other group members provide constructive feedback. Peer leaders also conduct a self-assessment.	---Not applicable---
	Standardized patient interview	---Not applicable---	Participants assist standardized patient in using the 5-step behavioral goal-setting process and make an action plan (15-minute limit)
Self-efficacy	Self-report survey	---Not applicable---	Participants complete an 8-item post-program self-efficacy survey