

## **Using Stories to Improve Patient Health Education in a Patient-Centered Medical Home Setting**

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**Abstract.** *This study uses a qualitative, phenomenological approach to investigate the nature of expected outcomes after an educational intervention in a community health clinic. Five participants will be interviewed using questions formulated to elicit narratives about the participant's education experience. Interviews were thematically coded in terms of knowledge, skills, attitude, and stages of behavioral change, acquired by the participant as a result of the intervention (n=6). The study will seek to identify which stage of behavioral change (pre-contemplative, contemplative, determination, action plan, maintenance) the patient belonged to before the interview and investigate whether the patient moved forwards after their participation in the educational intervention.*

### **Background:**

By the 1970s, the US began to see health care costs increase exponentially concomitant with the emergence of the epidemic-like prevalence of chronic diseases among the population. By 2005, 7 out of 10 deaths among Americans each year were from chronic diseases. Heart disease, cancer and stroke account for more than 50% of all deaths each year<sup>1</sup>. In 2005, out of 133 million Americans – almost 1 out of every 2 adults – had at least one chronic illness<sup>2</sup>. As the major causes of these chronic conditions have been cited to be modifiable health behaviors-lack of physical activity, poor nutrition, tobacco use, and excessive alcohol consumption -it is becoming increasingly vital that that patients be encouraged to make healthy lifestyle changes not only for their own benefit but also to reduce health care costs<sup>3</sup>. As the medical community begins to encounter more and more patients with multiple chronic illness and risk factors, it is becoming clear that the chronically ill patients need to be active participants in the management of their care. Furthermore, it is becoming increasing apparent that self-care or self-management is the answer to sky-rocking health care costs.

**Importance of health education.** Patient education is one of the major levers to encourage people to make the healthy changes in their lifestyle. Health education equips

and empowers the patient with the tools necessary to self-manage their chronic illness. If patients do not have the knowledge, skills, and attitudes necessary to make changes, then they will have no other alternative than to keep their old bad habits and negative health behaviors. Education classes have been shown to be effective intervention for patients who are at-risk for adverse outcomes. Favorable outcomes that have resulted from health education include: a reduction in the number of emergency room visits and an increase adherence to prescriptions<sup>4</sup>. Sehnert et al demonstrated that an educational course for activated patients increased appropriate use of health care, decreased drug prescriptions, and increased confidence in self-care<sup>5</sup>. Many studies have shown the importance of effective health education; however, the effect of an educational intervention on a particular individual's knowledge, skills, beliefs, and behavior, can be infinite given that each individual has a specific set of pre-conceived notions and unique background. The educational experience varies greatly from person to person depending on what each patient bring with them to the course (culture, prior experience, knowledge, attitudes etc.). Education scholars have begun to recognize the need to adopt broader perspectives in examining outcomes; thus far, little research considering alternative epistemological perspectives has been conducted.

**Stages of Change Model.** Whether it is the educator or physician who is counseling the patient, specific counseling strategies and language should be used to meet the needs of the patient in order to encourage the desired health beliefs and behaviors. Psychologists, psychiatrists and other health professions interested in behavior intervention, have found that using a stage model for categorizing patient attitude is helpful in adapting and tailoring counseling strategies to meet the needs of the individual

patient. The “stages of change” model proposed that at a particular time, patients are in one of several discrete changes: pre-contemplation, contemplation, determination, action, maintenance, or relapse<sup>6</sup> (relapse stage will be excluded from this particular study). The primary role of the physician, educator or counselor is to identify which stage the patient is currently in, and move them from one stage to the next. Commonly patients will cycle through these stages, which is commonly seen in smokers how return to old habits before quitting permanently. Any education course should seek to provide each patient with an experience that will motivate them and provide them to the knowledge and skills necessary to move to the next stage wherever they may be prior to the course.

Holman et al found success with a 6-week arthritis course that was different from previous arthritis educational programs in that it combined people with different types of arthritis, focused on problems perceived by patients (rather than on the content defined by professionals), was peer led, and taught specific self-care skills<sup>7</sup>. Literature has shown that education must be patient-centered and responds to the patient’s specific needs. Qualitative in-depth interviewing can be useful in conducting a needs assessment when an evaluator is attempting to develop a detailed understanding about how some members of the target population think, feel, and experience a problem. In-depth interview can also be referred to as tapping into a patient “vocabulary universe”- the words they use and their ways of discussing topics<sup>8</sup>.

**Study Design.** The present study sought to use a qualitative; phenomenological approach to conceptualize the nature of the learning outcomes from the perspective of the learners and investigate whether or not the educational experience was effective in improving stage of change. Phenomenology focuses on how people interpret their

experiences in a way that cannot be done using quantitative methodology, and can be used to assess a broad range of outcomes<sup>8</sup>. The phenomenological approach was used to elicit patient narratives in order to gain insight into the effect of the educational program on their perceptions of their own knowledge, attitude, skills, and stages of behavioral change (pre-contemplation, contemplation, determination, action, maintenance). The study will seek to identify which stage of behavioral change the patient belongs at the end of the class, and provide a formative, patient-centered feedback for health educators about how best to transfer the desired skills, knowledge, attitudes and health behaviors.

### **Methods**

**The Patient Education Program.** The study was conducted at AltaMed Medical Health Care Services, a large community clinic network in the Los Angeles area, specifically the West Covina and El Monte sites. It serves the entire family with primary medical care, dental clinics, complete senior long-term care services, senior case management, and the Program of All Inclusive Care for the Elderly (PACE). AltaMed is the largest independent Federally Qualified Community Health Center in the U.S. delivering more than 855,000 annual patient visits through its 43 sites in Los Angeles and Orange Counties.

AltaMed is classified as a level 3 patient-centered medical home (PCMH). To address various problems embedded in the health care system (i.e. rising costs, preventable morbidity and mortality, consumer dissatisfaction etc.), groups such as the American College of Physicians, the American Academy of Family Physicians, and others have promoted the redesign of organizational infrastructure and clinical care processes in accordance with the functional domains of the patient-centered medical

home (PCMH). PCMH is a “team-based model of care led by a personal physician who provides continuous and coordinated care throughout a patient’s lifetime in order to maximize health outcomes”<sup>9</sup>. The seven principles of the PCMH include a personal physician, physician-directed medical practice, whole-person orientation, coordinated and integrated care, quality measurement and improvement, enhanced access to care, and payment reforms<sup>10</sup>.

One of the ways that AltaMed addresses the ‘whole-person’ orientation of the PCMH philosophy is by offering a wide variety of free health education classes to all of their patients such as: diabetes, cholesterol, hypertension, nutrition etc., to empower their patients to making informed decisions about their health behaviors. This study used the patient population participating in a cholesterol and hypertension education class at AltaMed, which are taught by health educators and health promoters. These classes are held 1-2 times a month at various sites within the AltaMed network lasting 45-60 minutes per session. Two individual sessions were observed during the month of August. The course is offered monthly and is focused on making sure patient understand what cholesterol is and the difference between the two types (HDL and LDL) as well as ensuring patient are informed about strategies to reduce blood pressure. Furthermore, Participants in this program should be able to describe why it is important to keep blood pressure and cholesterol under control, and they will learn how high blood pressure and cholesterol affect the body.

**Targeted population of learners:** Learners at the cholesterol education classes have been referred by their primary care physicians (PCP), so all of them suffer from high cholesterol and hypertension. Learners in this community (Commerce, California)

are mostly underserved Latino populations, many of whom are undocumented in the US. The classes referenced in the present study were taught in English, so these particular participants were proficient in English; thus, these patients are likely to be more adjusted to American culture. Each course has an average of 10 participants between the ages of 20-60.

**Data Collection and analysis.** This study obtained verbal consent of the health educators within the AltaMed network to sit-in on their classes and interview their participants as well as verbal consent of the patient before interviews. The study design and aim was explained to health educators prior to classroom observations and interviews. At the start of the course, the health educators reiterated the aim of the study to participants, introduced the interviewer, and explained that the study is apart of the clinics' quality improvement efforts. The health educators asked for volunteers to be interviewed at the end of the class. Prior to the interview process, the study was explained again to ensure patient understanding. The patient was reassured that participation is not required, and they do not have to answer any questions they are not comfortable answering. Letters will be assigned to volunteers to maintain anonymity during data recording and reporting.

Patient interviews were recorded and transcribed. Phrases from the transcripts were be extracted from the interviews that will help lend greater insight into the patient experience. Themes and concepts that were extracted from interviews include: acquisition of knowledge, skills, attitudes, and stage behavioral change. This study interviewed 6 participants (3 participants from each session) with questions designed to elicit stories about their patient educational experience. Questions will be designed to

encourage the participants to tell stories about their participation, and how they expect the class will help them change their behavior. Interview questions will be designed to acquire a narrative about the patients experience with the class and how the participant's expect the class to have changed their behavior, attitudes, skills, and knowledge. Behavioral questions will be designed to identify the patients' stage in the behavior change process according to Levinson et al. (pre-contemplation, contemplation, determination, action, maintenance), and attempt to observe whether or not the class has helped progress the patients' stage. See appendix for full-set of interview questions.

### **Results**

The following are four categories of outcomes that emerged from the data (along with a fifth category for specific quality improvement questions). Phrases used by education participants to describe their experiences are given to illustrate the nature of each category:

#### **1. Knowledge gained from the course:**

- a. *We are Mexican so we like to use chili and eat watermelon, but I know U need to eat some more broccoli and cauliflower and vegetables like that.*
- b. *As Hispanics, ya know, we eat a lot of certain foods and certain spices so the helpful thing to me was the proportion. I knew about the meats and amount of rice but I didn't know how important the veges were, which should be like half the plate. I though it should just be the same size as the amount of meat.*
- c. *Knowing that stress and anxiety and going to raise the BP and sugar level. If I am not going to take car of myself by getting sick like the common cold for example, than that will affect my sugar as well.*

#### **2. Skills gained from the course:**

- b. *And then the labeling and sugar part. I knew that bread and rice turns to sugar. I wasn't aware of like how tablespoons add up and looking at the portions sizes to get the right amount.*

#### **3. Attitudes gained from the course:**

- a. *My neighbor has watermelon season so he's always like here a watermelon. We always grew up on fruits and vegetable but not in small portions, ya know, we always ate so much. Now I know how important the portion sizes are.*
- b. *Before I was more like [to my daughter], "you have to eat!" then I've give up if she refused. I understand now I should have her choosing. So I know I got to push her to eat the food even if she doesn't want to but I am giving her the choice to too. So I can kind of hold it against and be like "you picked it n I didn't, so you need to eat", and not give up so easily. Just try it another way. I feel more confident cause now I can have her {health educator} help that's why I wanted weekly contact. So she [daughter] know its not just mom pushing her and its better for herself to know that we just want her to be healthy. And I want her to be ready for those teenage years when there is going to be a lot of pressure*
- c. *Once you come in here and tell you that your organs are affected by what you have and your livelihood is affected and however long you want to live is determined solely by what action you take here and now. This is a huge eye-opened, which puts me back on track and right where I need to be.*

#### **4. Expected behaviors gain from the course:**

**1. Pre-contemplation:** No patients were in this stage

**2. Contemplation**

*b. It [eating healthier] pretty much been has been in the back of my mind cause I was never like her. I was way thinner and hearing about children getting diabetes and younger people dying of heart disease and stroke. And I want to make sure she's ok. I just starting two three years for myself, but I have always been concerned about her. I didn't know how to go about it and wasn't paying too much attention to it cause I know that she would stretch out and she has been borderline not necessarily obese. And she has always been one of the tallest girls in her class. It wasn't as noticeable.*

**3. Determination**

*a. I have definitely thought about changing and trying to get my niece to encourage me. I have a thing now with my niece she really helps because I really want to see them grow up and I want to be there for them. I don't want to die yet, ya know, I'm to young and I want to see my niece graduation high school. So I have been to get her to make me walk more when we take the kids to the park and swimming.*

**4. Action Plan**

- a. *I really am going to work on portion control*
- b. *My action plan is to get her more involved. Give her the chance to choose [her food]. Adding snacks to her diet and making sure she knows she has to have a snack for school.*

**5. Maintenance**

*c. I started jogging since I got my diagnosis in March. My heart rate got up and I remember it took me like 2-3 hours to get my HR down and had to do breathing exercises. My girlfriend supports me as well. When I come in from a walk and my feet hurt, she will give me a foot rub. I just had my appendix out so I need to be more active. What I have already done is changed my eating habits. And, I added exercise and now I will increase my exercise time from*

*30min to 1 hour. Right now I'm walking 3 miles, if I had the stamina I will increase the mileage.*

## **5. Quality improvements**

*b. Having communication weekly. It does not have to be with them [the patient], it could maybe I could call her to check in or by email, like motivational counseling stuff. She is not the type of kid that likes to be in groups and me neither. So it's more helpful to have individual attention. I wanted meet with her [health educator] in personal one-on-one first, so I can talk about my daughter's individual issues. I not trying to embarrass her [daughter] and make her [daughter] feel uncomfortable.*

*c. I had already seen a nutritionist and a big difference was this was a little over an hour. The nutritionist was 15-20 min. tops. Information was detailed and instructor was knowledgeable. She actuality took the time to hear what we had the say and we feel apart of the class. She talked about foot and eye exams which I had not heard before.*

## **Discussion/Conclusion**

**Purpose.** The purpose of this phenomenological study was to provide deeper insights into the nature of patient education outcomes acquired through in the education course. The study suggests that outcomes can reach far beyond what is typically measured in empirical studies. Most self-management and self-care literature investigate outcomes in terms of events such as the patient's likelihood of a cardiac event post-educational intervention or a measuring quantifiable self-management techniques (i.e adherence to medications). These studies are bound by investigating large sample sizes for statistical power. This study allowed for a description of outcomes from a small sample size, but responses and outcomes are of much deeper meaning to the patient since outcomes are taken from their on perspectives of their experience.

**Overview.** The interview responses suggest that education can fundamentally change the way that patient view their health behaviors and the barrier to changing their health behaviors. As learners discussed and reflected on their challenges, to have these challenges re-framed and provided with suggestions to overcome these barriers, transformational learning was fostered and allowed to take place. Educators have the

opportunity to fundamentally transform the way patients view themselves, their behaviors, and the behaviors of their family members. All participants were able to articulate their individual action plan post-class with an improved level of confidence. Based on these particular patients' perspective, the education course was overall effective in either pushing them to action plan stage or keeping them in maintenance stage while pushing them to improve a certain behavior.

Several common threads and themes can be interpreted from the extracted phrases. One of the most prominent themes was cultural identity. Mostly, all patients had cited their cultural heritage as an inseparable part of their eating patterns and behavioral patterns. *Patient a*, for example, explicitly stated that her family was Mexican; therefore, they tended to eat a lot of chili and watermelon. It is clear that AltaMed's patient population tends to have a strong and proud sense of cultural identity; thus, any educational programs should address the particular eating habits of that individual's cultural heritage. Furthermore, the strength in familial bond was palpable in this population of patients. Almost every patient cited the importance of a family member as motivation for them to change or reported that a family member was an actual barrier to making healthier lifestyle choice. Some of the interviews became very emotional for patients when the topic of family emerged to the surface.

Many patients cited a need to control their portions sizes. Patients tended to be uninformed about how to read portions sizes on food labels and uninformed about appropriate portion sizes for each food group. Patients admittedly tended to overeat in one food group over the others (especially with carbohydrates and dairy) and under-ate when it came fruits and vegetables. Using practical and easy-to-remember strategies to

teach appropriate portion sizes are an effective way to address these issues. *Patient b*, for example, stated that she didn't know that vegetables should be eat twice as much as the meat, and she found it surprising that she needed to check to specific portion size on each food label in order to calculate the appropriate carbohydrate amount (previously she had been just going by the gram amount on the label).

### **Limitation/Future Directions**

**Future Directions.** It was obvious from the transcripts of these interviews that family unity and familial bond are very important to this particular population of patients. Patient's families should be encouraged to participate and be involved in the participant's action plan towards making health lifestyle choice. Moreover, patient's family members need to be held accountable for encouraging the patient positively. When health educators collaborate in the construction action plans for individual patients, questions to ascertain the extent familial support should be asked such as: *what family members are at home to help you with your action plan? What can this family do to support you?*

Patients cited wanting one-on-one attention over the whole-group class setting. The strength of the education course is predicated on how strongly the educator relates to that particular patient's needs and how much does the information speak to their particular barrier and challenges. Obviously, with limitations in personnel, not every patient can receive one-on-attention; however, it should be a goal that every patient receives short individual conversations with the health educator before a group class. Patients are more likely to feel more comfortable and be honest with the educator in terms of their individual barriers to making healthy lifestyle choices. Following up one-

on-one sessions with a group setting is ideal as patient can share and relate to one another's struggles in their journeys to changing their habits. It is also vital that courses acknowledge and reinforce the good changes the patient has already made (patient in maintenance stage) and challenge the patient to keep and improving.

**Limitations.** This study was not designed to be an empirical, quantitative study. Obviously, no causality can be extracted or extrapolated from this study; On the other hand, the small population of patients along with the intimate interviews was effective in extracting a broad range of outcomes from the patient's perspective. There was also a limitation in the number of education classes observed since a patient may have a vastly different experience depending on the health educator who was facilitating the course. The health educator's rapport, knowledge and skill level will inevitably change the patients' educational experience. Future studies should try to compare education courses (one-on-one vs. group setting), identify effective educator best practices, and quantify self-management outcomes such as: prescription use, number of urgent care visits, blood glucose control etc.

This study did not obtain a random sampling of patients. Admittedly, there was selection bias by nature of the study design. Patients who volunteered to be interviewed were more likely to have engaged and enthusiastic about the class and wanted to help improve to class for the educators. People who were willing to be interviewed were more likely to have had their needs addressed during the class and were excited about their action plans moving forwards. Perhaps, the individuals who did not volunteer to be interviewed would have given totally different feedback and interview responses.

There was also some selection bias in terms of English speaking patients being the only ones who were interviewed. This was a limitation of the interviewer who was primarily an English speaker. Perhaps, the patients who spoke fluent English tended to be more Americanized (educated in the US or more familiar with American culture) and therefore have a different set of challenges and experiences with education course. Additionally, patients who attend classes may be more likely to be in the determination, action plan, or maintenance stages, since coming the class is an action step in itself. Patients who are not in these advanced stages of change would have undoubtedly given a totally different set of interview responses.

### Appendix

**Knowledge:** What are the most important things you feel you learned by going to the class?

**Behavioral Intentions:** This line of question will seek to determine which stage of change the patient resides post-class.

**Pre-contemplation:** Have you thought about changing your behavior prior to taking this class? Has this class helped you to think more seriously about changing your behaviors?

**Contemplation:** Describe how this class has helped you understand the behaviors that need to be changed in order to manage your cholesterol and hypertension? Tell me about how you think the class could potentially help you change the management of your cholesterol and hypertension?

**Determination:** Do you feel more motivated to improve the management of your cholesterol and hypertension as a result of the class? Do you feel that the class helped you develop an action? How has the class made you more confident that you can change your behavior, if at all?

**Action plan:** Can you describe your action plan in your own words? How do you expect the class to affect your ability to manage your blood pressure and cholesterol levels?

**Maintenance:** (If patients are past action plan phase): Did the class, in any way, help you to reinforce the good things that you are already doing?

**Attitudes:** To what extent has the course changed your perspective or attitude on cholesterol? To what extent has the course changed your perspective or attitude on hypertension?

**Skills:** Describe the skills that you believe you have gained from this course?

**Quality improvement of process:** What is the best part of the class? What is your least favorite part of the class? Can you describe how you felt during the class? How do you think the class can be improved?

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