Assessing Efficacy of Chronic Disease Self-Management Programs in Schuylkill County, Pennsylvania

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Introduction
Chronic disease is a growing concern in the United States. It is a large contributor to the health care expenses in terms of home health, prescriptions, physician visits and inpatient hospital stays. In 2000, 45% of the population had chronic diseases and 21% of the population had multiple chronic conditions. Eighty-five percent of the population over 65 years of age had one or more chronic conditions. Chronic disease can be defined as “conditions that last a year or more and require ongoing medical attention and/or limit activities of daily living.” With 78% of healthcare spending dedicated to patients with chronic conditions, there was a need for a new approach to treatment.

In the 1990s, Stanford University completed a five-year study to develop and evaluate a Chronic Disease Self Management Program (CDSMP), the results of which were further evaluated in cohort and longitudinal studies that have been carrying on for the last decade. In addition to a 1:4 cost to savings ratio, it was found that the participants had significant improvements in their health status and health behaviors and a decrease in the number of emergency department visits.

The PrimeTime Health program in Schuylkill County offers Stanford’s CDSMP program aimed at improving the health of those living with chronic diseases by helping them make small lifestyle changes and learn positive self-management techniques.

Rationale and Aims
● Schuylkill County ranks 53 out of 67 counties in Pennsylvania for health outcomes and 62 out of 67 for social and economic factors.
● Our aim was to measure the adherence of participants to that learned during the program and identify factors and barriers to adherence.

Methods
Study Design and Subjects:
● Participants in Stanford’s CDSMP workshops as part of the Schuylkill County Primetime Health Program
● Participants that completed the program 6 or more months prior completed an anonymous survey adapted from a previous survey given at the conclusion of the workshop

Data Collection:
● Survey distribution was done by contacting participants over the phone, mailing out surveys, and via program coordinators handing out surveys at senior community centers in Pottsville, Shenandoah, Mahanoy City, and Schuylkill Haven.
● Data about those wishing to participate, those not willing to participate, and those that could not participate at this time was compiled into an Excel spreadsheet.
● Data collected included individual's demographic information (age, gender, zip code, race, living arrangement, education level, and finances) as well as a number of questions used to assess the health improvement changes individuals have made and factors influencing those changes.

Results
The following graphs depict living situation of participants, education level and their independence since taking the class. Pie charts are provided assessing the percentage of participants that have an annual income below the poverty level, that have increased stretching and strengthening since the class, their attendance of religious organizations, and whether they volunteer in their communities or not.
Graph 1: The living situation of participants that took the class.

Graph 2: The independence of participants since taking the class. Of those participants living with at least one person, we measured how reliant they were on them for daily activities, with 1 being completely independent and 10 being completely dependent.

Chart 1: How participants felt about their own stretching capabilities since taking the class, 84% report they have increased stretching since taking the program.

Chart 3: How participants felt about their own strength capabilities since taking the class, 62% report increasing strengthening activities since taking the program.
Chart 2. Percentage of participants who live below the poverty line, 71% self-reported below poverty.

Chart 4. Percentage of participants who are active in religious communities, 84% report regular involvement in organized religious services.

Chart 5. Percentage of participants who are active in volunteering within their communities, 74% of participants report volunteering in the communities or churches.
Graph 3. The level of education of people who took the class.

Discussion
A total of 44 surveys were received out of 84 administered. Forty-eight percent of participants were lost to follow-up. The majority of participants were female (27 out of 44) with males comprising 17 out of 44 received surveys. Additionally, the majority of participants were above 50 years of age and most resided within the Schuylkill County area, which were the target age and location for the program.

The majority of participants reported an improvement in their ability to manage their condition since participation in the program, as was shown by choosing a 5 or higher on a graded scale, with the mode being 8 out of 10. The tentative results of the study align with the expectations of the sponsoring organization. The biggest limitations of these results are the number of participants and lack of information at the 12 month mark. Further following of the participants is required to determine if the self reported improvement is maintained. The survey currently focuses on self reported outcomes in an effort to maintain generalizability across participants. Due to the variations in chronic disease and the vast age range of participants specific health outcomes could not be used without a significant reduction in sample size by disease and age stratified groups.

Specific items of interest for the sponsoring organizations included educational level, income and social involvement of the participants. Future analysis should be done to query the relation of these factors and improvements in health outcomes at the 6 and 12 month post survey mark. Additional research should compare this data to similar populations with a chronic disease and without the class to demonstrate the efficacy of the program.

Conclusions
In conclusion, our survey indicates Stanford’s CDSMP facilitated in Schuylkill County is positively received by the community. Key benefits include an increase in healthful activities such as stretching and strength training exercise.

Future steps include developing strategies to increase participation in the survey. Also, studying the impact of participant demographics and community/social involvement with an ability to successfully implement the goals of the program. Lastly, comparing the graduates of the program to control populations would further demonstrate its impact.

References
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Additional survey findings from The Commonwealth Medical College (TCMC) research project, Spring 2015.

In addition to the poster presentation by the students of TCMC, the survey also sought out participant responses on many other questions regarding Stanford’s Chronic Disease Self-Management Workshop. There were 44 respondents to the survey, of those 2 were listed as age 49 or younger, 5 age 50 – 59, 14 age 60-69, 14 age 70 – 79 and 9 age 80 and above.

Participants were asked “Which workshop tools have you used the most?” Of the 13 tools listed in the Self Management Tool box, participants responded as follows: Physical Activity was the number one response with 23% reporting use of this tool, Using your Mind and Healthy Eating were listed second most, both with 16% of responses, Action Planning and Problem Solving were listed as third most used at 13%, Medications and Weight Management listed fourth at 11%, Understanding Emotions and Communication Skills were fifth at 9%, Breathing Techniques sixth at 6%, Decision Making, Sleep and Working with Health Professionals seventh at 4%, some participants listed multiple tools in their response.

Participants were also asked to report “As a result of the workshop, what is the biggest change you have made for your health?” Responses were as follows: Exercise and Physical activity as well as Healthy Eating were the most popular responses with both of those reported by 36% of the respondents. Other changes participants listed were: Using action planning, better medication management and compliance, using tools for better sleep, better breathing, drinking more water, being more aware of situations, working with health professional and seeing them more often and increasing my social activity.

The survey also asked a series of questions as to how confident the participants were using various tools from the workshop. There responses, averaged below on a scale of 1 – 10 with one being not at all confident and 10 being totally confident) were as follows:

How confident are you that you can:

Manage your condition? 7.9 out of 10 or 79% confident that they can better manage their conditions since taking the CDSMP workshops.

Make an action plan? 7.5 out of 10 or 75% confident that they can make and use an action plan since taking the workshops. Action planning is one of the key skills participants learn in the workshop in order to attain their goals of self-efficacy.

Use the problem solving process? 7.7 out of 10 or 77% confident that they can use the problem solving process to overcome barriers since taking the workshops. The problem solving process helps participants overcome barriers to completing their action plans by working as a group to find solutions to barriers.
Communicate with your doctor? 8.4 out of 10 or 84% confident that they can manage open communication with their health care professionals since participating in the workshops.

Deal with difficult emotions? 7.6 out of 10 or 76% confident that they will be better prepared to deal with difficult emotions since participating in the workshops. The workshop addresses finding the causes of difficult emotions.

Eat healthier? 7.9 out of 10 or 79% confident that they are eating healthier since participating in the workshops. Participant comments showed a particular interest in the label reading section of the workshops.

Be or stay more active? 8.1 out of 10 or 81% confident that they can and will remain more active since taking the workshops. The workshop encourages physical activity as one of the tools to help break the symptom cycle. 59% of participants reported that they are more physically active now than before participating in the workshops. 57% of survey participants reported that they do not have regular access to a gym. Of the 21 participants who answered the question “How much time each week is spent on improving your level of fitness and health?” with hours or minutes per week, the average time spent on improving fitness was 6.62 hours per week.

Manage your stress? 7.2 out of 10 or 72% confident that they will better manage their stress since taking the workshop. The workshop introduces a variety of ways to manage stress including relaxation and distraction techniques.

Make treatment decisions? 7.8 out of 10 or 78% confident that they will make informed treatment decisions since taking the workshops. A decision making process is highlighted in the workshops as a way for participants to make difficult life decisions. The workshop has participants practice using the decision making tool with a partner listing pros and cons of each action using a chart and assigning a number value to each pro and con on the chart in order of importance.

Remember to take medications? 9 out of 10 or 90% confident that they will remember to take medications regularly since taking the workshops.

Manage pain? 7.9 out of 10 or 79% confident that they will better manage pain since taking the workshops using the tools in the self-management tool box.

Manage your fatigue? 7.6 out of 10 or 76% confident that they will better manage fatigue since participating in the workshops.

Additionally, 43 participants reported that they participate in social activities with others outside the home. They reported an average of 3.2 social events and outings per week.

Comments from participants regarding what would they shorten or delete were as follows: “Wish we could have gotten out earlier sometimes. It seems like people were forced to take part in discussion that dragged it on.” “Some of the technical things, don’t remember numbers.” “Never shorten.” “Exercise and physical activity, well aware of what needs to be done.”

Participants were also asked “If you had to change something, what would you change?” “Allow for volunteer discussion.”
“They offered a lot of variety, very good.”
“Extremely well structured, would not change anything.”
“Nothing, very good program, instructors were excellent.”
“More classes”
“Weight”
“Diet components”

Participants were also asked what they felt was the most valuable part of the program and their comments and responses are listed below:
“Found it great, it got them to make time for their health with very simple things.”
“Very well prepared, informative, brought back things I had learned in other classes.”
“Most parts, wish I had the materials to refresh.”
“Liked the groups...talking groups with specific topics and charts very helpful, I felt like I wasn’t the only one going through it”
“Questions that made you look inside yourself and made you think”
“Meditation and being able to talk with other people”
“Getting together with people and having everyone express opinions and gather ideas to help”
“Breathing techniques and using your mind”
“How to manage my disease”
“Action planning”
“Heart Health information”
“Great brainstorming and working together and checking up on each other, great class”
“Food label reading” – several respondents
Exercise/physical activity – several respondents
“Carry out normal activities”
“whole program” – several respondents
“Taking care of health problems”
“Decision making”

The final comments that many participants added reinforced the findings that the program is making a difference in the quality of life of those who participate in the Chronic Disease Self-Management Program (CDSMP).