

Perspectives and Outcomes of a Long and Shorter Community Mental Health Program

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Abstract—The development of the 7-week Alberta Happiness Basics program was initiated in 2010 in response to the need for community mental health programming. This provincial wide program aims to increase overall happiness and reduce negative thoughts and feelings through a positive psychology intervention. While the 7-week program has proven effective, a shortened 4-week program has additionally been developed to address client needs. In this study, participants were interviewed to determine if the 4- and 7-week programs had similar success of producing lasting behavior change at 3, 6, and 9 months post-program. A health quality of life (HQOL) measure was also used to compare the two programs and examine patient outcomes. Quantitative and qualitative analysis showed significant improvements in HQOL and sustainable behavior change for both programs. Findings indicate that the shorter, patient-centered program was effective in increasing happiness and reducing negative thoughts and feelings.

Keywords—Primary care, mental health, depression, short duration.

I. INTRODUCTION

THE topic of mental health wellness and promotion has gained significance in many countries as there is growing communication and recognition of the issue. Specifically, the prevalence of depression worldwide reaches more than 300 million people and accounts for “the leading cause of ill health and disability”, showing an 18% increase in the last decade [1]. Within Canada, the province of Alberta has focused on the integration of health care through the implementation of Primary Care Networks (PCNs). PCNs have developed a proactive approach to manage chronic disease, enhance disease prevention, and further self-management strategies of health [2]. Particularly, the presence of depression in primary care must be noted, as this is where it is commonly addressed. Proper treatment of depression in primary care is needed as Canadians are more likely to report a consultation with their family doctor or general practitioner in regard to their emotional and mental health than consultation with a social worker or psychologist [3]. Because depression lowers an individual’s motivation and ability to initiate the treatment process, a physician’s support is necessary to seek treatment [4].

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In primary care, depression treatment is most effective with patient participation and, moreover, it leads to treatment adherence [5]. Inclusive treatment involves self-management techniques such as cognitive behavioral therapy and mindfulness-based therapy [6]. Supported self-management interventions of cognitive behavioral therapy have lower costs and less risk of dependence than antidepressant medication [7].

Currently, there is little research on patient perspectives of a short term positive psychology behavior intervention implemented in primary care. This study will (1) address the effectiveness of a 4-week program and (2) compare the effectiveness of a 4-week program to a 7-week program that aims to provide self-management in the treatment of mild depression. Ultimately, this study will examine an attempt to enhance access to and utilization of community-treatment programs of depression by exploring participant experiences in such programs and their patient reported outcomes.

II. ALBERTA HAPPINESS BASICS PROGRAM DEVELOPMENT

The program was initiated in 2010 by the Red Deer Primary Care Network (RDPCN) in response to the need for mental health programming in the community. The 7-week program is designed to improve mood, energy, mental and physical health in participants. Through program evaluation, the RDPCN found several populations, including young adults, older adults (over the age of 65), and individuals with low socioeconomic status facing limited access to the program because of the length [8]. Thus, in June 2016, the RDPCN developed a 4-week version of the Alberta Happiness Basics program, which condenses and removes some of the 7-week program’s content, to be available to larger demographics.

III. ALBERTA HAPPINESS BASICS PROGRAM DESCRIPTION

The program consists of two-hour long sessions led once a week at the local PCN by two facilitators. The sessions are co-facilitated by a mental health counsellor and another health professional, such as nurse or kinesiologist. The program is implemented in group sizes of 10-15 people. Each participant is given a journal on the first day which contains the exercises and strategies taught during the sessions throughout the program. There is no cost associated with attendance of either program for the participants; however, participants must pay twenty dollars to cover the cost of the participant journal, which can be waived if the cost is a barrier. Participants are also encouraged to use the journal at home which as space provided to reflect on the practice of new skills and set future goals. The program is evidence based using the most up to

date research in positive psychology. The 7-week program teaches 17 skills whereas the 4-week program teaches 11 skills. Strategies taught in each of the programs are listed in Table I. The 7-week program develops five basic pathways to happiness as identified in positive psychology: positive emotions, engagement, relationships, meaning, and accomplishment [9]. The skills chosen in the 4-week program center on the three original pathways of happiness (positive emotions, engagement, and meaning) declared by Seligman, and supported by research for creating a long-lasting impact [9]. Therefore, it was hypothesized there would be no difference in program length on the ability to create lasting behavior change. The aim of the present study was to determine the effectiveness of the 4-week program and compare the 4- and 7-week program's effectiveness to create sustainable behavior change.

TABLE I
 SKILLS TAUGHT IN EACH PROGRAM

Length of Program	4 Week	7 Week
Skills	Five-Senses Mindfulness	Five-Senses Mindfulness
	Engaging in Positive Emotions	Engaging in Positive Emotions
	Be Physically Active	Be Physically Active
	Think and Write about a Positive Experience	Think and Write about a Positive Experience
	Optimistic Thinking	Optimistic Thinking
	Savor	Savor
	Time Use and Meaning	Time Use and Meaning
	Do Good Deeds	Do Good Deeds
	Three-Minute Breathing Space	Three-Minute Breathing Space
	Finding Your Flow	Finding Your Flow
	Overcome Overthinking	Overcome Overthinking
Share What Went Well	Share What Went Well	
Things to be Grateful For	Things to be Grateful For	
Practice Mindfulness	Practice Mindfulness	
		Plan a Date
		Write a Gratitude Letter
		Share What Went Well
		Your Best Possible Self
		Set Goals to be your Best Possible Self
		Things to be Grateful For

Note: The 4-Week program teaches 11 skills and the 7-Week program teaches 17 skills.

IV. METHODS

A. Program Participants

In the program year of 2016/2017, 379 individuals were referred to attend the program, 146 individuals attended the program (39%), and 108 individuals graduated the program (74%). Participants, who must be 18 years of age to be enrolled in the program, received a referral from their doctor. Inclusion criterion for the program is a clinical diagnosis of mild depression or depression-like symptoms. Participants excluded from the program were those who were severely depressed, specifically, showing suicidal thoughts. Participants, who were not suited for the program, were recommended by the facilitators to utilize a one-on-one counselling service, which would be more beneficial to their needs. Exclusion criteria from the current study was completion of both program lengths ($n= 3$).

B. Design and Procedure

To examine the effectiveness of the program, a mixed-method design was used. Participants were contacted by

telephone interviews at three time's post-program completion: 3 months, 6 months, and 9 months (see Table II). Telephone interviews were conducted at the RDPCN. Participants who could not be reached by phone were called on three separate occasions before being excluded from the study. All participants provided verbal consent to the interview and audio-recording. Open-ended questions were asked to capture participant's experiences in the program using six interview questions:

- 1) What did you like best about the Alberta Happiness Basics program?
- 2) What would you improve about the Alberta Happiness Basics program?
- 3) Tell me about the changes that you have been able to make following the program?
- 4) Tell me about whether you have been able maintain these changes?
 - a. What are some of the challenges?
- 5) Do you recall using the Happiness thermometer? (Rating your happiness from -10 to +10) If yes, how would you rate your current happiness today?
- 6) Have you previously completed any programs similar to the Alberta Happiness Basics program? If so, what were they?

HQOL (Short Form 12 version 2) assessments were collected from participants in one of the PCNS, as a part of the Alberta Happiness Basics program evaluation, and accessed post-program for this study. This provided additional quantitative evidence of patient reported outcomes resulting from program participation. The data were collected during the initial session (Week 1) and final session (Week 4 or 7) of the program. As this study examined participants in a retrospective manner, self-reported HQOL assessments were not collected after program completion.

TABLE II
 COHORT TIMELINE

Program Length	Date of Program	3-Month Follow-up	6-Month Follow-up	9-Month Follow-up
4-Week	June 2016	October 2016	January 2017	-
	Aug-Sept 2016	December 2016	March 2017	June 2017
	Sept-Oct 2016	January 2017	April 2017	July 2017
	November 2016	February 2017	May 2017	August 2017
	Jan-Feb 2017	May 2017	August 2017	-
7-Week	Aug-Oct 2016	January 2017	April 2017	July 2017
	Oct-Nov 2016	February 2017	May 2017	August 2017
	Jan-Feb 2017	May 2017	August 2017	-

Note: This timeline shows the month at which participants received the telephone interview after completing the programs.

C. Measures

The *Health Quality of Life Short Form 12 Version 2* assessed patient reported outcomes as a result of program participation. This 15-item health assessment was used to

provide a mental (MCS) and physical (PCS) composite score derived from eight domains of health. Additionally, three questions included in this version provide a mental health enhanced score, which comprises the full mental health assessment of the *SF-36v2*, offering more precise screening for depression [10]. Scores range from 0-100 with 0 reflecting low level of function and 100 reflecting high level of function.

A global, self-reported scale, namely *The Happiness scale thermometer*, was used to measure participants' happiness level. Participants rate their current happiness level on a scale ranging from -10 to +10 at the start of the program, at the end of the program, and during every post-program interview (3-, 6- and 9-months).

D. Statistical Analyses

Descriptive, ANOVA, and group statistical analyses were performed using SPSS Version 21. Repeated measure general linear models were used to assess pre- and post-program changes within participants' scores on the self-reported measures of health and happiness.

E. Qualitative Analyses

The open-ended questions posed in the interview were transcribed, read, and analyzed for emerging themes. The interview transcriptions were coded using NVIVO 10, software for qualitative data analysis. Thematic coding was used to identify keywords used to answer research questions. To validate emerging themes identified, transcripts were analyzed separately by two additional independent coders. This allowed for a more robust approach for devising themes, and ultimately, achieved higher accuracy. Themes were chosen by the prevalence occurring in the text, as well as the significance, which the coders identified by explicit words and phrases within the transcripts. Themes were identified through consensus by the three independent reviewers.

V. RESULTS

A. Participant Characteristics

This study included a sample of 53 participants between 20 and 79 years of age ($M = 50$; $Mdn = 53$), who participated in either a 4- or 7-week Alberta Happiness Program from a PCN in Alberta. The program length was chosen by participants based on preference. There were no significant demographic differences, such as age or gender, at baseline measures between participants in the short and long programs. Participants were recruited from three PCNs in Alberta in the Red Deer and Calgary area. Upon completion of the survey, participants were asked to note their willingness to be contacted for future interviews.

The overall response rate of this study at the 3-month follow-up was 66%, which represents 53 of 80 possible participants that had completed the program. Of the 53 participants, 36 attended the 4-week program, 14 attended the 7-week program, and 3 completed both programs and were excluded from the study. Table III lists the subsequent response rates from follow-up interviews. The attrition rates in this study were 44% and 50% at 6 and 9 months, respectively.

TABLE III
CHARACTERISTICS AND RESPONSE RATES OF THE PARTICIPANTS

Characteristic	Frequency (%)		
	3-month	6-month	9-month
4-week program	36 (72)	19 (68)	9 (64)
7-week program	14 (18)	9 (32)	5 (36)
Female*	29 (71)	17 (68)	8 (57)
Male*	12 (29)	8 (32)	6 (43)

Note: *Participant data on gender was only given for participants in limited PCN settings.

B. Quantitative Results

There was no significant effect of program length on the overall change of participants' domain scores, $F(1, 38) = 0.197, p = .660$. Furthermore, there was no effect of program length on the change in mental health composite scores, $F(1, 38) = 0.003, p = .954$, physical health composite scores $F(1, 38) = 0.018, p = .893$, or mental health enhanced scores, $F(1, 38) = 0.988, p = .327$. Assuming both programs did not significantly differ, the participants in both programs were examined as a single sample for changes in the eight domains of health. Paired samples t-test revealed participants showed significant increases in all domains of mental health: role emotional; $t(39) = -4.305, p < .001$, mental health; $t(39) = -5.501, p < .001$, social functioning; $t(39) = -4.529, p < .001$, and vitality; $t(38) = -4.906, p < .001$. Additionally, participants showed significant increases in general health $t(39) = -4.01, p < .001$, see Table IV.

C. Qualitative Thematic Analysis of Interview Responses

Key topics discussed in the interviews directed the coding of interview transcripts. The themes represent interview-guided constructs used to identify program areas that were successful, needed improvement, provided continual strategy use, and challenges identified post-program. All the data collected during interviews were combined and four similar themes with 12 subthemes emerged.

1. Success of Program. Overall, satisfaction with the program and positive experience within the program were prominent themes with several subthemes.

Course material: The information that was provided in the class was useful and interesting for the participants. Participants reported using the journal to refer back to the knowledge learned within the program.

Instructors: The facilitators were said to be upbeat, engage participants in a positive manner, and keep the course on track with time. The importance of the facilitators was recognized and their attitude maintained a positive atmosphere throughout each session.

Applied nature: Several participants had prior misconception about group therapy as they did not realize the practicality of skills that were taught. Because the strategies are practiced within classes, the participants agreed the flexibility of the skills allowed learning to be more enjoyable.

Group dynamic: The experience of interacting with others was inclusive and provided an enhanced connection between participants:

"I liked how we were [all] together, and we are going

through all of it together, and that we all got to share our experiences”

In addition, the group of participants provided another layer to the learning environment through the ability to discuss what was helpful or challenging with the strategies taught. The benefits of socialization extended outside the classroom and participants noted better ability to get along with others and feel good about themselves.

2. Areas of Program Improvement

Program length: Overall, participants were satisfied with the length in both programs. Furthermore, many participants mentioned they would not modify the 4-week ($n = 14$; 39%) or 7-week ($n = 7$; 50%) Alberta Happiness Basics program. However, the lower number in the 4-week program reflects the suggestion to extend the length. Once introduced to the program, participants enjoyed the material, and they were motivated to spend additional time to seek further benefits.

Classroom involvement: Instructors were encouraged to minimize talking sprees of other participants and encourage more equal participation among group members.

Additional contact: Several individuals reported another form of contact with other participants post-program would be beneficial.

3. Barriers Identified Post-program

The greatest challenge mentioned was the establishment of a habit outside of the program by the participants after completion. The barriers reported fall into two subthemes.

Personal: Without dedicated time, which the program provided, a commonly cited barrier to habit formation was a lack of personal time to practice the learned skills. Additionally, old habits, stressful circumstances, and health issues were cited as personal barriers. Those in the 7-week program reported fewer personal barriers perhaps reflecting that the additional three weeks was beneficial to establish the habit. Often, participants did not mention the names of the skills they were taught; however, they mentioned changes made that reflected the skills.

Environmental: Participants acknowledged external barriers in their lives they could not control. For example, the inability to control other individual's attitudes and needs, or workplace demands.

4. Continual Strategy Use Post-Program

A majority of participants recalled areas in their lives where they continued to practice strategies taught in the program. The practice resulted in a diverse set of reported benefits.

Physical changes: Sustained exercise habits were most frequently stated. Mainly, individuals learned the impact of physical exercise on mental health and were encouraged to seek the benefits. Participants also mentioned the ability to fall asleep at night, maintain sobriety, and reduce chronic pain.

Stressful situations: In both programs, participants described the ability to respond differently to situations, think in a more optimistic manner, and engage in happiness more frequently. Many referred to the difference in mood by their conscious decision to reframe thoughts and notice destructive

thinking.

Self-care: Strategies taught emphasized self-care in many aspects of health. For example, participants used goal setting, time management, savoring, and journaling to promote positive well-being.

VI. DISCUSSION

This study aimed to assess the effectiveness of a short-duration positive psychology program, as compared to an established, effective, 7-week program. This study found that both programs were equally effective at enhancing post-program quality of life and creating sustainable behavior changes, which supported the hypothesis. Both qualitative interviews among participants and the quantitative mental health scores demonstrated improvements in health resulting from participation in either the 4- or 7-week program. Mental health benefits showed statistical significance, yet physical benefits of program attendance were also noted (see Table IV).

The need to develop accessible programs in primary care is fundamental to addressing high rates of anxiety and depression. Generally, shorter duration programs motivate participation and may allow more individuals with low socioeconomic status or working in positions within the resource sector to attend. Canadian statistics show that the greatest reported barriers to a program are accessibility issues, such as cost or scheduling conflicts, which is prominent among low-income households [11], [12]. The 4-week programs examined in this study support evidence that short duration programs have a greater age range of participants. Interestingly, this finding is in alignment with Australian statistics, which report lowest program numbers among the youngest and oldest age groups [13]. Previous research has found community-based programming designed to improve psychological well-being and sustain living within the home longer to be beneficial for older adults [14].

The sustained behavior change reported here resulted in improved self-reported health outcomes and was not dependent on program length. This provides evidence from the patient's perspective that shorter length programs can be beneficial to patients in primary care settings. The objectives targeted by PCNs are to create a healthy population by a team of health professionals:

“PCN Evolution is laying the groundwork for every Albertan to have a medical or health "home" anchored by a physician with the support of a broader health care team for improved access, increased services and ultimately better care” [15].

This study furthers knowledge about participation in community health programs to address mild depression and anxiety that initially presents to family physicians in primary care settings. Attendance at a group-based, cognitive-behavioral and mindfulness therapy program has shown to significantly decrease depressive and anxiety symptoms over the course of four sessions [6]. In addition, previous research has found the effectiveness of single, brief mindfulness interventions, as short as ten minutes, to be beneficial for

chronic illness by enhancing mood, coping strategies, reducing pain, and lowering psychological distress [16]-[18].

TABLE IV
 MENTAL AND PHYSICAL DOMAINS ON QUALITY OF LIFE

SF-12v2 Domain	Pre <i>M (SD)</i>	Post <i>M (SD)</i>	<i>t</i> -test	<i>p</i>	Reflective Themes
Role Emotional	37.63 (10.23)	44.62 (8.86)	-4.305	<.001*	“Wanting to be joyful in spite of my circumstances [has] sort of been the goal because we can't control the circumstances, but we can control our response.”
Mental Health	39.67 (9.19)	47.28 (7.68)	-5.501	<.001*	“If things do go awry, which quite often happens, then I will just take some time, and calm myself down and breathe deeply. Just try to realize my part in whatever has happened and to figure out what I can control and what I can't control.”
Social Functioning	40.16 (10.65)	47.48 (9.09)	-4.529	<.001*	“I just got a little more involved socially. But also I applied when I got bad, I applied and got counselling and that's really been a big help. Just being able to talk on a regular basis. I don't even go that often, but I just need a little bit of contact like that.”
Vitality	43.36 (8.26)	49.04 (7.72)	-4.906	<.001*	“It really got you thinking about the small things in life that you forget to keep you happy. It helped you reflect on just taking time for yourself and noticing the small things such as nature or slowing down life and just taking a moment to breathe.”
Role Physical	45.66 (10.49)	48.42 (7.79)	-2.532	.015	“Yeah, I will think back into old habits and that's good for a bad day always. But again, I feel that I can spot that, you know, and I can say okay, time for a walk, or I'm going to go down to the drop in and do something.”
Physical Functioning	47.24 (11.07)	49.09 (9.00)	-1.328	.192	“I am going to the gym. And so taking care of my physical well-being now as well as the mental [well-being].”
Bodily Pain	47.00 (10.19)	50.31 (9.29)	-2.579	.014	“On the other side of hip surgery, the pain makes a huge difference and while I'm [in] rehab with that, there's still work to do there. I think overall, that has made a huge, difference not that the constant, constant pain.”
General Health	44.47 (10.89)	48.24 (9.88)	-4.007	<.001*	“I've been more focused on my healthy eating and physical exercise because I know when I do those things I feel awesome so I try to do things that make me feel awesome.”

Note: * Those with a * indicate statistical significance with an adjusted Bonferroni correction.

Both programs significantly improved mental health status (and interestingly physical health status scores). Although this variable was not assessed over the 9-month interview process, the Happiness Scale was. Post-hoc analysis demonstrated that this scale and the baseline measure of HQOL were highly correlated ($r(29) = .424, p = .0117$). In addition to reports of sustained behavior from interviews, the happiness scale scores did not change over time suggesting that repeated assessments of HQOL may have also been although not collected in this study.

The need for greater access to the program led to the development of the 4-week program. The shorter program showed no differences in its ability to sustain behaviour change over long periods (9 months in this study). Those who sustained the behavior changes at 9 months may have been more likely to complete subsequent interviews, as each interview served as a reminder for participants to continue the changes made. This possibility offers a suggestion for primary care to provide follow-up contact upon program completion and reinforce the self-management approach. Future research may examine the utilization of mobile technology that promotes healthy living with self-management techniques and continued support from primary care [19].

VII. LIMITATIONS AND FUTURE DIRECTIONS

A *t*-test of the *SF-12v2* baseline scores comparing those individuals completed interviews at 9-months ($M = 0.64$) to those that dropped out of the interview process after 3-months ($M = 0.62$) showed that those lost to attrition did not have significantly worse HQOL scores ($t(59) = 1.097, p = .277$). Therefore, another factor may have influenced their ability to achieve behavior changes to improve their condition and their participation in the interview process at 6- and 9-months. In

this study, participants who have completed the program were contacted; however, there may be additional barriers to program entry and completion that require further research. For example, there is potential for a response bias in the participants contacted at each subsequent follow-up interview, and the positive changes noted by 4-week participants may not reflect the experience of all participants. Individuals who did not complete the program in its entirety may also face barriers to obtain support within primary care. However, the intent of this study was to determine the ability of a short-duration program to create sustainable behavior change, which was demonstrated by comparing patient perspectives to those participating in a 7-week program.

VIII. CONCLUSION

The current study compared patient perspectives (qualitative interviews and HQOL assessments) of a shorter (4-week) and longer (7-week) community based program developed to address mental wellness needs in primary care settings. It demonstrated that the 4-week program was as effective as the longer 7-week program. Participants showed significant increases immediately following program completion in patient reported HQOL assessments. They also reported behavior changes that were sustained across a 9-month period following program completion. Quantitative assessments of “happiness” that correlated highly with HQOL were also sustained in participants across this period. The results here provide evidence and support that shorter duration community based programs to address mental health needs of patients that present to primary care physicians can effectively manage their symptoms.

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