THE DEVELOPMENT OF AN EVIDENCE-BASED AND PARTICIPANT-CENTERED CARDIAC REHABILITATION EDUCATION CURRICULUM

by

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A report submitted to the School of Graduate Studies in partial fulfillment of the

requirements for the degree of

Masters of Nursing

School of Nursing

Memorial University of Newfoundland

October 2017

St. John's Newfoundland and Labrador

Abstract

Cardiac rehabilitation (CR) is considered a standard of care following a cardiac event. Prince Edward Island (PEI) did not have a formal outpatient CR program until February of 2017. The purpose of this project was to create an evidence-based and participantcentered CR education curriculum to be utilized by staff and delivered to participants in the new CR program in PEI. *Methods:* A literature review was performed to determine the benefits of CR, the patients' perceptions of learning needs following a cardiac event, and the effectiveness of SMART goal setting, Knowles' Principles of Adult Learning, and King's Theory of Goal Attainment. Experts with experience in CR and a patient who had an experienced an acute myocardial infarction were surveyed to determine what content should be included in CR education and how the content should be delivered. Thirty SMART goals set by former participants of a CR program in PEI were reviewed to determine typical health and wellness goals. The qualitative data collected were analyzed using the process of content analysis. *Results:* Cardiac rehabilitation programs have been shown to reduce mortality, improve symptoms, reduce smoking rates, increase exercise tolerance, reduce risk factors for cardiovascular disease, improve psychosocial wellbeing, and prevent hospital readmissions. The consultations revealed a need to include selfmanagement skills and Knowles' Principles of Adult Learning in cardiac education. The most frequent goals set by CR participants were related to physical activity and diet. Conclusion: Data collected from clinical experts and participants in CR, best practice guidelines, and critically appraised literature can provide multidimensional information that can be utilized to guide the creation an evidence-based and participant-centered CR education curriculum.

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Acknowledgements

I would first like to thank my faculty advisor, Donna Best of the School of Nursing at Memorial University, for her patience and expertise throughout the development of my practicum project. Although this paper is my own work, Professor Best acted as an excellent compass to steer me in the right direction when I began to drift off course and I am very grateful for the time she has invested in mentoring me throughout this academic journey. I will do my best to pay it forward.

I would like to sincerely thank the subjects who responded to my survey questions and the cardiac rehabilitation participants whose data I collected. Your contributions made this work meaningful and have enriched the data immensely.

Lastly, I would like to acknowledge all of the brave and inspirational individuals who are living with heart disease. The patients I have worked with during my time as an intensive care unit nurse and those I have encountered in the cardiac rehabilitation setting have inspired me to pursue and complete this project.

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Table 1 Effective Teaching Methods

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The Development of an Evidence-Based and Participant-Centered Cardiac Rehabilitation Education Curriculum

Cardiovascular disease (CVD) is a leading cause of death and hospitalization in Canada (Canadian Institute of Health Information, 2011; Janssen & Katzmarzyk, 2009). Cardiovascular disease is the greatest financial burden to the Canadian health care system. The total direct and indirect cost of CVD is estimated at 21 billion dollars annually (Tarride et al., 2009). The burden of CVD can be reduced through cardiac rehabilitation (CR) programs that include exercise prescription, health behaviour modification, risk factor reduction, and psychosocial support (National Clinical Guideline Center, 2013). The purpose of CR is to prevent disease progression, reduce the incidence of cardiac events, and improve the quality of life for those affected by cardiac disease (Stone, Arthur, & Suskin, 2009). The Canadian Association of Cardiac Rehabilitation (CACR, 2009) has established recommendations for the core components of CR programs. These recommendations include a systematic referral process, patient assessments, health behaviour interventions, risk factor modification, accessibility strategies, self-management tactics, exercise training, leisure time activities, outcomes assessments and performance measures, continuous quality improvement programs, and continuous professional development (Oh et al., 2009).

The benefits of CR stem from combining exercise and cardiac education. The education component of CR programs provides participants with the information they need to engage in heart healthy behaviours (Ghisi, 2014). There is evidence to support participant can have a positive and measurable and measurable impact on those who have suffered a cardiac event secondary to CVD. A meta-analysis of 28 controlled trials looked

at both behavioural and clinical outcomes in cardiac patients who received secondary prevention education and found that cardiac education helped to reduce blood pressure, reduce mortality rates, improve exercise habits, and positively impact eating habits (Mullens, Mains, & Velez, 1992). That study also looked at the delivery of education material and found strategies like giving participants feedback, providing individualized care plans, teaching self-management skills, identifying available community resources, and ensuring the content was relevant to the learners resulted in positive patient outcomes (Mullens et al., 1992). A number of systematic reviews have supported the link between patient education and positive behaviour change (Aldcroft, Taylor, Blackstock, & O'Halloran, 2011; Ghisi, Abdallah, Grace, Thomas, & Oh, 2014). When participants are given the information they need to make informed decisions about how to improve their health and wellbeing they are better able to self-manage their heart disease and overall health.

Cardiac rehabilitation programs should deliver education in a way that is participant-centered, goal and action orientated, and take into consideration the principles of adult learning (American Association of Cardiovascular and Pulmonary Rehabilitation (AACVPR), 2013; Knowles, 1980; Stone, Clark, & Arena, 2009). Involving the participants in setting health care goals is more effective at motivating behaviour change than clinician-directed goal setting (MacGregor et al., 2006).

Health PEI recently secured funding through the Provincial Government of Prince Edward Island to launch a new CR program in February of 2017. Health PEI is working in partnership with the University of Prince Edward Island and the Credit Union Place to deliver outpatient CR programs in two cities, with a long-term plan to launch in four

cities across PEI over the next two years. Prior to this program there was no structured or formalized CR offered to patients recovering from cardiovascular events. Acute care nurses and attending physicians provided discharge instructions and physicians reinforced rehabilitation strategies during follow up appointments, however, there was no standardized approach. This program is now filling a health delivery gap for this population in PEI.

The benefits of CR are undisputed in the literature and the core competencies required of CR programs have been established, however, there are no *specific* guidelines surrounding what education content should be delivered and how. Although participant-centered goal setting is encouraged, there is limited published material related to the effectiveness of SMART goal setting (Doran, 1981) and the use of SMART goals in the CR setting.

The manager of the new CR program in PEI was involved in a small CR pilot project. The pilot project's CR education curriculum consisted of six PowerPoint Presentations developed by the nurse who participated in the pilot project and a textbook from the Heart and Stroke Foundation titled *Living Well with Heart Disease* (Heart and Stroke Foundation, 2016). Myself, the newly hired front line staff, and the program manager all agreed there was a need to create a more robust curriculum that would be evidence-based and participant-centered. See Figure 1 for a depiction of the practicum project.

Figure 1 – Depiction of the Practicum Project



There are four advanced nursing practice competencies: Research, consultation and collaboration, leadership, and clinical practice (Canadian Nurses Association, 2008). The development of this project has assisted me in developing and refining my advanced nursing practice skills. The following is a list of project objectives and the corresponding advanced nursing practice competency the objective supports:

Overarching goal: Create an evidenced-based cardiac rehabilitation curriculum that takes into consideration best practice guidelines for cardiac rehabilitation programs and participants' perceptions of learning needs following a cardiac event to assist participants in achieving their wellness goals following a cardiac event and to help guide educators in delivering quality education to participants in cardiac rehabilitation.

Advanced nursing practice competencies (CNA, 2008): *Research* –Utilize researchbased innovations for improving client care, organizations, or systems; utilize research that enhances or benefits nursing practice; critique, interpret, apply and disseminate evidence-based findings; collect data on, and evaluate the outcomes of, advanced nursing practice for clients, the nursing profession and the health-care system. *Leadership* – Identifying gaps in the health care system and developing partnerships to facilitate and manage change; advising clients, colleagues, the community, health care institutions and policy makers on issues related to nursing, health and health care. *Collaboration* – Initiate timely and appropriate consultation and collaboration with other health-care providers.

Theoretical Framework

Theory is the backbone of research. Theories should be adequately tested before they are considered valid. King's Theory of Goal Attainment (KTGA; King, 1991) is considered a grand nursing theory that describes the nurse-patient relationship and the process of reaching mutually agreed upon patient goals. King's theory has been used to frame nursing education curriculum, has a focus on goal attainment, and has been applied to clinical practice (Wills, 2007) and has been tested and validated in nursing practice (Draaistra, Singh, Iredland, & Harper, 2012; Froman, 1995; Khowaja, 2006; McGirr, Rukholm, Salmoni, O'Sullivan, & Koren, 1990). King's theory is complex but general enough so that it can be applied to nursing practice, education, research, and administration (King, 1997).

The ultimate goal of KTGA is to describe the process of patient goal attainment and how this process functions to restore health. Nurses and patients have previous experiences, perceptions, and judgments that determine their actions. When a nurse-

patient relationship is formed, the nurse and patient share their experiences, perceptions, judgments, and proposed actions (King, 1991). The nurse and patient each have preconceived opinions about what is of greatest importance or concern. The nurse and patient communicate to determine mutually set goals and create a plan to achieve these goals (King, 1991). This is referred to as a transaction. It is the transaction that is required for goals to be attained and wellness to be realized (King, 1991).

The philosophical assumptions of KTGA are congruent with my personal philosophy of nursing. For example, King describes people as social, spiritual, sentient, rational, reacting, perceiving, controlling, purposeful, action-orientated, and time-orientated beings. I believe people are far more than biological beings and I operate under the assumption that all people have the capability and potential to improve their wellbeing if they are given the proper information, resources, and skills. King also assumes that people have a right to knowledge about their health, should be given an opportunity to participate in their care, and have the right to refuse health care. This also coincides with my personal beliefs and day-to-day nursing practice. Given that King's assumption could be readily applied to the CR setting and coincided with my own personal philosophy of nurse-patient interactions, I applied King's assumptions to each of the cardiac education modules.

Overview of Methods

Three methods were used to collect the data required to guide the development of the CR education curriculum: A literature review, consultations with experts in CR and a patient who had experienced an acute myocardial infarction (AMI), and a review of 30

goals set by participants during a CR program in PEI. The literature review was divided into the following sections to answer a number of questions including:

- What are the benefits of cardiac rehabilitation?
- What are patients' perceptions of learning needs after a cardiac event?
- Are patients' perceptions of learning needs after a cardiac event congruent with the Canadian Association of Cardiac Rehabilitation (CACR, 2009) Guidelines for CR education?
- Are SMART goals effective at achieving desired outcomes and have SMART goals been utilized and evaluated in the CR setting?
- What types of goals do participants in CR set?
- Is there evidence to support the effectiveness of Knowles' Principles of Adult Learning?

A wide variety of experts who work in CR care and a patient who had experienced an AMI were consulted to determine the topics that should be included in a CR program and how this content should be delivered. Thirty goals set by CR participants were reviewed to gain insight into the types of wellness goals set by CR participants following a cardiac event. The data collected from the literature review, consultations, and goals review were used to guide the development of the CR education curriculum.

Literature Review

The literature review was conducted to answer a number of questions that would help guide the development of an evidence-based and participant-centered CR education curriculum. The databases used to gather the research studies included CINAHL, PubMed, and the Cochrane Library database. The literature review was critically appraised using the Public Health Agency of Canada Critical Appraisal Toolkit (2014). See Appendix A for a copy of the complete literature review.

Benefits of cardiac rehabilitation. The results of the literature review indicated there is strong and undisputed evidence that CR programs that combine education, exercise, and psychological support are beneficial to patients recovering from cardiovascular events. Cardiac rehabilitation programs have been shown to reduce mortality, provide symptom relief, reduce smoking rates, increase exercise tolerance, reduce risk factors, and improve psychosocial wellbeing in patients with CVD (Mampuya, 2012). Participants who attend CR following an AMI have lower rates of hospital readmission and lower cardiovascular mortality rates compared to those who do not attend CR (Anderson et al., 2016; Anderson & Taylor, 2014; Dunlay, Pack, Thomas, Killian, & Roger, 2014; Suaya, Stason, Ades, Normand, & Shepard, 2009). A retrospective analysis of 2,395 patients post percutaneous coronary intervention compared six-year all-cause mortality rates between those who attended CR and those who did not (Goel, Lennon, Tilbury, Squires, &Thomas, 2011). Those who attended CR had lower all-cause mortality rates (p<0.001; Goel et al., 2011).

Cardiac rehabilitation is affiliated with increased functional capacity, weight loss, better blood pressure control, and improved self-management of coexisting health problems (Servey & Stephens, 2016). Participants who attend CR report a higher quality of life, greater level of fitness and physical activity, and lower levels of anxiety and depression than those who do not attend (Anderson & Taylor, 2014; Yohannes, Doherty, Bundy, & Yalfani, 2010). The literature reviewed suggests that individuals achieve

biopsychosocial benefits from CR, but there are also economic benefits that can be obtained by reducing morbidity, mortality, and hospital readmissions.

The benefits of CR depend on the number of days a patient attends a program: The more sessions a patient attends, the greater the benefit (Hammill, Curtis, Schulman, & Whellan, 2010). There is no recommended duration for outpatient CR programs. More research needs to be conducted to determine the most efficient duration and model of delivery for CR programs.

Most CR programs include both exercise and education, so it is difficult to know if the benefits incurred are the result of exercise, education, or the combination of the two. This is an important question because resources are limited and if education is not contributing to the effect, then spending time and money on participant education may not be worthwhile. Based on the literature review I conducted, there is evidence to support participant education, independent of exercise, can have a positive and measurable impact on patient outcomes for those with CVD. A number of systematic reviews have supported the link between cardiac education and positive behaviour change (Aldcroft, Taylor, Blackstock, & O'Halloran, 2011; Ghisi, Abdallah, Grace, Thomas, & Oh, 2014; Mullen, Mains, & Velez, 1992), thus highlighting the importance of combining education and exercise to achieve the maximum benefits for participants in CR.

Patients' perceptions of learning needs after a cardiac event. The CACR (2009) has provided clear guidelines as to what topics to include in CR education (smoking cessation, hypertension management, nutrition and dietary therapy, lipid control, blood glucose control, weight management, medication education, psychoemotional support, and self-management skills). The information being delivered in a CR

program must also be perceived as relevant by the participants to ensure the participants remain fully engaged in the CR program (Bastable & Dart, 2008; Knowles, 1980). The literature review indicated that patients viewed risk factors, medications, anatomy and physiology, pathophysiology, how to cope with pain post-operatively, sleep promotion, psychological support, practical approaches to managing disease, community supports, diet, how to manage chest pain, signs and symptoms of disease, when to call a doctor, and how to prevent cardiac events in the future as important education topics following a cardiac event (Ashton, 1997; Clark & Lan, 2004; Grande & Romppel, 2011; Moranville-Hunziker, Sagehorn, Conn, Feutz, & Hagenhoff, 1993; Timmins & Kaliszer, 2003; Wingate, 1990).

Risk factors, medications, anatomy and physiology, pathophysiology, psychological support, and diet are topics identified by patients as priority learning needs and these are congruent with the broad education recommendations identified by the CACR (2009). The results from the literature review also indicated that participants in CR had a desire to learn specific self-management skills such as when to call a doctor and how to mange chest pain. Priority learning needs are not universal and may vary based on gender and particular cardiac event, however, the research on this topic is limited and further research is required (Grande & Romppel, 2011).

Efficacy of SMART goals. The SMART goal format is used in a wide variety of settings. The premise of SMART goal setting is that general goals are less effective at producing outcomes than goals that are specific, measurable, achievable, realistic, and time-bound (Doran, 1981). I conducted a literature review to explore the effectiveness of SMART goals and if SMART goal setting has been applied in the CR. Despite the

AACVPR (2013) promoting the use of SMART goals in CR programs, a search of the PubMed, CINAHL, or the Cochrane Library databases produced no results when using the terms *SMART goals* and *cardiac rehabilitation*. A second search was conducted using the terms *patient goals* and *cardiac rehabilitation*. The Cochrane library database contained one relevant article out of 61 results. It was not a review, but a single study. The CINAHL database produced 64 results and three of the 64 were relevant to the topic. The same procedure was used in the PubMed database. Of the 191 results, one relevant article was discovered. The Internet was also used to locate relevant studies. A total of five articles were found on the topic of patient goals and CR and the information is varied in its support.

One study supported an increase in exercise tolerance and quality of life for participants who used goal setting in a CR program versus those who received care as usual (Oldridge, Guyatt, Crowe, Feeny, & Jones, 1999) and a second found increased compliance with nutritional counseling plans when mutual goals were set between health care providers and clients (Leistra, Streppel, Klamer, Tump, & Weijs, 2015). The three other studies produced null results.

Typical goals set by CR participants include goals related to risk factor reduction, physical activity, psychological wellness, smoking cessation, dietary modification, return to normal activities of daily living, and improvement of physical symptoms (Fernandez, Rajaratnam, Evans, & Speizer, 2012). Patients are capable of setting goals that are relevant to their risk factor profile (Holtrop et al., 2006) and therefore suggests that it is not necessary for health care professionals to dictate wellness goals. In summary, there is not enough evidence to refute or support the use of SMART goal setting in the CR setting. There is no evidence that using SMART goals in CR causes harm to participants and it may be a useful activity in determining the patients' perception of priority wellness goals in CR. Determining whether or not participants achieve their wellness goals may be one way to measure of the effectiveness of CR programs in evaluation planning.

Efficacy of Knowles' Principles of Adult Learning. Andragogy is a term used to refer to the teaching and learning of adults. Knowles (1980) developed a theory of adult learning based on the assumption that adults have different learning needs than children or adolescents. I conducted a literature search to determine the efficacy of the Theory of Adult Learning in patient education. Despite wide spread promotion of the Adult Learning Principles and an intuitive sense the theory is sound, there is little experimental evidence to support its' efficacy (Barta, 1989; Beder & Carrea, 1998; De Lorenzo & Abbott, 2004; Nixon, Morgan, Forsyth, & Ellis, 1996; Rosenblum & Darkenwalk, 1983; Stawbridge, 1999). There is even less research related to the use of Knowles' theory for teaching adults in the health care setting. It should be noted that the majority of research in this area is not recent or specific to nursing, and there are many varying definitions of what constitutes an andragogical intervention. Darbyshire (1993) referred to and ragogy as being uncritically accepted into the nursing profession. This makes it very difficult to draw a firm conclusion as to whether or not Knowles' theory is supported or refuted in the literature.

Theoretically and intuitively, it is predicted that a CR curriculum that incorporates Knowles' Principles of Adult Learning would be more effective at achieving desired

learning outcomes than one that uses a traditional didactic teaching approach. I concluded it is reasonable to incorporate Knowles' Principles of Adult Learner in a CR program including tactics that reduce learner anxiety, acknowledges and respects the previous learning experiences of the CR participants, actively involves CR participants in the learning process, addresses problems relevant to the CR participants, offers concrete solutions, and provides a learning environment that is interactive and informal (University of British Columbia, 2017).

Consultations

To supplement the findings in the literature review, a consultation plan was created to gather information from CR participants and clinical experts in CR to determine relevant education topics and effective and ineffective teaching methods. Two methods of data collection were used for the consultations: A retrospective review of CR participant personal health goals and a prospective survey of key informants. Key informants included a Cardiologist with CR experience, a manager of a well-established CR program in a neighboring province, the program manager of the CR program in PEI, a patient who had experienced an AMI, and a Physiotherapist (PT), Registered Dietician, (RD) Registered Nurse (RN), and Respiratory Therapist (RT) who currently work in the CR setting. The following sections contain a summary of the key results obtained from the retrospective review of participant goals and prospective survey of key informants.

Participant Goals

Thirty goals written by participants enrolled in CR were obtained from the participants' charts. Each of the participants had been asked at the beginning of the CR program to write down two to three personal health goals they would like to achieve

during CR. A total of 30 individual goals were reviewed and analyzed in order to determine participants' perceptions of priority health care concerns. The data was analyzed using the process of content analysis. Terms were coded and four categories emerged from the data: Diet, exercise/physical ability, psychosocial-emotional, and medical. The frequency of goals per category was calculated. The most commonly cited goal was related to exercise and physical ability, followed by goals related to diet. See Figure 2 for a bar graft that depicts the categories that emerged from the analysis of participant goals.

Figure 2



Categories of Participant Goals: Frequency of Goals Per Category

Survey Responses

A survey was emailed to the key informants to illicit their perception of important CR topics to be included in CR education, and what they viewed as effective and ineffective teaching methods for this population. See Appendix B for a copy of the survey used. The survey contained three questions:

1. What content or topics do you feel should be included in the cardiac rehabilitation program?

2. What teaching methods of delivery do you feel are effective when educating this particular population? In other words, how do you feel the content should be delivered?

3. What teaching methods do you think would be highly ineffective when teaching this particular population?

The process of content analysis was used to analyze the data. Key words for each response were coded and categories and themes were identified. The survey responses were grouped into three main categories: Content, effective teaching methods, and ineffective teaching methods. The raw data for each main category was coded and further analyzed.

Seven subcategories emerged from the main category of *content*. The subcategories included risk factors, anatomy and physiology, exercise, medications, psychosocial-emotional, diet and nutrition counselling, and self-management. Of the seven subcategories, the category containing the highest number of responses was self-management. See Figure 3 for a summary of the frequency of responses for each subcategory within the main category of content.



Figure 3 – Category: CR Content – Frequency of Responses Per Subcategory

A similar approach was used for the main category of *effective teaching methods*. After coding the key informant responses, the data could be delineated into three themes: Teaching aids, teaching strategies, and teaching activities. See Table 1 for a summary of the data collected related to effective teaching methods and three themes that emerged.

Table 1 -Themes Related to Effective Teaching Methods		
Theme	Teaching Method	
Teaching aids	Reading material to take home and share with family	
	• Pictures	
	• Models	
	• PowerPoint (< 6 words per slide; one key message per	
	slide)	
	Short videos	
	Printed diagrams	
Teaching strategies	Include family	
	• Engage group by asking questions and asking for feedback	
	Opportunity for one on one teaching	
	Classroom setting in groups of 12-15 maximum	
	• Ensure content is personal and relevant	
	Repeat key messages	
	• Cater to a variety of teaching styles (auditory, kinaesthetic,	
	and visual)	
	• Didactic	
Teaching activities	• Break into smaller groups to do activities and then report	
	back to entire group	
	Group discussion	
	Cooking class	
	Label tours	
	Sharing of stories	

Lastly, the data under the main category of *ineffective teaching methods* was analyzed. Given the significantly smaller amount of data in this section, no subcategories

or themes emerged. The key informants identified exclusively using a didactic approach, lecture, wordy PowerPoint presentations, providing education during hospital stay, using printed materials greater than a grade six reading level, and sessions lacking interaction as ineffective teaching methods for CR participants. See Figure 4 for a depiction of the summary of results attained from the consultations. See Appendix C for a copy of the consultation report.





It is notable that exercise/physical activity and diet/nutritional counselling were common goals of CR participants and were also listed as important education topics by key informants. It is also important to note that many of the effective and ineffective teaching methods identified by the key informants are congruent with Knowles' Principles of Adult Learning.

Synthesis: Education Curriculum

The data gathered from the literature review, consultations, and participant goals were used to guide the development of 24 cardiac education modules. The modules were designed to be delivered by a multidisciplinary group of health care professionals. Each cardiac education module contains an index, PowerPoint Presentation, and handouts for participants and/or resources for the educators. All of the pictures and resources used in the cardiac education modules have been approved for copyright and use. See Appendix D for the request to include copyright material form. Twenty-four cardiac education modules were developed and include topics such as:

- 1. Orientation
- 2. Anatomy and physiology
- 3. Pathophysiology
- 4. Tests and interventions
- 5. Medications I
- 6. Medications II
- 7. Risk factors I
- 8. Risk factors II
- 9. Dietician
- 10. Dietician
- 11. Dietician
- 12. Dietician

- 13. Dietician
- 14. Dietician
- 15. Stress and heart disease
- 16. The emotional journey of heart disease
- 17. Psychologist coping with stress & grief
- 18. Physical activity I
- 19. Physical activity II
- 20. Navigating the health care system
- 21. Advanced care planning
- 22. Physician & nurse Q&A
- 23. Reflection: Keeping a healthy lifestyle
- 24. Moving forward

An orientation session was included to introduce participants to the fundamentals of the CR program. An orientation session is very important to adult learners. It helps to reduce anxiety and helps participants know what to expect. Understanding exactly what CR is and the benefits of CR may help motivate participants to adhere to the program. The exercise portion of the program may be anxiety provoking for those who have never exercised in a group setting or for those who have never used exercise equipment. The orientation session provides participants with a chance to explore the gym and the equipment.

Increasing exercise and physical ability was the most commonly cited goal as per the review of 30 participant goals. Exercise is also a key contributor to the improvements participants experience in their cardiovascular risk profiles. Furthermore, the results from the consultations with key informants indicated that information on exercise and physical ability was the third most frequently identified education topic as per the survey results. For this reason, two modules on physical activity were included in the curriculum.

Improvements in diet can improve cardiovascular risk profiles for heart disease. The review of 30 CR participant goals revealed that goals related to diet were the second most prevalent goal set by CR participants. The survey of clinical experts and a former patient revealed that information on diet and nutrition counseling was the second most prevalent CR education topic cited. The development of atherosclerosis is perpetuated by a diet high in saturated fat, low in fiber, high in cholesterol, and low in plant based foods (Ballesteros, Gonzalez, Perez, & Crespo de las, 2012; Hooper et al., 2000; Merriman, 2013). The DASH diet and the Mediterranean Diet are two diets that have been proven to reduce the risk of cardiovascular disease (Appel et al., 1997; Heart and Stroke Foundation, 2017; Kaplan, 2006; Ozner, 2008). The Mediterranean Diet is now part of the 2016 Canadian Cardiovascular society Guidelines for the management of dyslipidemia to prevent cardiovascular disease in adults. For these reasons, six sessions with a Registered Dietician were included in the CR curriculum.

Heart disease impacts more than just physical health. There are psychosocial emotional risk factors for heart disease as well. Stress is a risk factor for heart disease and stress can be brought on by emotional reactions to events that occur in everyday life (Heart and Stroke Foundation, 2016; Iso et al., 2002; Rosengren et al., 2004; Tanabe & Akashi, 2016). The Canadian Association of Cardiac Rehabilitation (2009) recommends psychosocial-emotional counseling be part of cardiac rehab curriculums. The literature review conducted for this project revealed that finding emotional-equilibrium was an

important goal for participants following a cardiac event and participants achieve maximum benefits from cardiac rehab when exercise, education, and psychosocial support are used together (Giannuzzi et al., 2008; Grande & Rompell, 2011; Mampuya, 2012). Thirty goals set by CR participants' were analyzed using content analysis to determine what wellness goals participants aspire to achieve during CR. Four categories emerged, one of which included increased psychosocial-emotional wellbeing. The data collected from the survey of key informants procuded eight categories related to important education topics for CR and psychosocial-emotional support was one of these categories. Based on this data, two modules were created and named *Stress and Heart Disease* and *Heart Disease: The Personal and Emotional Journey*. A third group session with a psychologist with experience in CR was also created.

Participants in cardiac rehab are capable of setting goals that are aligned with their cardiovascular risk profiles and setting SMART goals (Doran, 1981) can improve compliance when attempting lifestyle changes (Dedoncker et al., 2012; Holtrop et al., 2006; Leistra, Streppel, Klamer, Tump, & Weijs, 2015). For this reason, Participants are introduced to SMART goal setting during the orientation session.

One of the main goals of any CR program is to reduce risk factors that contribute to cardiovascular disease in order to prevent future cardiac events (CACR, 2009). American and Canadian cardiac rehabilitation guidelines recommend education on smoking, high blood pressure, hyperlipidemia, diabetes, obesity, stress, and inactivity to be an important part of cardiac education in cardiac rehab programs (AACVPR, 2013; CACR, 2009). The literature review related to CR participants' perceptions of important education topics indicated that participants viewed reducing their risk profiles and

preventing a future heart problem as key CR goals (Fernandez et al., 2012; Leistra, Streppel, Klamer, Tump, & Weijs, 2015). Consultations with those considered experts in CR and a former CR participant identified information on risk factor reduction as one of the main themes to include in CR education. Based on this information, two modules were created to provide information on risk factors for cardiovascular disease and one module was created to provide information on how to attain and sustain a healthy lifestyle.

Up to 50% of patients living with heart disease are not taking their medications as prescribed (Laba et al., 2013). Medication compliance is necessary in order for patients to mitigate the symptoms of heart disease, slow disease progression, and prevent future events (Haynes et al., 2005). The causes of medication non-compliance are unintentional in the majority of patients (Molloy et al., 2014), therefore, education and clear communication is an important part of reducing medication non-compliance. The literature review conducted for this project revealed that participants consistently listed education related to medications as a priority learning need (Clark & Lan, 2004; Moranville-Hunziker, Sagehorn, Conn, Feutz, & Hagenhoff, 1993; Wingate, 1990). For this project, health care professionals and a former cardiac rehab participant were surveyed to gather their opinion on what topics should be included in cardiac rehab education. Education on medications was one of seven sub-categories that emerged from the data. The review of 30 goals set by CR participants revealed that increased knowledge related to cardiac medications was a common goal. For these reasons, two education modules were devoted to educating participants on their medications.

In a survey of 1013 CR directors, only 9% reported providing participants with information on health care directives (Heffner & Barbieri, 1996). A study was conducted to assess if CR participants were open to end of life discussions and the results showed 72% of patients wanted to direct their own end-of-life care, 86% wanted more information on advance care directives, 62% wanted to learn about life-sustaining measures, and 96% were receptive to having advanced care planning discussions. For these reasons, a module titled *Advanced Care Planning* was created to provide information on health care directives. This module also includes information on provincial drug plans to help participants mitigate the cost of medications.

Self-management is a theme that emerged from the data collected from the consultations and the literature review and it is also part of the CACR guidelines for cardiac education (CACR, 2009). Teaching skills that help participants self-manage their heart disease were weaved throughout the education modules and an entire module titled *Navigating the Health Care System* focuses entirely on self-management strategies.

A variety of health care providers including a RN, RD, PT, Internal Medicine Physician, Social Worker, Exercise Physiologist, and a Psychologist were utilized in the curriculum to ensure a multidisciplinary approach and to tap into a variety of expertise. In keeping with Knowles' Principles of Adult Learning, the modules incorporate a variety of activities to keep adults engaged including group discussion, sharing of stories and experiences, and monopolizes on the group's knowledge from their previous experiences with heart disease. An education module that includes a question and answer period with a Registered Nurse and an Internal Medical Physician was created so that the content could be entirely driven by the learning needs of the group. See Appendix E for more detailed information on the rationale for each module.

Index

The index within each module contains a description of the content within the module, rationale for the content, a list of teaching aids and activities utilized within the module, objectives, key messages for participants, an evaluation activity, application of the assumptions in KTGA, a description of how Knowles' Principles of Adult Learning were applied within the module, a reference list, and identifies the health care professional who ideally would present the material. The index can be used to help guide the presenter in preparing and delivering the education material. The index is not intended to be an exact prescription for education, but rather to be used as a guide. The learning needs of the participants in the group should direct the flow of each cardiac module. See Appendix E for a copy of the 24 education modules and the index within each module.

PowerPoint Presentation Guide

A PowerPoint Presentation was created for most of the cardiac education modules. Modules that were to be delivered by guest speakers outside of the CR program core staff do not contain PowerPoint Presentations. I wanted to ensure that guest speakers had the autonomy to deliver the material by whatever medium they prefer based on their experience and expertise with the content. Guest speakers will be provided with the index and resources that can be used to guide their presentation if needed.

The PowerPoint Presentations were designed to be as engaging as possible. The presentations can be used as a guide for the presenter and as a visual and auditory medium for the participants. Care was taken to ensure the slides were not cluttered with

written information, included points of engagement, and incorporated many styles of learning. For example, a slide might contain a picture, a link to a video, or a discussion question. The PowerPoint Presentations contain presenter notes with referenced material to help the educator prepare for the session in advance. The presentations and presenter notes are not a script and the presenter should always attempt to meet the learning needs of the participants even if it veers from the original content. See Appendix E to view the PowerPoint Presentations and presenter notes within the cardiac education modules.

Handouts and Resources

Some modules contain handouts for participants and resources that can be utilized by staff. Attempts were made to keep the reading material within the handouts simple, interactive, relevant, and at a low literacy level where possible. Some handouts are my own original work, where as others already existed (Copyright permission has been requested where needed). Each participant will receive a copy of the textbook, *Living Well With Heart Disease*, published by the Heart and Stroke Foundation (2016) free of charge. The resources used by staff include such items as referral forms for resources within the community and evaluation activities used to assess if learning has occurred. See Appendix E to view the handouts and resources within each of the cardiac education modules. See Figure 5 for a diagram that summarizes all of the components of each cardiac education module.

Figure 5 – Components of the Cardiac Education Modules



Evaluation

One of the most challenging aspects of creating an education curriculum is determining if the education has been effective at attaining desired outcomes and objectives. It is paramount that participants in CR feel at ease, comfortable, safe and not scrutinized in the classroom setting, therefore it is important to evaluate in way that ensures participants do not feel like they are being tested. An evaluation activity has been embedded into each of the cardiac education modules. Not all evaluation activities can be objectively measured, therefore, it is up to the presenter to gage if learning has occurred during their interactions with the group. Examples of evaluation activities include matching exercises, fill in the blanks, oral question and answers as a group, self-reflection and self-evaluation exercises, home exercise and diet logs, instructor observation of skills such as pulse taking and use of rate of perceived exertion scale, and case studies. Apart from the evaluation activities built into each education module, the participants will also complete a patient satisfaction survey at the end of the program. See Appendix E for examples of evaluation activities within each cardiac module. See Appendix F for a copy of the patient satisfaction survey.

The psychosocial-emotional progress of participants is evaluated through the use of pre- and post-program surveys. Participants' levels of depression, anxiety, and sense of self-efficacy are measured using the Beck Inventory II Scale, the Patient Health Questionnaire 4, and Self-Efficacy Scale at the beginning and at the end of the program. See Appendix G for a copy of the pre- and post- scales used to measure psychosocialemotional wellbeing.

The participants are also given a pre- and post- summary report that includes measurements of height, weight, waist circumference, resting blood pressure, resting heart rate, Canadian Association Cardiac Rehabilitation Risk Score, fasting lipid profile, HgbA1c, and psychosocial-emotional measures scores. The summary reports can be used to track individual progress and to evaluate the success of the program. The limitation of the measures in the summary report is that one cannot conclude the education component alone contributed to participant outcomes since there is a synchronous exercise component to the program as well. See Appendix H for an example of a summary report given to participants at the end of the 12-week program.
Next Steps

In order to implement this project, further consultation with the manager, front line staff members, and the advisory committee of the CR programs in PEI will need to occur. My plan is to present the material to the program manager and front-line staff members and get feedback from them to determine if the project is feasible and practical to implement from their perspectives. Changes will be made based on the feedback and the product will then be presented at the advisory committee for approval to implement. Once approved, the curriculum will be downloaded onto the cardiac and pulmonary rehabilitation shared drive for staff to access as needed. The curriculum will require an annual review and will be edited based on participant feedback, staff input, evaluation measures (Beck Depression, PHQ-4, Self-Efficacy scales, patient satisfaction survey) and new evidence-based best practices. There are future research opportunities that could stem from this project. For example, education outcomes could be studied pre-and postimplementation of the curriculum. There is also an opportunity to collect rich qualitative data from the CR participants and/or staff members who have utilized the curriculum.

Advanced Nursing Competencies

The Canadian Nursing Association has developed advanced nursing practice competencies that include research, education, clinical practice, and consultation and collaboration (CNA, 2009). My graduate nursing program has provided me with an opportunity to develop and apply the advanced nursing practice competencies. Repetitively reading and critiquing research articles, synthesizing the results of numerous literature reviews, and practicing the process of content analysis has development my competency in utilizing research. My final practicum project required me to not only

critique research, but also gave me an opportunity to apply research findings to develop a CR program that is participant-centered and evidence-based. Furthermore, the numerous papers I completed throughout my graduate studies have helped to improve my writing skills; an important aptitude for communicating research.

Preparing the consultation report was an excellent activity to refine my competency in consultation and collaboration. Identifying key informants and retrospectively analyzing participant goals were examples of how I directly and indirectly utilized collaboration skills. The fact that all of the key informants responded to my email in the given time frame provides evidence that I communicated the purpose of the survey effectively.

My peers and co-workers are now consulting me as a CR content expert and so I take care in ensuring the information I share is accurate, current, and quality evidence. Lastly, the opportunity to conduct this project has enhanced my leadership ability in a number of ways. My project fills a current gap in CR care. The development of a CR curriculum will assist other health care providers in delivering quality CR education. By being immersed in the CR literature, I am slowly increasing my level of expertise in the area of CR and I can now use this knowledge to advise and assist others.

Conclusion

Cardiac rehabilitation is a secondary prevention strategy that is a gold standard of care for individuals who have experienced a cardiac event. Comprehensive CR programs that include education, exercise, and psychosocial support increase positive outcomes for participants and the health care system by increasing the quality of life of participants, reducing cardiovascular risk profiles, and reducing demand on the health care system by

reducing mortality, morbidity, and re-hospitalization rates. Education is a key component of CR. It helps to provide participants with the information they need to make informed decisions about their health and wellness and can facilitate engagement in positive health behaviours. Cardiac rehabilitation education curriculums that are evidence-based and participant-centered have a greater probability of achieving desired outcomes. Once this project is fully implemented, it will be paramount to evaluate the effectiveness of the project. Annual reviews of the curriculum and ongoing editions should be implemented to ensure participants are receiving the most current and evidenced-based materials and to ensure the delivery of the education content meets the needs of the participants. This project will be an ongoing work in progress that will strive to meet the education needs of those who are living with heart disease in PEI.

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Appendix A

Literature Review

Literature Review: The Development of an Evidence-based Cardiac Rehabilitation

Curriculum That Incorporates SMART Goals

Tanya A. Matthews

Memorial University

Abstract

Cardiovascular disease (CVD) is the leading cause of death and hospitalizations in Canada. Risk factors for developing CVD include smoking, high blood pressure, dyslipidemia, inactivity, poor nutritional habits, obesity, gender, race, concurrent diseases that involve vascular inflammation, positive family history, and diabetes. Most of the risk factors for CVD are modifiable and can be altered via medical therapy, education, exercise, and lifestyle changes. After patient experiences a cardiac event as the result of CVD, secondary prevention strategies targeted at improving modifiable risk factors can be implemented. Cardiac rehabilitation programs that include education, exercise, lifestyle modification, and psychosocial support have been shown to reduce mortality, reduce hospital readmissions, provide symptom relief, reduce smoking rates, increase exercise tolerance, reduce risk factors, increase quality of life, and improve psychosocial wellbeing in patients with CVD. Patient education is an important part of cardiac rehabilitation programs. Cardiac rehabilitation curriculums need to be carefully planned and evidence-based in order to be as effective as possible. This literature review explores the benefits of cardiac rehabilitation, patient perception of education needs following a cardiac event, the use of SMART goals in cardiac rehabilitation, and Knowles' adult learning principles in relation to the development of an evidence-based cardiac rehabilitation program curriculum. King's Theory of Goals Attainment was used as an overarching framework and applied to the cardiac rehabilitation setting. Keywords: cardiac rehabilitation, adult learning, SMART goals, patient perspective,

patient perception, King's Theory of Goal Attainment

Literature Review: The Development of an Evidence-based Cardiac Rehabilitation Curriculum That Incorporates SMART Goals

Cardiovascular disease (CVD) is a leading cause of death and hospitalization in Canada (Canadian Institute of Health Information, 2011; Janssen & Katzmarzyk, 2009). Cardiovascular disease has the highest total direct cost of any disease or injury in Canada and is estimated at 12 billion dollars annually (Public Health Agency of Canada, 2014). The total direct and indirect cost of CVD each year is 21 billion dollars (Tarride et al., 2009). Risk factors for developing CVD include smoking, high blood pressure, dyslipidemia, inactivity, poor nutritional habits, obesity, gender, race, concurrent diseases that involve vascular inflammation, positive family history, and diabetes (Urden, Stacy, & Lough, 2014). Risk factors are classified as modifiable or non-modifiable. Nonmodifiable risk factors such as gender, sex, and family history cannot be controlled. Most of the risk factors are modifiable and can be controlled through lifestyle changes and medical therapy. After a patient experiences a cardiovascular event, initiating secondary prevention strategies that target the modifiable risk factors can avert future events. Risk factor modification can reduce the financial burden of CVD on the heath care system and improve the quality of life for patients and families who experience cardiac events.

The health of individuals and communities is influenced by far more than just biology and personal choice. The World Health Organization (WHO; 2017) recognizes many factors that determine a person's health status. These factors are referred to as the determinants of health. The determinants of health include social and economic environment, physical environment, personal characteristics and behaviours, income, social status, level of education, social support networks, genetics, accessibility of health

resources, and gender (WHO, 2017). The determinants of health developed by the WHO have been linked to the development of CVD. Cardiac rehabilitation programs can positively impact the determinants of health.

Socioeconomic Status, Income, and Education

A person's socioeconomic position is inversely correlated to the development of CVD. Low literacy, low income, low level of education, low status occupations and unemployment are correlated with the development of CVD. Higher literacy, income, education, and employment status is a protective factor against the development of CVD (Havranek et al., 2015). Individuals who have strong social support networks and feel cared for and loved have lower mortality rates from CVD than those who are isolated. Strong social support networks are correlated with prolonged survival after experiencing a coronary event (Havranek et al., 2015; Kawachi et al., 1996).

On average, racial and ethnic minorities have lower income and lower levels of education compared to the mainstream population and this places minorities at risk for the development of CVD. However, even racial and ethnic minorities of equal socioeconomic status have a greater risk of developing CVD compared to the mainstream population (Kurian & Cardarelli, 2007). The cause for the disparity between mainstream population and racial and ethnic minorities of equal socioeconomic status is multifactorial. Factors such as language barriers, genetic predisposition, lack of health insurance, and access to care are suspected to contribute to the gap (American Heart Association, n.d.).

Lower levels of education and social support have been linked to a higher mortality rate in individuals with coronary artery disease (Barth, Schneider, & von Känel 2010). Cardiac rehabilitation programs educate participants and provide them with the

information they need to make healthy lifestyle choices. Cardiac rehabilitation programs foster the development of social support networks through the relationships formed between fellow survivors, family members, and caring health care professionals. In this way, CR programs contribute to the overall health and wellbeing of participants who have experienced a cardiac event secondary to CVD by providing social support and education.

Accessibility of Health Resources

Health care services need to be accessible, affordable, made known to the public and accommodate for cultural variances in order to be effective (Havranek et al., 2015). Health care services are not evenly distributed across Canada. The majority of services are located in urban areas, leaving rural residents at a disadvantage. Rural residents have higher rates of mortality due to coronary heart disease compared to urban residents (Kulshreshtha, Goyal, Dabhadkar, Veledar, & Vaccarino, 2014). Cardiac rehabilitation programs contribute to the health and wellbeing of participants with CVD by providing a free and accessible service to people recovering from cardiac events. Cardiac rehabilitation programs that extend to rural communities can help improve the cardiovascular health of the rural populations in Canada. In order to improve access and awareness of community resources, health care providers working in CR settings can refer participants to various community resources as indicated.

Personal Characteristics and Behaviours

The social determinants of health influence a person's characteristics and behaviours and can alter the risk for developing CVD. People of low socioeconomic status have higher rates of perceived stress, anxiety, and depression (Lemstra et al., 2008), which have been correlated with the development of CVD (Clark, DesMeules, Luo,

Duncan & Wielgosz, 2009; Iso et al., 2002). Patients with depression and CVD have higher numbers of hospitalizations and more frequent use of the emergency department than those without depression, and have less employment productivity (Rodwin, Spruill, & Ladapo 2013). Having poor mental health effects cognition, motivation, and behavior. People who experience ongoing anxiety, depression, and psychological stress are more prone to engage in unhealthy behaviours such as smoking, eating unhealthy food, avoiding exercise, and indulging in excessive amounts of alcohol (American Heart Association, n.d.). These vices are used as a source of pleasure and relaxation to cope with the psychological distress (Lantz, House, Mero, & Williams, 2005). The connection between low socioeconomic status, poor mental health, and the development of cardiovascular disease is cyclical. Poor mental health is associated with the development of CVD, and the development of CVD can lead to poor mental health. Low socioeconomic status, poor mental health, and CVD reduce the quality of the life for the individual and contribute to the economic burden of CVD.

There is a higher prevalence of unhealthy behaviours in people of low socioeconomic status (Lynch, Kaplan, & Salonen, 1997). Unhealthy behaviours such as smoking, poor dietary habits, inactivity, poorly monitored and controlled diabetes, and non-adherence to medication for hypertension and dyslipidemia increase the risk for CVD (Havranek et al., 2015). Individuals make lifestyle choices that impact their health status but within the complex context of their socioeconomic status, culture, political landscape, unique family traits, and history (Lynch et al., 1997).

Those who are economically deprived experience more negative life events such as unemployment, divorce, and financial loss and have fewer opportunities to reach

positive goals. This leads to marginalization, isolation, a sense of powerlessness, and triggers stress that is often self-medicated by engagement in unhealthy behaviours (Baum, Garofalo, & Yali, 1999; Björntorp, 2001) Individual counseling and education related to healthy behavior modification is important, however, improving economic and social conditions at a population level and understanding historical, familial, and cultural influences must be considered.

Understanding the influence of the determinants of health and how they impact an individual's mental health and their ability to make a healthy choice is key to delivering holistic and comprehensive cardiac rehabilitation care. Health care providers who deliver cardiac rehabilitation education in order to facilitate healthy behaviour change and risk factor reduction must consider the complex interaction between the social determinants of health and behaviour. It is important to ensure cardiac rehabilitation programs are free of charge, culturally inclusive, and easily accessible in order to reduce the disparity between those with high and low socioeconomic status (AACVPR, 2013).

Health Literacy

Health literacy is a term used to describe the degree to which patients obtain, process, and understand information given to them about their health. Higher health literacy is affiliated with increased adherence to medication and healthy lifestyle regimens in patients with CVD (Miller, 2016). In contrast, low health literacy is correlated with higher mortality rates in patients with heart failure (Peterson et al., 2011), increased use of emergency departments (Acheson, 1998), and increased hospital admissions (Baker, Parker, Williams, & Clark, 1998). Patients who receive cardiac

education after a cardiac event have greater health literacy levels than those who do not receive cardiac education.

Most people read and write two grade levels lower than their highest achieved level of education (Bastable, 2008). Written material is the least effective education tool for people with marginal literacy skills (Monsivais & Reynolds, 2003). The tools used to deliver education contribute to how effective an education session will be. A multi-site RCT was performed to compare the impact of an education booklet versus a booklet plus DVD video on patients living with CAD (Eckman et al., 2012). Both groups had an increase in knowledge scores and an improvement in healthy behaviours, however, those who received the DVD video had a statistically significant improvement in test scores (p=0.07), weight loss (p=0.05) and exercise habits (p=0.05) when compared to those who received the education booklet only (Eckman et al). Patients who received the booklet and video that had low health literacy at baseline had an equal amount of improvement in outcomes when compared to those with high health literacy at baseline (Eckman et al). This study emphasizes the limited impact of written materials alone as a learning tool, and indicated no difference in outcomes when controlling for low health literacy levels at baseline. Incorporating video and written materials into CR education programs can improve outcomes for high and low literacy patients when written material is supplemented by visual aids.

Cardiac rehabilitation is predicted to improve health literacy. Written materials alone are not enough to ensure learning and understanding occurs. Cardiac rehabilitation programs should utilize a wide variety of teaching strategies and consider health literacy as an outcome measure for the effectiveness of CR education.

Benefits of Cardiac Rehabilitation

There are many benefits of CR. Cardiac rehabilitation programs that include exercise, patient education, and psychosocial support have been shown to reduce mortality, provide symptom relief, reduce smoking rates, increase exercise tolerance, reduce risk factors, and improve psychosocial wellbeing in patients with CVD (Mampuya, 2012). Participants who attend CR following an acute myocardial infarction (AMI) have lower rates of hospital readmission and lower cardiovascular mortality rates compared to those who do not attend CR (Anderson et al., 2016; Anderson & Taylor, 2014; Dunlay, Pack, Thomas, Killian, & Roger, 2014; Suaya, Stason, Ades, Normand, & Shepard, 2009). A retrospective analysis of 2,395 patients post percutaneous coronary intervention showed a lower all-cause mortality rate at six years between those who attended CR and those who did not (p<0.001; Goel, Lennon, Tilbury, Squires, &Thomas, 2011).

Individuals who participate in cardiac rehabilitation experience increased functional capacity, weight loss, better blood pressure control, and improved selfmanagement of coexisting health problems (Servey & Stephens, 2016). Participants who attend CR report a higher quality of life, greater level of fitness and physical activity, and lower levels of anxiety and depression (Anderson & Taylor, 2014; Yohannes, Doherty, Bundy, & Yalfani, 2010). The literature reviewed suggests that individuals achieve biopsychosocial benefits from CR, but there are also economic benefits that can be obtained by reducing morbidity, mortality, and hospital admissions.

The benefits of CR depend on the number of days a patient attends a program: The more sessions a patient attends, the greater the benefit. A study by Hammill, Curtis,

Schulman, and Whellan (2010) found that patients who completed all 36 sessions of a CR program had lower mortality (hazard ratio [HR], 0.86; 95% confidence interval [CI], 0.77 to 0.97) and lower re-infarction rates (HR, 0.88; 95% CI, 0.83 to 0.93) at four years post-program when compared to those who attended 24 sessions, 12 sessions, and 1 session (Hammill et al., 2010). Program delivery models vary and the ideal duration of a program is not known, however, there are some general guidelines.

Programs can range from four weeks to six months in duration. There are many different models of delivery that include home-based programs, facility-based programs, blended home and facility-based programs, and maintenance programs that consist of education or exercise once a week. There is no recommended duration for outpatient CR programs, however, the CACR, AACVPR, and the European Association for Cardiovascular Prevention and Rehabilitation (2012) agree that patients require a minimum of 20 to 30 minutes of aerobic exercise three to four days a week beginning immediately after discharge from hospital and this should be gradually increased to achieve maximum benefits (Mezanni, 2012). More research needs to be conducted to determine the most efficient duration and model of delivery for CR programs.

Most CR programs include both exercise and patient education, so it is difficult to know if the benefits are the result of exercise, group education, or the combination of the two. This is an important question because resources are limited and if patient teaching is not producing the effect, then spending time and money on patient education may not be worthwhile. I reviewed the literature to explore the influence of education on CR patient outcomes and found there is evidence to support that patient education, independent of

exercise, can have a positive and measurable impact on patient outcomes for those with CVD.

A number of systematic reviews have supported the link between cardiac education without the exercise component and positive behaviour change (Aldcroft, Taylor, Blackstock, & O'Halloran, 2011; Ghisi, Abdallah, Grace, Thomas, & Oh, 2014; Mullen, Mains, & Velez, 1992). A meta-analysis of 28 controlled trials looked at behavioural and clinical outcomes of cardiac patients who received secondary prevention education and found cardiac education reduced blood pressure, lowered mortality rates, improved exercise habits, and positively impacted patient eating habits (Mullen et al., 1992). The meta-analysis also compared the effectiveness of the delivery of education and found that giving patient feedback, providing individualized care plans, teaching selfmanagement skills, identifying available resources, and ensuring the content was relevant to the learners resulted in positive patient outcomes (Mullens et al.).

There is a large body of evidence to support the conclusion that CR education is beneficial, however, it is important to determine if the results are sustained over time. Following patients after the completion of CR has been affiliated with sustained results. A large multisite RCT was performed to determine the impact of long term and reinforced CR education on post-MI patients after completion of a standard CR program (Giannuzzi et al., 2008). The 3,241 participants were randomly assigned to an intervention or control group. The control group completed the standard CR program and had follow up with their family physician at six months and one year following discharge from CR (Giannuzzi et al.). The intervention group received ongoing cardiac education on a monthly basis for six months, and then every six months for three years (Giannuzzi et al.).

The participants who received the long-term reinforced cardiac education had a significantly higher frequency and intensity of physical activity (p<0.001), better dietary habits (p<0.001), increased smoking cessation rates (p=0.02), and reported lower levels of stress (p<0.001; Giannuzzi et al.). The results from this study highlight the impact of cardiac education in reducing risk factors for CVD, but also points out the need for ongoing education opportunities after completion of a CR program.

Telephone follow-up after being discharged from a CR program has been shown to sustain benefits. A quasi-experimental study compared the effectiveness of follow-up telephone calls, referred to as booster sessions, for discharged participants at six weeks and six months followed by a written or computer questionnaire at 12 and 18 months. The intervention was compared to participants receiving written or computer-based questionnaire at six weeks, six months, one year, and 18 months post discharge from CR (Fleig, Pomp, Schwarzer, & Lippke, 2013). Participants created personalized action plans for ongoing exercise after completion of CR. The booster sessions involved a researcher asking the participant to recall three positive exercise experiences in the last four weeks and discussed adherence to the action plan (Fleig et al., 2013). Outcome measures included physical exercise effort, strength of exercise habit, adherence to the action plan, perceived self-efficacy, and satisfaction with exercise activities (Fleig et al.). The results indicated the participants who received booster sessions had less decline in physical activity over time (84.11 [SE 5.01] control and 98.81 [SE 4.92] intervention), less decline in exercise habit (3.32 [SE .08] control and 3.64 [SE .07] intervention), higher levels of action planning (p < 0.001), increased satisfaction with exercise activities (p < 0.01), and higher rating of self-efficacy (p<0.01; Fleig et al.). The study lends evidence to support

follow-up phone calls after being discharged from a CR program as an effective method of sustaining the benefits achieved in CR over time.

As indicated above, continuing education opportunities for patients and follow-up telephone calls upon completion of CR rehabilitation are effective methods of ensuring positive outcomes from CR are sustained. Educating patients on they types of community resources available to them, providing patients with home exercise plans, long-term goal setting, and providing a summary of progress at the end of a CR program are strategies to sustain the benefits achieved during CR (Cardiac Care Network, 2014). The CR program currently operating in PEI provides the patient with a summary report of their risk factor profile before and after completion of the program. The summary report is shared with the referring doctor or nurse practitioner and their primary health care provider to reinforce the healthy behaviours adopted during CR. The participants are given individualized home exercise programs and a nurse completes follow-up telephone calls at six and 12 weeks post completion of the program. The program is currently exploring options related to a maintenance program that would allot time for former participants to exercise for free two days a week.

Smoking is strongly correlated with the development of CAD and a future cardiac event. A large prospective cohort study conducted in Sweden evaluated the effectiveness of cardiac education on reducing CVD risk factors including smoking, obesity, physical inactivity and hypertension following an AMI (Bellman, Hambraeus, Lindback, & Lindahl, 2009). The 2,822 participants either participated in a weekly lecture, group discussion, and question and answer period referred to as *Heart School* or received usual follow up care with their physician (Bellman et al., 2009). Patients who participated in

Heart School had higher smoking cessation rates (p<0.001) than those who received follow-up care as usual. The study lends support to cardiac education as an effective intervention to reduce smoking rates.

Comprehensive CR programs prevent disease progression and reduce the incidence of future cardiac events through secondary prevention strategies that include education, exercise, and/or psychological support (Fitchet et al., 2003; Stone, Arthur, & Suskin, 2009). Education combined with exercise and psychological support can reduce mortality, morbidity, hospitalizations, health care costs, and improve patient's quality of life (Brown, Clark, Dalal, Welch, & Taylor, 2011). Education alone can produce positive patient outcomes.

Patient education is the first step in promoting changes in health behaviours, reducing risk factors, and encouraging patient self-management. Education methods that include motivational interviewing are more effective at producing behavior change than traditional didactic exchange of information (Paradis, Cossette, Frasure-Smith, Heppell, & Guertin, 2010; Tierney, Hughes, & Hamilton, 2011). The education component of CR programs is important and the delivery needs to be carefully considered in order to produce positive outcomes for participants. See Appendix A for a critical appraisal of the literature related to the effectiveness of cardiac education in reducing risk factors and improving outcomes for people with heart disease.

Prince Edward Island (PEI) has recently obtained funding from the provincial health authority, Health PEI, to launch a CR program with a long-term plan to initiate the program in four sites across the province. Health PEI is working in partnership with the University of Prince Edward Island in Charlottetown and the Credit Union Place in

Summerside to offer the program in two cities. The Charlottetown and Summerside sites are currently operating, with a long-term plan to expand the program to the rural communities of Montague and O'leary. Prior to these programs there was no structured or formalized CR program offered to patients recovering from cardiovascular events. Acute care nurses and attending physicians provided discharge instructions and primary health care providers reinforced rehabilitation strategies during follow up appointments; however, there was no standardized approach. The CR program will fill a health delivery gap for the population of patients in PEI recovering from a cardiac event.

The Canadian Association of Cardiac Rehabilitation (CACR) has established recommendations for the core components of all CR programs. These recommendations include a systematic referral process, patient assessments, health behaviour interventions, risk factor modification, accessibility strategies, self-management tactics, exercise training, leisure time activities, outcome assessments, performance measures, continuous quality improvement programs, and continuous professional development (Oh et al., 2009). The benefits of CR are undisputed in the literature and the core competencies have been established. It is important to ensure the core competencies related to patient education are delivered in away that optimizes patient learning. This requires a carefully planned curriculum.

Cardiac rehabilitation programs should deliver education in a way that is patientcentered, goal and action orientated, and take into consideration the principles of adult learning (American Association of Cardiovascular and Pulmonary Rehabilitation (AACVPR), 2013; Knowles, 1980; Stone, Clark, & Arena, 2009). Involving the patient in goal setting is more effective at motivating healthy behaviour changes in comparison to

clinician-directed goals (MacGregor et al., 2006). Patient-centered goal setting is encouraged by the AACVPR (2013), but there is limited published material related to using the SMART goal-writing format created by Doran (1981) in the CR setting. I could not find any studies related to SMART goal setting for CR participants transitioning into the community.

Goal setting can be used to plan and evaluate patient progress. Patients identify personal health goals and health care providers assist patients in achieving their goals by helping to make the goals smart, measurable, action-orientated, realistic, and time-bound (Doran, 1981; AACVPR, 2013). The goals become action plans that can be used to guide patients upon transition back into the community. Follow-up helps to reinforce action plans and work with patients to adjust the action plans as needed (AACVPR, 2013). Setting goals motivates participants to achieve their goals and provide staff with important information to assist with developing personalized action plans. SMART goals can also be used as one measure to evaluate the effectiveness of the CR program. Whether or not participants achieve their goals can be used as a measure of success.

The manager of the CR program in PEI was involved in a small pilot project and identified modification of the current cardiac education modules as a need for the program. The current cardiac education modules consist of power point presentations created for the pilot project. The project manager admits they were put together quickly, lack references, objectives, key messages, patient resources, and some newer sessions do not have any teaching materials to assist in the delivery of the content.

Advanced practice nurses (APNs) have advanced training in nursing research, education, leadership, consultation, and collaboration (Canadian Nurses Association,

2008). Advanced practice nurses have the competencies to plan, initiate, coordinate and conduct educational programs based on needs, priorities and organizational resources; and to identify and implement research-based innovations for improving client care, organizations or systems (CNA, 2008). My master of nursing courses, my extensive clinical experience with cardiac patients, and my experience as a nurse educator have provided me with the skills necessary to create an evidence-based CR curriculum that will benefit patients recovering from cardiac events.

Given the known benefits of CR education and the lack of an evidence-based CR curriculum in PEI, I propose to develop an evidence-based CR curriculum that will help patients who have experienced a cardiac event achieve their wellness goals. Education modules will be created to guide teaching activities during the education portion of the CR program. The content of the education modules will be based on the findings of a comprehensive literature review and a consultation report that includes data gathered from participants, staff, and clinical experts affiliated with existing CR programs. King's Theory of Goal Attainment (King, 1991) will be used as the overarching framework for the project. The CR curriculum will incorporate the principles of adult learning (Knowles, 1980) and include education topics patients' have identified as important following a cardiac event.

The following sections contain a literature review on King's (1991) theory of goal attainment, patient perspective of education needs following a cardiac event, adult learning principles, and SMART goals in relation CR education. The quantitative studies were critically appraised using the Public Health Agency of Canada (2014) critical appraisal took kit. An evaluation framework from the Masters of Nursing Qualitative

Research Course at Memorial University was used to critically appraise the qualitative studies (Moralejo & Solberg, 2014). Please see the Appendices A, B, C, D, and E for a summary of the critical appraisal.

Evidence-based Curriculum

The CACR (2009) recommends that health behavior modification, risk factor reduction, and self-management techniques be part of all CR programs. Patients require education and support related to nutrition counseling, lipid management, hypertension management, smoking cessation, weight control, diabetes management, pharmacology, psychosocial support, physical activity, problem-solving, decision-making, resource utilization, and action planning (CACR, 2009). The CACR (2009) encourages the use of the principles of adult learning (Knowles, 1980) when designing education sessions. The AACVPR (2013) recommends setting both short and long-term SMART goals for CR participants.

Nursing theory is fundamental to nursing practice and guides nursing education and research (Colley, 2003). This project will provide a resource for health care professionals to use to teach participants enrolled in CR. Theories about teaching and learning are often used by nurses, but borrowed from other disciplines. Advanced nursing practice related to education that is guided by nursing theory helps to ensure the information is framed from a nursing perspective. King's (1991) theory of goal attainment will be used to frame the process of developing a curriculum for a CR program in PEI. See Figure 1 for diagrammatical description of this proposed project.

Kings Theory of Goal Attainment

King's theory of goal attainment (KTGA, 1991) is considered a grand nursing theory that describes the nurse-patient relationship and the process of reaching mutually agreed upon patient goals. King's theory has been used to frame nursing education curriculum, has a focus on goal attainment, and has been applied to clinical practice (Wills, 2007). It is applicable to the process of developing an evidence-based CR curriculum that incorporates patient SMART goals. King's theory is complex but general enough so that it can be applied to nursing practice, education, research, and administration (King, 1997).

I performed a literature search to gain an understanding of how KTGA (1991) has been applied in clinical practice. A search of the CINAHL database using *King's theory of goal attainment* as my search phrase produced 111 results. When the term *rehabilitation* was added, the results were reduced to six articles and two articles were considered relevant. I continued my search on the PubMed and Cochrane Library databases to find examples of KTGA (1991) being applied in the CR setting. I found one article by McGirr, Rukholm, Salmoni, O'Sullivan, and Koren (1990) that used KTGA as the framework for a study that examined patients' perceptions of mood, severity of illness, exercise behaviours, and overall quality of life after discharge from a CR program. The results from the study found that participants in CR placed a high value on exercise, perceived their illness as less severe, and felt overall healthier than those who did not participate (McGirr et al., 1990). The study aligns with KTGA because King ascertains that a person's perceptions and judgments influence their behavior.



Figure 1 - Depiction of the Project Proposal

King' theory has been used as a framework for goal setting for patients in rehabilitation for spinal cord injuries (Draaistra, Singh, Iredland, & Harper, 2012). Using qualitative methods, the researchers explored patients' perceptions of their role in goal setting in a spinal cord injury rehabilitation program. The study incorporated King's assumption that when patients and nurses set mutually agreed upon goals and strategize ways of achieving these goals, a transaction occurs. Successful transactions result in goal attainment (King, 1991). The patients in the study described the process of goal attainment through four themes that included envisioning the goal, redefining, brainstorming, and rebuilding (Draaistra et al., 2012) and thus supports King's assumption about transactions. The ultimate goal of KTGA is to describe the process of patient goal attainment and how this process functions to restore health. Nurses and patients have previous experiences, perceptions, and judgments that determine their actions. When a nursepatient relationship is formed, the nurse and patient share their experiences, perceptions, judgments, and proposed actions (King, 1991). The nurse and patient each have preconceived opinions about what is of greatest importance or concern. The nurse and patient communicate to determine mutually set goals and create a plan to achieve these goals (King, 1991). This is referred to as a transaction. It is the transaction that is required for goals to be attained and wellness to be realized (King, 1991).

Froman (1995) tested KTGA by studying the perceptual congruency between patients and nurses in a medical-surgical unit in an acute care setting. The investigators hypothesis stated that if patients' and nurses' perceptions of care were congruent, then patient goals were more likely to be attained. Indeed, the results supported the hypothesis and thus provided evidence to support King's theory.

The process of goal attainment is not linear. Goals and strategies to achieve set goals may need to be adjusted throughout the duration of the nurse-patient relationship. Effective communication between the nurse and the patient and a consistent feedback loop is required in order to negotiate changes in the plan as needed. King's theory emphasizes that effective communication is one of the key factors in promoting mutual understanding and trust between nurses and patients. King's theory of goal attainment was used in a research study to assess the effectiveness of the development of a clinical pathway for post-op transurethral prostate resection patients (Khowaja, 2006). A clinical pathway was developed and used as a tool to improve communication and delineate

expected outcomes to ensure patients, family members, and nursing staff had a clear vision of treatment goals and what interventions would be used to achieve these goals (Khowja, 2006). The study is an example of KTGA being successfully applied to nursing practice. See Appendix B for a critical appraisal of studies that have applied KTGA in practice.

The philosophical assumptions of KTGA are congruent with my personal philosophy of nursing. For example, King describes people as social, spiritual, sentient, rational, reacting, perceiving, controlling, purposeful, action-orientated, and timeorientated beings. I believe people are far more than biological beings and I operate under the assumption that all people have the capability and potential to improve their wellbeing if they are given the proper information, resources, and skills. King also assumes that people have a right to knowledge about their health, should be given an opportunity to participate in their care, and have the right to refuse health care. This also coincides with my personal beliefs and day-to-day nursing practice.

Although there is limited research linking KTGA to the CR setting, the theory and its underlying assumptions can be readily applied to CR education. According to King (1997), a system is composed of *goals, structure, functions, resources*, and *decision-making*. King identified three types of systems: *personal systems, interpersonal systems*, and *social systems*. King (1997) stated the overall goal in nursing for each of the systems in wellness. Nurses work with individuals (personal systems), groups (interpersonal systems), or society and communities (social systems) in order to achieve health and wellness (King, 1997). Cardiac rehabilitation education works with both individuals and groups to achieve wellness by giving participants the knowledge required to make healthy
choices. The *goal* in CR is wellness in the form of risk factor reduction, healthy behavior modification, improved self-management, and enhanced psychosocial wellbeing. The structure is analogous to patient interactions with the environment. In CR this includes one-on-one interaction with the health care team and the therapeutic interactions that occur between patients, family members, and health care providers in a group setting. The function of the system in the CR setting is the nurse-patient, patient-patient, and patientfamily transactions that occur. Resources come from internal and external sources (King, 1997). In CR education, the internal resources include the patients' knowledge of their chronic illness, experiences, and wellness strategies; as well as the nurses' knowledge and experiences. External resources influence the individual's ability to achieve wellness (King, 1997). The nurse, the facility, available resources, and the physical environment are all examples of external resources. Patients need to make *decisions* in in order to attain their goals (King 1997). In the CR setting, patients use internal and external resources in the form of knowledge, skills, community resources, and awareness in order to make decisions that can potentially improve their health and wellbeing. See Figure 2 for a depiction of the application of KTGA (1991) to the CR setting.

Patient-centered Curriculum

Modifiable risk factors for CVD are those that can be altered through medication therapy and healthy lifestyle choices. The CACR (2009) and the AACVPR (2013) recommends improving modifiable risk factors by incorporating education, selfmanagement, and behavior modification into CR programs. The CACR (2009) has provided clear guidelines as to what topics to include in CR education (smoking cessation, hypertension management, nutrition and dietary therapy, lipid control, blood

glucose control, weight management, medication education, psycho-emotional support, and self-management skills) however; patients may identify areas where they need more information outside of this education regime. In order for patients to fully engage in a CR program, the information delivered must be perceived as relevant by the patient.

I conducted a literature search to determine patients' perceptions of their education needs post cardiovascular event. The PubMed, CINAHL, and Cochrane Library databases were used in the search. No reviews on CR patient education needs could be found in the Cochrane Library. There was an abundance of literature related to patient learning needs post cardiac event while in the acute care setting, but limited research of patient perceived learning needs after the event in relation to CR programs. Six articles were reviewed to determine what patients perceive as important education needs following a cardiac event.

A comparative descriptive study compared the learning needs of men and women

Figure 2 - Application of King's Theory of Goal Attainment to Cardiac Rehabilitation Education

Goal	•Biopsychosocial well-being
Gtructure	• Patient-nurse, family-patient, and patient-patient interactions in a private or classroom setting
Function	• Transactions between nurse-patient, patient-patient, & family-patient
esources	•Patient knowledge, skills, and experiences (internal), nurse knowledge experience and skills & community resources

• Patient's use the knowledge, skills, and resources obtained to make decisions about their health and well-being

post MI (Ashton, 1997). Men preferred to be educated by the nurse and ranked risk factors as the most important topic, whereas, women preferred to be educated by the doctor and ranked medication education as the most important topic (Ashton, 1997). A similar study explored gender differences in recovery goals post MI (Grande & Romppel, 2011). Women were most concerned about being able to perform household duties (odds ratio [OR] = 8.62; 95% confidence interval [CI]), being independent with their activities of daily living (OR = 2.38; CI, 1.58-3.59), and finding emotional equilibrium (OR = 1.58, CI, 1.01-2.46). Men were more concerned with having physical endurance (OR = 0.64; CI, 0.42-0.97) and reducing strain in their place of work (OR = 0.39; CI, 0.17-0.93; Grande & Romppel, 2011).

A descriptive study of patients' perceptions of education needs while recovering from a MI was performed and concluded that patients ranked risk factors, pathophysiology, and medications to be the highest priority for education needs (Wingate, 1990). A similar descriptive study by Goodman (1997) examined patients' perceptions of education needs within six weeks post discharge following cardiac surgery. The priority learning needs according to the patients studied were information on pain relief, sleep promotion, psychological wellbeing, practical needs, and a need for community support (Goodman, 1997). Another descriptive study compared the patient education needs of inpatient versus outpatients post coronary artery bypass grafting (CABG). The study concluded that inpatients were most interested in risk factors, medications, and diet, whereas, outpatients ranked medications, risk factors, and anatomy and physiology as their top three concerns (Moranville-Hunziker, Sagehorn, Conn, Feutz, & Hagenhoff, 1993). A small descriptive study (n=18) was conducted to assess patients' perceptions of

education needs immediately after their MI and six weeks after the event (Timmins & Kaliszer, 2003). The study concluded that all patients ranked what to do when in chest pain, what are the symptoms of a heart attack, when to call a doctor, and what to do to reduce the chance of another heart attack as the priority learning needs (Timmins & Kaliszer, 2003). Finally, a study of the learning needs of heart failure patients' after discharge was conducted and found that patients ranked knowing the signs and symptoms of their disease and medication education as their top two learning needs (Clark & Lan, 2004). Interestingly, 25% of the patients who were screened-in based on a chart review were unable to participate because they were unaware they had been diagnosed with heart failure (Clark & Lan, 2004).

From this literature review I can conclude that patients viewed risk factors, medications, anatomy and physiology, pathophysiology, how to cope with pain postoperatively, sleep promotion, psychological support, practical approaches to managing disease, community supports, diet, how to manage chest pain, signs and symptoms of disease, when to call a doctor, and how to prevent cardiac events in the future as important education topics following a cardiac event. Risk factors, medications, anatomy and physiology, pathophysiology, psychological support, and diet are topics identified by patients as a priority and these are congruent with the broad education recommendations identified by the CACR (2009). The results from the literature review also revealed more specific self-management topics derived from the patient's unique perspective such as when to call a doctor and how to manage chest pain. The results of the review also discovered that priority concerns are not universal and may vary based on gender and particular cardiac event. In summary, the results from this literature review provide

insight into the topics that patients view as being relevant post cardiac event. Some topics are congruent with the pre-established CACR recommendations; however, the studies reviewed also gave insight into self-management subjects that patients identified as being important. In order to provide a comprehensive and patient-centered CR curriculum, programs should include topics that patients view as essential.

Current Delivery of Cardiac Rehabilitation Program in PEI

A patient-centered curriculum is more than just including topics that patients consider important. It also means interacting with participants and delivering the content in way that is patient-focused as opposed to clinician-focused. The CR program in PEI uses a team-based approach to deliver the program. The core team consists of the patient, the patient's family (as defined by the patient), registered nurse (RN), respiratory therapist (RT), and physiotherapist (PT). Guest speakers include a group session with a psychologist, spiritual care worker, social worker, occupational therapist, physician question and answer period, motivational speaker, and six sessions with a dietician. The RN delivers the majority of the content with support from the RT, PT, and guest speakers as needed. A program lead (RN), team manager (PT), and an advisory board offer secondary support to staff members, participants, and their family members. The advisory board consists of various stakeholders including medical leads, former program participants, and government officials.

The participants and their family members are the central focus of the education; however, resource and system related barriers limit the team. For example, although we encourage friends and family to attend the education sessions, we cannot accommodate having them exercise with their family because of lack of equipment. Time is another

limiting factor. A patient-centered curriculum typically offers individualized counseling and patient-specific interventions. We try to offer individualized counseling but there is no one-on-one time built into the program. The RN, RT, or PT works with participants individually after program hours on an as-needed basis. A patient-centered delivery of education is congruent with KTGA (1991). Participants receive the education they need to make informed decisions. Participants choose which modifiable risk factors they are willing to change and work with the health care team to achieve these goals.

There is evidence that using a patient-centered approach can reduce coronary risk profiles when used as part of a CR program. A RCT studied patients diagnosed with acute coronary syndrome (Redfern, Ellis, Freedman, & Saul, 2008). The patients were randomly assigned to a control group (no CR), intervention group A (traditional CR education) or intervention group B (CR education using a patient-centered care and goal directed interventions). Outcome measures included measurements of modifiable risk factors and global risk (Redfern et al., 2008). Measurements were taken at baseline and three months post intervention. The patient-centered prevention strategy had significantly reduced total cholesterol (p<0.001), lower systolic blood pressure (p<0.01), lower body mass index (p=0.02), and increased physical activity (p<0.01) compared to conventional CR program and control (Redfern et al., 2008).

A CR curriculum that includes general education that consists of patient directed topics, but also allows for individual counseling is an effective strategy to help empower patients so they can attain their goals and achieve a sense of wellness (Uysal, & Özcan, 2012). Please see Appendix C for a critical appraisal of the literature related to a patients' perceived education needs related to CVD.

SMART Goals

The SMART goal format has been used in a wide variety of settings. The premise of SMART goals setting is that general goals are less effective at producing outcomes than goals that are specific, measurable, achievable, realistic, and time-bound (Doran, 1981). I conducted a literature review to explore the effectiveness of this approach. Despite the AACVPR (2013) promoting the use of SMART goals in CR programs, there were no results for PubMed, CINAHL, or the Cochrane Library using the terms *SMART goals* and *cardiac rehabilitation*. A second search was conducted using the terms *patient goals* and *cardiac rehabilitation*. The Cochrane library database contained one relevant article out of 61 results. It was not a review, but a single study. The CINAHL database produced 64 results and three of the 64 were relevant to the topic. The same procedure was used in the PubMed database. Of the 191 results, one new relevant article was discovered. A total of five articles were found on the topic of patient goals and cardiac rehabilitation and the information is varied in its support.

A RCT was conducted to assess the effectiveness of goal setting in changing health behaviours in the CR setting (Oldridge, Guyatt, Crowe, Feeny, & Jones, 1999). Participants were post MI patients who were enrolled in either an outpatient CR program that included goal setting or care as usual (Oldridge et al., 1999). Intervention participants selected one activity that if and when attained would represent a successful recovery (Oldridge et al.). The participants in the intervention group had greater exercise tolerance (p<0.05) and quality of life (p<0.05), but were less likely than usual care participants to meet their goal if it was an activity-orientated goal (p<0.06). The results of the study did not conclusively support the effectiveness of goal setting in the CR setting. Cardiac

rehabilitation programs that incorporate goal setting may improve exercise tolerance and quality of life but did not lead to achievement of activity-orientated goals. Based on these findings, achieving patient set goals may not be the best indicator of success for patients in CR.

A RCT was conducted to determine whether or not mutually set goals would improve and prolong the positive effects of CR (Stamm-Balderjahn, Bruger, Michel, Bongarth, & Spyra, 2016). The study also explored if there was a relationship between types of goals and gender. The participants were assigned to a goal-checking group, goalsetting group, or control (Stamm-Balderjahn et al., 2016). There was no difference between intervention groups or control in relation to health behaviors or risk factor reduction (Stamm-Balderjahn et al.). Both intervention and control groups saw a decline in the percentage of smokers (12.4% to 8.6%, p<0.05) and saw improvements in exercise, diet, and subjective state of health (Stamm-Balderjahn et al.). Diet changes were more important to women than men. Women who worked had a greater improvement in exercise behavior than men who were unemployed (p<0.01; Stamm-Balderjahn et al., 2016). The study did not support the efficacy of goal setting in the CR setting but did discover gender differences between the types goals set by CR participants. This is valuable information for staff interacting with CR participants. Participant goals are not universal. They are participant specific and may vary based on gender.

Contrary to the above study, a descriptive study by Dedoncker et al. (2012) found that patients who created mutually set goals with a nurse just prior to discharge from CR had long term reduction of cardiovascular risk factors upon follow-up and felt the intervention was beneficial. A questionnaire was administered a year after CR and the

results indicated that 90.2% of the patients felt they had a better understanding of their CVD risk factors and the causes of their heart condition, 7.3%, felt the goal setting activity was of no benefit, and 2.4% had no opinion (Dedoncker et al.). Ninety percent of patients believed the goal-setting activity had enabled them to adopt a healthier lifestyle and 80.4% of the patients felt more responsible with regard to their heart condition and understood the need to change their lifestyle (Dedoncker et al.). The results of the study suggest that setting mutual goals at the end of CR programs was perceived as beneficial and resulted in patients feeling more knowledgeable and accountable for managing their disease.

Two studies described the types of goals set by patients. A descriptive retrospective study examined the effects of SMART goal setting and nutritional assessments on patients requiring dietary modification (Leistra, Streppel, Klamer, Tump, & Weijs, 2015). The results of the study found that setting SMART treatment goals and performing an initial nutritional assessment during the first encounter with a dietician resulted in higher treatment compliance in the primary care setting. Treatment compliance after 1 consultation was associated with goal setting in general (OR 2.8 [95% CI 1.5 5.3] p < 0.01) and SMART goal setting (OR 3.0 [95% CI 1.0 8.8] p = 0.03), and performing nutritional assessment (OR 2.4 [95%CI 1.2 4.8] p = 0.01; Liestra et al., 2015). Although the study was not based in a CR setting, the PEI CR program does include six sessions with a dietician therefore I felt this study provided relevant data.

A descriptive study examined the types and influences of health behavior goals set by patients post hospitalization for a cardiac event (Holtrop et al., 2006). If the patient was a smoker or overweight, they were more likely to choose smoking cessation and

dietary modification as their goal, respectively (r = +0.693, P=<.00195%; r = 0.769, P=<.001, respectively). The results of the study indicate that patients are capable of identifying their health behavior deficits and are able to set applicable goals.

A cross-sectional descriptive study investigated the types of goals set by patients in a CR program (Fernandez, Rajaratnam, Evans, & Speizer, 2012). The majority of goals were related to the reduction of risk factors to prevent a future event, improvement in physical symptoms, enhancement of mental wellbeing, and the hope to return to normal life. The most common goal was related to physical activity (Fernandez et al., 2012). The results of this study also indicate that patients are capable of setting relevant goals. Please see Appendix D for a critical appraisal of the literature related to the effectiveness of SMART goal setting.

In summary, there were no published articles specifically related to CR and SMART goal setting. Based on my review of the literature, there is not enough evidence to refute or support the use of SMART goal setting in CR. There is evidence that risk factor reduction, physical activity, psychological wellness, smoking cessation, dietary modification, return to normal activities of daily living, and an improvement of physical symptoms are typical patient goals. Patients are capable of setting goals that are relevant to their risk factor profile. There is no evidence that setting SMART goals in CR causes harm to participants and may be useful in determining the effectiveness of CR programs.

Adult Learning Principles

Knowles (1980) developed a theory of adult learning based on the idea that adults have different learning needs than children or adolescents. Knowles theory is based on four major assumptions (Bastable & Dart, 2008):

- 1. Adults are independent and self-directed learners
- Adults have a reservoir of life experiences that can be used as a resource for learning
- Adults want to learn things that are relevant to their social roles and developmental tasks
- 4. Adults are problem-centered learners who want information that has immediate application potential

I conducted a literature search to determine the efficacy of the theory of adult learning in patient education. I searched the CINAHL and PubMed databases using the terms *adult learning theory* and *adult learning principles*, and *education*. I reviewed a total of 241 results from this database. There were no Cochrane Library reviews testing the efficacy of the adult learning theory.

Although there were many examples of application of adult learning theory to nursing education and patient education, there were few studies that tested the theory itself using RCTs. One study by De Lorenzo and Abbott (2004) compared the effectiveness of an adult-learning self-directed teaching model (experimental group) to a traditional lecture-based model for military medic training (control). Instructors in the experimental group were educated in adult learning principles and used an interactive approach that included self-directed study, multimedia didactics, and intensive interactive education for the teaching of psychomotor skills (De Lorenzo & Abbott, 2004). The outcome measures included examination scores and self-rated confidence in skills performance. The experimental group scored slightly higher than the control group on all examinations (p<0.05). There was no difference in confidence rating between the two groups.

A study that used a before and after design was conducted to determine the effectiveness of a brochure using the principles of adult learning to give to families to assist with the transfer of their loved one from the intensive care unit to a general ward. The education tool had positive impacts on both nurses and family members. Family members were more satisfied, felt better prepared, felt more informed, and had fewer worries than the control group (p=0.01, p=0.002; p=0.001, p=0.024; respectively; Mitchell & Courtney, 2005). Sixty percent of nurses felt it promoted discussion about the patient and 95% of nurses promoted the continued use of the brochure for future transfers. The nurses were able to use the brochure as a guide to address family member concerns, and family members who received the brochure felt more satisfied with all aspects of the transfer when compared to those who did not receive the brochure (Mitchell & Courtney, 2005). The authors concluded the study demonstrated strong support for Knowles' adult learning theory. I would argue that the effectiveness of the tool cannot be directly linked to the use of Knowles' theory. Patients and families received no information prior to this tool so the results may simply indicate that a brochure is better than no brochure. A future study would need to be conducted that compares a standard brochure to one that incorporates Knowles' principles.

Due to the lack of findings from my original search, I completed a second search using the broader term *andragogy* and selected articles that were experimental in design. Dissertations were not included. See Table 1 for a summary of my findings. It should be noted that the majority of the data in this table is not recent or specific to nursing, and

there are many varying definitions of what constitutes an andragogical intervention. This makes it very difficult to draw a firm conclusion as to whether or not Knowles' theory is supported or refuted in the literature.

Experimental studies in	• Beder & Carrea (1998) - Outcome: Increased attendance	
support of andragogy	 Nixon, Morgan, Forsyth, & Ellis (1996) – Outcome: Increased competence 	
	• De Lorenzo & Abbott (2004) – Outcome: Higher exam scores	
Experimental studies that	• Barta (1989) – Self-directed learning less effective than	
produced null or	teacher directed learning	
contrary results	• Rosenblum & Darkenwalk (1983) – Adult learners participation in course planning did not improve achievement or attendance	
	 Strawbridge (1999) – Andragogy teaching methods did not improve student achievement 	

 Table 1 – Summary of Experimental Literature Related to Andragogy Efficacy

Despite wide spread promotion of the adult learning principles and an intuitive sense the theory is sound, there is little experimental evidence to support its efficacy. There is little research related to the use of Knowles' theory for teaching adults in the health care setting. Darbyshire (1993) referred to andragogy as being uncritically accepted into the nursing profession. Despite modest evidence to support adult learning theory, including the principles of adult learning in the design of the CR curriculum will create an opportunity to add to the body of knowledge around the efficacy of Knowles' theory of adult education by providing a platform for future evaluation studies. Although out of the scope of my project, a pre and post study could be performed in the future to compare outcomes of participants who were exposed to the evidence-based CR curriculum to those who engaged in the pilot project. See Appendix E for a critical appraisal of literature related to Knowles' theory of adult learning.

Theoretically, a CR curriculum that incorporates the principles of adult learning includes tactics that reduce learner anxiety, acknowledges and respects the previous learning experiences of the participants, considers that adults need to be actively involved in the learning process, addresses problems relevant to the learner, offers concrete solutions, and provides a learning environment that is interactive and informal (University of British Columbia, 2017). See Table 2 for a summary of interventions that can be used to incorporate Knowles' principles of adult learning in education settings (Brookfield, 1986; Chickering & Gamson, 1987; Kaufman, 2003; Knowles, 1990; McKean et al., 2012; University of British Columbia, n.d.). The interventions in Table 2 will be used to guide the development of a CR curriculum in PEI.

Table 2 – Adult Learning	Principles and Interventions	Used to Implement the
Principles		

Adult Learning Principle	Interventions
Learning involves change	Prepare learners for what to expect
and can induce anxiety	• Greet and interact with learners before the education
	session begins
	• Provide an agenda, objectives, and purpose of the
	session
	• Establish group norms, agreements, and boundaries
	• Promote group work and sharing of ideas
	• Give learners the choice to share as much or as little as
	they like

Adults are self-directed	Provide choices when possible
	• Use less didactic instruction and more engagement
	tactics
	Provide opportunities for learner feedback
	• Encourage learner responsibility in meeting education
	goals
	• Give learners the opportunity to choose topics,
	delivery, and learning activities
	• Give learners an opportunity to teach and share
	knowledge
	Request learner feedback
Adults can build on previous	Perform a learning needs assessment
learning experiences	• Use questions to draw on learners previous knowledge
	and experiences
	• Use teaching strategies that consider the various
	learning styles
	• Be prepared to be challenged by learners
Adults require information	• Explore learner reasons for engaging in program
that is relevant to their	• Offer benefits of the program or education
current life situation. They	• Use real-world examples that relate to the learners and
are problem focused.	their current reality
	• Encourage learners to think about how the information
	can be applied to their lived experiences

Limitations of the Proposed Project

The development of an evidence-based CR curriculum that is patient-centered and incorporates SMART goals, the principles of adult learning, and built upon KTGA can help facilitate the learning experience for participants in CR. The effective delivery of the evidence-based CR curriculum content will help participants get the information they need to make well informed decisions about their health care and facilitate self-management.

The new CR program in PEI has many benefits for people living with CVD but there are barriers. Accessibility is a problem. The CR program in PEI is currently offered from 0900 -1100 am twice a week. Evening classes are more accessible for those who continue to work. Our current program does not offer evening sessions. Cardiac rehabilitation programs have a greater of ratio of men to women (Daly et al., 2002). Consistent with the national trend, currently only twenty-two percent of the referrals to CR in PEI are women. More research needs to be conducted to determine the barriers related to women being referred and attending CR so we can determine how to improve this ratio in PEI. Parking is an issue for the CR program in PEI. There is limited free parking at the Charlottetown site and participants often have to walk a great distance to get to the Summerside center. This is feasible for some participants, but those with heart failure, low ejection fractions, and concurrent lung diseases find accessing the clinic physically challenging. Participants who do not drive and have low incomes struggle with the cost of taxi services. Our program in its current format has no one-on-one counseling built into the program. The health care team members who interact with the participants on a regular basis do not have prescribing privileges. Any concerns that require prescription adjustments need to be deferred to the primary health care providers. This may delay interventions such as diagnostic testing, medical referrals, and medication adjustments.

Building an evidence-based CR curriculum is an important endeavor but it is futile if participants cannot access the clinic. Our team is working out a schedule to attempt to deliver an evening program once a year. Our team is meeting with the University of Prince Edward Island staff responsible for parking to try and find a solution to the parking barrier and we are working with the local lung association group and integrative palliative care team to acquire gas cards and taxi vouchers for participants. Creating a strong curriculum is not enough. Accessibility barriers need to be addressed and continue to be a work in progress.

Conclusion

There is strong and undisputed evidence that CR programs that combine education, exercise, and psychological support are beneficial to patients recovering from cardiovascular events. A patient-centered curriculum is one that includes content that is relevant to the learner and delivered in a way that meets learner needs. My literature search and critical appraisal of patients' perception of education needs is congruent with the CACR (2009) recommendations for CR curriculum content. The majority of studies related to patients' perception of education needs were descriptive in design and revealed that education on anatomy and physiology, medications, signs and symptoms of heart failure and MI, risk factor reduction, self-management strategies, tips on how to manage household duties, improving physical endurance, reducing work place stress, pain control, proper sleep habits, psychological supports, community supports, exercise, how to deal with chest pain, tips on when to seek medical attention, and how to reduce the chance of experiencing another cardiac are viewed as important from a patient perspective.

There is preliminary research to suggest there is a difference between what men and women view as priority-learning needs. When we explore the nature of patient goals, we are exploring what aspects of the patients' health they most value. This is one way to identify the patients' perception of their health deficits and priority concerns. The use of SMART goal setting in the CR setting is promoted by the AACRPV (2013). The literature review revealed that physical fitness was a common goal of CR participants. Other patient goals included preventing a future cardiac event, improving mental wellness, and reducing risk factors. Patients are capable of setting relevant goals. Patients are capable of setting goals that are congruent with their risk profiles. Two articles showed no difference between outcomes for those who set goals versus those who did not. One study found patients who set goals had long term CVD risk factor reduction. There was one study that conclusively supported patient goal setting in achieving desired outcomes. There was no evidence to suggest goal setting is harmful and may in fact offer valuable insight into patient education needs. Based on these findings I deem it is reasonable to plan to incorporate patient SMART goal setting into the CR curriculum.

Theory is the backbone of research. Theories should be adequately tested before they are considered valid. The principles of adult learning are widely accepted and utilized, however, there are few controlled trials testing this theory. The evidence is inconclusive as to whether or not the adult learning principles are as effective as once believed. Based on a few studies with weak design, andragogy is predicted to increase rates of attendance, cognitive learning, psychomotor learning, and improve communication when embedded into brochures. Two experimental studies with strong design found null results when comparing adult learning tactics to traditional education.

No studies I reviewed related to Knowles' theory to patient teaching in the CR setting. Despite being widely accepted, more research is necessary to determine the effectiveness of using adult learning principles in the CR setting. Literacy levels should be presumed to be low when designing education activities, particularly written materials. Health literacy questionnaires pre and post can be sued to measure the effectiveness of CR education.

King's theory of goal attainment has been applied in nursing practice, however, the evidence is somewhat limited. King's theory is broad enough to be able to be tested and applied to a wide variety of settings. The three studies reviewed supported KTGA by illustrating congruency in relation to the importance of adequate communication in order to meet mutually agreed upon goals, and supported the importance of understanding the patient's perceptions of events in order to achieve goals.

In conclusion, the development of an evidence-based CR curriculum that includes national recommendations, considers the participants' perception of their education needs, incorporates SMART goal setting, and utilizes Knowles' adult learning principles has many benefits. This project will help contribute to a health care delivery gap in PEI, provide a platform for future studies to add to the body of knowledge related to SMART goal setting and the use of the adult learning principles in the CR setting, deliver a product that is evidence-based and patient-centered, provides an avenue to apply KTGA in the CR setting, and will assist the front line health care team in delivering quality education. The ultimate goal of this project will be to provide participants who enroll in CR in PEI with a quality education program that will reduce their risk factors for CVD, improve self-management skills, and facilitate healthy behaviors changes so participants can achieve their personal wellness goals.

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Appendix A

Critical Appraisal of Literature Related to Patient Education and Behaviour Change

Key Question – Is cardiac education effective at producing positive behavior change in cardiac patients?

Study 1 – Giannuzzi et al. (2008). Global secondary prevention strategies to limit event recurrence after myocardial infarction							
Results of the GOSPEL s	Results of the GOSPEL study: A multicenter, randomized controlled trial from the Italian cardiac rehabilitation network						
Rating – High quality; S	trong design						
Study Design &	Samples	Methodology	Strengths &	Results			
Purpose			Limitations				
 RCT The purpose was to determine if long- term reinforced cardiac education improved outcomes and reduced risk factors for patients post MI. 	 n = 3241 Inclusion criteria: MI within 3 months who were referred to a CR under the age of 75 Control (n=1621): Received CR plus follow up with their physician at six and 12 months. Intervention (n-1620): Received ongoing education monthly for six months and then every six months for three years. 	 The combination Baseline and post-study data was collected on both groups of patients. Primary outcomes included cardiovascular (CV) mortality, nonfatal MI, nonfatal stroke, and hospitalization for chest pain, heart failure, or urgent PCI Other outcomes measured included were major CV events, major cardiac and cerebrovascular events, lifestyle habits, and drug prescriptions. 	 Clear inclusion and exclusion criteria High generalizability due to multisite and randomization. Informed consent used. Study approved by ethics board. Results cannot be applied to those > 75 years and therefore may only be applicable to low risk population 	 The intervention group had lower CV mortality plus nonfatal MI and stroke (3.2% vs 4.8%; HR,0.67; 95% CI, 0.47-0.95), cardiac death plus nonfatal MI (2.5% vs 4.0%; HR, 0.64; 95% CI, 0.43-0.94), and nonfatal MI (1.4% vs 2.7%; HR, 0.52; 95% CI,0.31-0.86) and greater improvement in lifestyle habits (exercise, diet, psychosocial stress, less deterioration of body weight control) Conclusion: Direct evidence that supports the positive impact of ongoing education on risk factors and outcomes for patients post MI 			

Study 2 – Eckman et al. (2012). Impact of health literacy on outcomes and effectiveness of an educational intervention in patients with chronic diseases. Rating – High quality; strong design

Study Design &	Samples	Methodology	Strengths & Limitations	Results
Design &	Samples	Wiethodology	Strengths & Emiltations	Kesuits
Purpose				
• RCT	• n = 170	Primary outcome	 Study approved by ethics board 	• Both groups had an increase in knowledge
• The purpose of the	• 3 centers	measure: A knowledge	 Informed consent obtained 	scores and an improvement in healthy
study was to	• Sample	assessment score test was	 The knowledge assessment test 	behaviours
compare the	included adults	administered pre and post	was piloted and deemed reliable	• Patients that received the DVD video has
effectiveness of a	living with	intervention	and valid	a statistically significant improvement in
written booklet	CAD	 Secondary outcome 	 Randomization reduced the 	test scores, weight loss and exercise
versus booklet plus	• Control:	measures: Medication	chance of confounding variables	habits when compared to those who just
video in patients	Written booklet	adherence, smoking status,	 Sample size large enough to 	received the education booklet
living with CAD.	• Intervention:	exercise, diet habits,	produce statistically significant	• Patients who received the booklet and
The study also	Written booklet	weight, and BP	results	video who had low health literacy at
compared the impact	and DVD	• The physical activity scale	• The study initially contacted over	baseline had an equal amount of
of each intervention		for the elderly was used to	3000 patients but had a large	improvement as those with high health
on patients with high		measure activity level	number of drop outs and those	literacy at baseline Conclusion: This
and low health		• Functional health literacy	unable to attend due to	study supports the positive impact of
literacy		was assessed using the	transportation, thus skewing the	cardiac education on high and low literacy
		REALM tool.	randomness of the sample taken	patients and suggests using video and
			*	written materials together is more
				effective than just written material alone

Study 3 – Bellman et al. (2009). Achievement of secondary prevention goals after acute myocardial infarction: A comparison between participants and nonparticipants in a routine patient education program in Sweden.

Rating – High quality; Strong design

Study Design & Purpose	Samples	Methodology	Strengths & Limitations	Results
• A prospective cohort	• n= 2822	A national registry of patient data was used	• An ethics board approved the	Attending Heart School was affiliated with higher rates of
 study The purpose of the study was to compare the impact of cardiac education on the risk factors for CVD one year post MI to patients who did not receive the cardiac education. 	 32 sites Consecutive sampling technique used to acquire patients Inclusion criteria were patients with an AMI under the age of 75 Control – Did not attend heart school Intervention – Attended Heart School 	 patient data was used to acquire variables of interest Outcome mesures included quality of life, BP, lipid profile, smoking, diet, and exercise EQ-5D was used to measure quality of life 	 study. 40% of all of Sweden's hospitals participated in this study making the results highly generalizable to this population Objectives measures and valid tools used to measure variables Delivery of the Heart School content was not standardized and may have varied between each site thus reducing the validity of the data Non-randomization of the sample may have caused the results to be influenced by random confounding 	 affiliated with higher rates of smoking cessation All other variables had no statistical difference between groups. Conclusion – Direct evidence that patient education can result in a reduction in smoking rates, a major risk factor in the development of CVD.
			variables	

Study 4 – Paradis et al. (2010). The efficacy of a motivational nursing intervention based on the stages of change on self-care in heart failure patients								
Rating – High quality; str	Rating – High quality; strong design							
Study Design &	Samples	Methodology	Strengths & Limitations	Results				
Purpose								
 Quantitative RCT The purpose of this study was to evaluate the effect of education via motivational interviewing on heart failure patients' self-care behaviors. 	 Adult patients (n=30) who visited a heart failure clinic were randomized into control or experimental group Control – Care as usual (n=15) Experimental group – 1 in person encounter and 2 phone conversations using motivational interviewing (n=15) 	 Patients were assigned to control or experimental group Outcome measures included self-care behaviours and confidence levels Hypothesis stated that patients who received motivational interviewing during the education session would have a greater sense of confidence and greater self care management 	 Single site Small sample Indirect evidence in relation to my key question Only included heart failure patients therefore moderate generalizability to CR population Ethical approval obtained Randomization therefore reduced chance of confounding variables impacting results 	 Patients who received the motivational interviewing intervention had increased confidence in performing self-care behaviors specific (<i>P</i> =.005) Conclusion: Cardiac patient education that incorporates motivational interviewing can improve self-management among patients with heart failure. 				

Appendix B

A Critical Appraisal of the Literature Related to King's Theory of Goal Attainment

Key Question: Is there evidence to support the efficacy of King's Theory of Goal Attainment in nursing practice?

Study 1– Draaistra et al. (2012). Patients' perceptions of their roles in goal setting in a spinal cord injury regional rehabilitation program						
Rating – Good quality	Samplas	Mathadalagy	Strongths & Limitations	Dosults		
Purpose	Samples	Wiethodology	Strengths & Limitations	Kesuits		
 Qualitative design Phenomenology This study used KTGA as the framework to determine patients' perceptions of their role in goal setting following a SCI 	 SCI patients discharged from acute care and enrolled in SCI rehab > 16 years of age Purposive sampling used (n=13) 	 Phenomenological method Semi-structured interviews were used to determine the patients' perceptions of their goals, their role in achieving those goals, and what promoted or barricaded them from achieving their goals Coding and identification of themes were used to analyze data 	 Clearly defined purpose, inclusion/exclusion criteria, and definition of terms Explicit methodology and used an underlying nursing framework Clearly demonstrated the link between the research and KTGA No mention of consent process or ethical approval noted One site therefore lacks transferability 	 The patients in this study described the process of goal attainment through four themes that included envisioning the goal, redefining, brainstorming, and rebuilding Conclusion: This study supports King's assumption that when patients and nurses set mutually agreed upon goals and strategize ways of achieving these goals, a transaction occurs. This study meets at least 75% of the qualitative study design criteria therefore I rated it as good quality 		

Study 2– Khowaja (2006). Utilization of King's interacting systems framework and theory of goal attainment with new multidisciplinary model: Clinical pathway **Rating** – Good quality

Study Design &	Samples	Methodology	Strengths & Limitations	Results
Purpose				
 Quasi- experimental design Non randomized control group study The study used KTGA as a framework to determine if a clinical pathway for post-op TURP patients resulted in better quality of care, cost, and patient and staff satisfaction 	 Convenience sample of adult patients undergoing an elective TURP in Pakistan and their health care providers n=200 Control – care as usual Experimental group – use of clinical pathway 	 Patients and health care providers were asked to complete satisfaction surveys Clinical indicators were used as outcome measures and they included electrolyte balance, phlebitis, constipation, UTI, consultation wait time, and time to education 	 Single site study Ethical approval granted Validity of clinical pathway tool was tested Validity and reliability of satisfaction survey sound Very specific population therefore may not be transferable data Convenience sample threatens validity of results via selection bias and risk of confounding variables Methodology was not clear 	 The clinical pathway resulted in more complete documentation, reduction in delayed consultation and education. Clinical pathway intervention also reduced electrolyte imbalance, phlebitis, constipation, and urinary tract infection (UTI). The findings also showed significant improvement in patient and staff satisfaction (p=0.001 for all outcome variables) Conclusion: This study supported the successful application of KTGA to clinical practice. The clinical pathway improved communication and this led to positive outcomes. This study indirectly supports the principles behind the KTGA

Study 5 – McOnn et al. (1990). referenced mood and exercise behaviors of cardiac renabilitation program referans							
Rating – Strong quality; moderate design							
Study Design &	Samples	Methodology	Strengths &	Results			
Purpose			Limitation				
 Descriptive cross- sectional study The study used KTGA to describe the perception of CR patient's mood, severity of illness, exercise behaviours and overall quality of 	 Adults referred to a CR program following an admission related to CHD n=65 	 A telephone survey and mood checklist were used to collect data Data was collected on exercise intensity and participation, severity of illness at time of hospital discharge and time of survey 	 Ethically sound Statistically significant results One site study Used an underlying nursing theory 	 Following CR, patients perceived the severity of their heart condition as less severe when compared to their perception prior to CR, they valued exercised, and felt overall more merry and healthy Conclusion: King's theory states that understanding patients' perceptions is fundamental to goal attainment. This study demonstrates the principles of KTGA can be applied to practice in the CR setting 			
life							

Study 3 – McGirr et al. (1990) Perceived mood and exercise behaviors of cardiac rehabilitation program referrals

Appendix C

Critical Appraisal of Literature Related to Patient Centered Curriculum

Key Question: What are the perceived learning needs of patients?

Study 1 – Ashton (1997). Perceived learning needs of men and women after myocardial infarction Rating – High quality; weak design (descriptive study)							
Study Design &	Samples	Methodology	Strengths &	Results			
 Descriptive comparative design The purpose of the study was to understand the priority learning needs according to patients who have experienced an MI and examine the findings in relation to gender 	 Men and women with signs and symptom of MI n=121 males n=73 females n=48 Setting was a health center in New Jersey 	 Patients admitted with ACS (without any concurrent psychiatric illnesses) were given a questionnaire to assess their perceived learning needs A question regarding who the patient preferred to teach them was added to the questionnaire Gender differences were also analyzed 	 One site study limits transferability Convenience sample Clear exclusion and inclusion criteria Ethical approval Informed consent used Questionnaire valid, consistent, and reliable 	 Men preferred to be taught by a nurse Women preferred to be taught by a physician Men felt risk factors was the most important topic Women felt medication was the most important topic (alpha < 0.05) Conclusion: Medication and risk factors are perceived to be important topics based on patient perception. There are gender differences related to priority items and who delivers the material 			

Study 2 – Clark & Lan (2004) - Heart failure patient learning needs after hospital discharge Rating – High quality; weak design (descriptive study)							
Study Design &		Sample		Methodology		Strengths & Limitation	Results
Purpose							
• Descriptive		Convenience	•	A five point outpatient	•	Clear research question	• Patients listed signs and symptoms of heart
correlational		sample of adult		heart failure learning needs	•	Informed consent used	failure and medications as the most important
study		patients		inventory was used to rate	•	Clear inclusion and	education topics
• The purpose of		admitted to		the participants perception		exclusion criteria	• Patients rated diet, activity, and psychological
the study was to		home care or		of the importance of	•	Valid and reliable tool	factors as least important
determine the		outpatient clinic		education topics		used	
perceived		with a diagnosis			•	Convenience sample	Conclusion : Patients with heart failure perceive
learning needs o	f	of heart failure				places risk of selection	signs and symptoms of heart failure and
heart failure		• n=56				bias	medications as important education topics
patients					•	Appropriate statistics used	
					•	Ethically sound	
					•	One site with single	
						diagnosis may decrease	
						transferability of results to	
						CR setting	
					•	Statistically significant	
						results	

Study 3 – Grande & Romppel (2011). Gender differences in recovery goals in patients after acute myocardial infarction							
Rating – High quality	Rating – High quality; weak design (descriptive study)						
Study Design &	Sample	Methodology	Strengths & Limitation	Results			
Purpose							
 Comparative descriptive study The purpose of this study was to determine gender differences in patient goals for those in CR 	 n = 590 males (78%) females (22%) Convenience sample 	 Patients were give a list of 27 recovery goals and asked to circle yes or no in answer to whether or not these items were part of their personal recovery goals Patients were approached 2- 3 days after being admitted following an acute MI 	 Patients were provided with a list of goals and may have diluted their personal choices Patients were given the questionnaire immediately after their event therefore the results might be affected by the timing and context The study used written informed consent The study received ethical approval Clear inclusion and 	 There were no statistically significant gender differences on most items except women were more likely to select return to household activities and achieve emotional stability, where as men were more likely to select improve physical endurance and reduce work related stressors Conclusion: Based on the results of this study, self-management education on how to return to daily household duties and how to achieve emotional equilibrium is an important education topic for women. Self management education on how to improve physical endurance and how to reduce stress related to work are important to men 			
			exclusion criteria				

Study 4 – Goodman (1997). Patients' perceptions of their education needs in the first six weeks following discharge after cardiac surgery						
Study Design & Purpose	Sample	Methodology	Strengths & Limitation	Results		
 Qualitative study Phenomenological design 	 n = 10 Convenience sample First time adult patients undergoing CABG or valve replacement 	 Patients were approached post op and asked to take home a diary to document their thoughts, feelings, and questions about their recovery Patients were also asked to take part in a taped interview at 6 weeks post op and were asked to describe how they have been getting along at home since discharge Themes were identified via coding system 	 Ethical approval obtained Informed consent obtained Confidentiality accounted for Right to withdraw noted One site study Convenience sample increases risk of selection bias No triangulation of results with participants 	 Early discharge needs included adequate pain control, proper sleep, psychological support, help with practical items, and community support. Conclusion: The results of this study are applicable to CR education. Many patients enrolled in CR are those who have had a CABG or valve replacement and may need educational support around pain control, sleep, psychological support, practical tips and knowledge around potential community supports 		

Study 5 – Redfern et a	Study 5 – Redfern et al. (2008). Patient-centered modular secondary prevention following acute coronary syndrome: A randomized control trial						
Rating – High quality; strong study design							
Study Design &	Sample	Methodology	Strengths & Limitation	Results			
Purpose							
 Analytic Study RCT The purpose of the study was to compare risk factor reduction in ACS patients who received physician and cardiologist follow up versus patient-centered education 	 n = 144 Patients were randomly assigned to either the control or intervention group 	 Control received physician and cardiologist follow up as usual as part of their recovery form ACS events Intervention group received collaborative goal setting and risk factor module education and exercise training 	 Investigators were blinded Statistically significant results demonstrating adequate power Ethically sound Well matched samples Clear inclusion and exclusion criteria One site study may limit transferability 	 At three months the intervention group had lower total cholesterol (p<0.001), improved systolic blood pressure (p<0.01), lower body mass index (p=0.02), and increased physical activity capacity (p<0.01). The intervention group also had lower smoking rates (p<0.01) Conclusion: This study supports patient education on risk factor reduction and exercise, in combination with goal setting, as an effective strategy to reduce risk factors following ACS. This aligns with my projected CR project 			

Study 6 – Timmins & Kaliszer (2003). Information needs of myocardial infarction patients Rating – High quality; weak design (descriptive study)					
Study Design & Purpose	Sample	Methodology	Strengths & Limitations	Results	
 Descriptive study The purpose of the study was to compare the learning needs of AMI patients in the immediate post event period and at 6 weeks post event These findings were compared to nurses' perception of education needs 	 n = 18 patients n = 68 nurses Convenience sample 	 Patients were given the learning needs inventory questionnaire immediately after their MI and 6 weeks post event Nurses who cared for the AMI patients were also given the same questionnaire Priority concerns were analyzed and compared between patients and nurses 	 Response rate of 80% Ethically sound Informed consent obtained Valid and reliable data collection tool Appropriate statistics Statistical power demonstrated (p<0.05) One site study Convenience sample increases the risk of selection bias Small sample Included a very specific diagnosis (AMI) 	 Nurses rated physical activities including when to resume driving, sexual activity, and work as high priority; patients scored these items as low priority Both nurses and patients felt that knowing what to do when in chest pain, the signs and symptoms of a heart attack, when to call a doctor, and what to do to reduce the chance of another heart attack as high priority items Conclusions: Including what to do when in chest pain, the signs and symptoms of a heart attack, when to call a doctor, and what to do to reduce the chance of another heart attack are important topics in CR education 	

Study 7 – Wingate (1990). Post MI patients' perceptions of their learning needs						
Rating – High quality; weak design						
Study Design &	Sample	Methodology	Strengths & Limitation	Results		
Purpose						
 Descriptive study The purpose of the study was to compare the perceptions of post MI patient learning needs at different time frames during recovery 	 n = 32 Convenience sample of patients who experienced an MI for the first time and admitted to coronary care unit (CCU) 	 The cardiac patient learning needs assessment inventory was administered to patients 2-3 days post admission to hospital, then in the step down unit, and finally just prior to discharge The patients were assessed in the CCU, PCU (progressive care unit), and then at home 	 Ethical approval obtained Pilot study was completed to assess readability and patient feedback Written informed consent used Statistically significant results despite small sample size One site study No mention of the difference in length of stay for each of the patients. This may impact their answers to the questionnaire 	 Patient learning needs varied between CCU, PCU, and home Risk factors, anatomy and physiology, and physical activity were ranked as most important topics upon admission to CCU Introduction to CCU anatomy and physiology, and medications were most important upon transfer to the PCU Anatomy and physiology, medications, and risk factors were considered the most important topics upon discharge home Conclusion: The results of this study suggest education on anatomy and physiology, medication, and risk factors are perceived as important topics upon discharge home and should be included in a CR program 		

Appendix D

Critical Appraisal of the Literature related to SMART Goal Setting

Key Question: Is goal setting an effective method of achieving desired behavioural outcomes?

Study 1 – Fernandez et al. (2012). Goal setting in cardiac rehabilitation: Implications for clinical practice Rating – High quality; weak design					
Study Design & Purpose	Sample	Methodology	Strengths & Limitation	Results	
 Descriptive, cross- sectional, retrospective audit The purpose of the study was to determine the types of goals set by patients in CR in relation to their actual cardiac risk profile 	 n =355 Patients who attended a CR program between 2007 and 2009 were included The site is was hospital based program in Australia 	 A chart review of 355 patients who attended CR were analyzed for demographics, disease profile, risk factors, and metrics A qualitative inductive approach was used to analyze the patient goals 	 Ethics approval obtained One site study may reduce transferability of study Convenience sample leaves the potential for selection bias Unclear if patients were influenced by health care providers when writing their goals No follow up as to whether or not goals were met Mean age was 62. The results may not be applicable to a younger working population 	 The four themes that emerged from the patient goals were reducing behavior risk factors to prevent a future event, enhancing mental well being, improving physical symptoms, and returning to a normal life The majority of goals were related to physical fitness (82%) Even though half the charts reviewed were of obese clients, weight loss was not a common goal Conclusion: Physical fitness is a common goal for patients in CR. Other common goals include preventing a future event, improving mental wellbeing, and returning to a normal life. This study has implications for this project because goal setting can help establish the learning needs for individuals 	

Study 2 – Holtrop et al. (2006). Health behavior goals of cardiac patients after hospitalization Rating – High quality; weak design					
Study Design & Purpose	Sample	Methodology	Strengths & Limitation	Results	
 Descriptive The purpose of the study was to determine the types of personal goals set by CR patients in relation to their risk factor profile 	 Participants were adults admitted with a diagnosis of ACS (n=175) Participants were obtained from five community hospitals in Michigan, USA 	 Types of patient goals were coded by four trained researchers and these goals were correlated with the individual patient risk factor profiles Correlations were calculated between the type of goal set by the patient and their risk factor profiles 	 Multi-site study therefore data has increased transferability Trained nurse recruiters approached patients Coding of patient goals was triangulated Attrition was analyzed. Patients who dropped out were similar in profile to those who participated in the study Patients may have selected socially desirable goals Baseline smoking status, physical activity level, and dietary patterns were self reported 	 95% of smokers selected smoking as a goal (r = +0.693, P=<.001) 89.7% of overweight patients selected dietary modification as a goal (r = 0.769, P=<.001) Conclusions: This study demonstrates a correlation between patient goal setting and their risk profiles. Patients are capable of identifying their learning needs and setting appropriate goals in most cases 	

Study 3 – Leistra et al. (2015). Effect of smart goal setting and nutritional assessment on treatment compliance in primary care dietetic treatment							
Rating – Medium qual	Rating – Medium quality; weak design						
Study Design &	Sample	Methodology	Strengths & Limitation	Results			
Purpose							
 Descriptive, observational, retrospective study The purpose of the study was to determine if SMART goal setting as part of nutritional assessments improved compliance with treatment after a single consultation 	 n=289 Patients were those who received a dietician consult in the primary health care setting 	 Patients were assessed for their personal SMART goals and completed a nutritional assessment that included BMI, weight, height, waist circumference, and bioelectrical impedance (BIA) Patients were then followed up in 6 months to determine if goal setting resulted in greater nutritional compliance 	 Students were trained on how to observe clients and record information Ethically sound Confidentiality protected Correlational data. It cannot be concluded that SMART goals caused the increase in compliance due to confounding variables like home influences, physical barriers, etc. Informed consent obtained Convenience sample used therefore risk of selection bias 	 Treatment compliance after 1 consultation was associated with goal setting in general (OR 2.8 [95% CI 1.5 5.3] p < 0.01) and SMART goal setting (OR 3.0 [95% CI 1.0 8.8] p = 0.03), and performing nutritional assessment (OR 2.4 [95%CI 1.2 4.8] p = 0.01). Conclusion: Although this study is not specifically related to the CR setting or CHD population, it does support the use of SMART goal setting with respect to dietary behavior changes, which is a recommended component of CR. 			

Study 4 – Oldridge et al. (1999). Goal attainment in a randomized controlled trial of rehabilitation after myocardial infarction Rating – High quality; strong design					
Study Design & Purpose	Sample	Methodology	Strengths & Limitation	Results	
 Analytic study RCT The purpose of the study was to investigate the validity of patient goal attainment as an outcome measure in CR after an MI 	 n=201 Patients with a documented MI with mild to moderate anxiety Intervention – 8 week CR program that incorporated exercise and cognitive therapy group sessions (n=99) Control – Care as usual that included follow up with health care providers (n=102) 	 Patients were randomized into the intervention or control group. Patients were asked to select one activity, that when obtained, would represent recovery (goal) Goal attainment was correlated with the patients perceived quality of life and exercise tolerance 	 Ethics approval obtained Valid and reliable tool (HRQL) used to measure health related quality of life Patients were randomized and from multiple hospital sites No description of exactly how the goal was selected There are many confounding variables that may influence goal attainment but the randomization of this study should have helped reduce this issue 	 Surprisingly, patients who attended CR were less likely to attain their goal (p<0.06) CR patients rated their quality of life higher than control (p < 0.05). CR patient were less likely than control to meet physical activity goals when compared to control (P < 0.007) Conclusion: This study does not support the relationship between goal setting and goal attainment in the CR setting 	

Study 5 – Stamm-Balderjahn et al. (2016). The efficacy of goal setting in cardiac rehabilitation: A gender specific randomized control trial					
Study Design &	Sample	Methodology	Strengths & Limitation	Results	
Purpose					
 Mixed method design (Analytic study RCT & Qualitative phenomenological component) Mixed method The purpose of the study was to determine if setting gender specific behavior goals that were mutually agreed upon between health care professional and patient, would prolong the positive effects of CR n=5 fem Pati enro prog Pati enro prog Inte goa 	45 (48% nale, 52% male) ients with CHD olled in a CR gram ntrol – no goal ing ervention 1 – 1 setting ervention 2 – 1 checking	 Patients were randomly assigned to one of the three groups Patients were assessed at baseline, the end of CR, 6 months, and 12 months for exercise, diet, and tobacco habits; subjective health status; medication adherence; blood pressure, cholesterol, blood sugar levels, and BMI Goal setting was established via interviews and group discussion 	 Guideline based interviews used consistently to identify personal goal statements Response rate was 98% Group setting prevented complete anonymity with respect to person goals and may lead to socially acceptable responses Ethical approval was obtained but no mention of informed consent (somewhat implied by ethical approval) Potential that patients may have been led into their goals by health care provider (information bias) 	 Improving physical activity was a more common goal for men than women Diet changes were more important to women than men Women who worked had a greater improvement in exercise behavior than men who were unemployed (p<0.01) There was no difference in the desired outcome measures between the three groups Conclusion: This study provides interesting gender differences in goal setting and attainment but did not show evidence to support goal setting as being an effective method of helping clients reach mutually agreed upon goals. It is reassuring to know that goal setting does not hinder goal attainment. 	

Appendix E

Critical Appraisal of Literature Related to Knowles' Principles of Adult Learning

Key Question: Is there evidence to support the effectiveness of the principles of adult learning?

Study 1 – Beder & Carrea (1998). The effects of andragogical teacher training on adult students' attendance and evaluation of their teachers Rating –Moderate quality; strong design				
Study Design &	Sample	Methodology	Strengths & Limitation	Results
Purpose				
 Analytic study RCT The purpose of the study was to determine the effectiveness of andragogy The outcome measures used were attendance rates and teacher evaluations The hypothesis being that teachers trained in andragogy would have higher attendance rates and better evaluation scores 	 n=87 adult educators The site was a large adult education public school in New Jersey Treatment group – teachers were given a 9 hour course on hour to facilitate andragogy in the classroom (n=26) Placebo (n=27) – teachers used their typical style of teaching Control group (n=34) 	 Educators were partially randomized to either Tuesday or Thursday classes (if they could only work on Tuesdays or Thursday, they were assigned to the group but the rest were randomized) A coin toss was used to determine what day would be assigned to the intervention versus the placebo 	 Both the placebo and the treatment group were unaware they were part of an experiment Evaluation tool tested for reliability and validity Differences between classes accounted for statistically and not found to be influential (no selection bias) No mention of ethical approval however no harm incurred to participants P set at 0.10 (Larger than usual) Potential for placebo and control educators to take on characteristics of their andragogy trained peers Study not related to health care 	 Students in the treatment group had higher rates of attendance but did not score their educators higher than the control or placebo groups Conclusion: Using techniques specific to adult learners can improve attendance rates however, the study quality is moderate given the high p level threshold and results should be considered with caution

out-of-hospital training Rating – high quality; strong design					
Study Design &	Sample	Methodology	Strengths & Limitation	Results	
 Analytic study RCT The purpose of the study was to determine if an adult learning/self-directed education was more effective than traditional lecture based education in the training of medics 	 Army medic students were randomly selected to the control or experimental group (n=150 Control group received medic training via traditional lecture based education (n=69) The experimental group received medic training using an adult learning/self- directed education module (n=69) 	 Army medic students were randomly assigned to control or experimental group Outcome measures included confidence in skill performance and examination grades The hypothesis was that those in the experimental group would have greater confidence in their skill performance and achieve higher examination scores 	 Ethical approval obtained Randomization of subjects means low risk for confounding variables Statistical analysis was completed to ensure groups were similar at baseline Students were tested using a standardized examination (NREMT) Study specific to young adults in the military setting therefore results may not be transferable to older adults in the CR setting Difficult to determine if self-direction or adult learning principles were most influential Exam scores may not be the best indicator for actual clinical performance Participants blinded to the purpose of the study, however, recognized differences in programs when interacting with peers (potential for information bias) 	 Examination scores in the experimental group were higher than in the control group (p<0.05) There was no statistical difference between self assessed level of confidence with skills between the two groups Conclusion: This study demonstrates the potential for adult learning and self directed learning to improve knowledge, however, the data may not be transferable to the CR population due to the difference in age groups and context of the study 	

Study 2 - De Lorenzo & Abbott (2004) Effectiveness of an adult learning self-directed model compared with traditional lecture-based teaching methods in

Study 3 – Mitchell & Courtney (2004). Improving transfer from the intensive care unit: The development, implementation, and evaluation of a brochure based						
on Knowles' adult learning theory						
Rating – Moderate qu	ality; moderate design					
Study Design &	Sample	Methodology	Strengths & Limitation	Results		
Purpose						
 Analytic (CBA)/Descriptive mixed method design The purpose of this study was to determine if the application of Knowles' adult learning theory to a brochure would improve the experience of nurses, patients, and family members transitioning from the ICU to the general ward 	 ICU nurses (n=33) Family members of patients who were transferred out of the unit (n=162) Control – Family members who experienced the transfer before the creation of the brochure (n=82) Intervention – Family members who experienced the transfer using the brochure (n=80) 	 Family members from the control and the intervention group were asked to complete a questionnaire to determine their satisfaction with the transfer process The nurses involved in transfers using the brochure were also surveyed 	 Ethical approval obtained Patient data protected One site and one unit study Questionnaires were tested during a pilot for reliability The study was based in the acute care setting therefore the data may not be transferable to the CR setting The authors claimed the study offered strong support for Knowles' theory, however, any information is better than no information A direct link cannot be made between the results of the study and the use of Knowles' principles Nursing opinions were not tested pre and post 	 The family members who encountered a transfer after the development of the brochure were more satisfied, felt better prepared, felt more informed, and had fewer worries than the control group (p=0.01, p=0.002; p=0.001, p=0.024; respectively) The nurses felt the brochure helped improve communication with family members. 60% of nurses felt it promoted discussion about the patient 95% of nurses promoted the continued use of the brochure for future transfers Conclusion: This study supports the effectiveness of a brochure created using Knowles' principles, however, a direct link between the principles and the effectiveness of the brochure cannot be made due to the nature of the study 		

Study 4 – Nixon et al. (1996). A comparative study of teacher directed and self directed methods of teaching clinical skills to undergraduate nursing students						
Rating – High quality; strong design						
Study Design &	Sample	Methodology	Strengths & Limitation	Results		
Purpose						
 Analytic study RCT The purpose of the study was to compare the effectiveness of self-directed versus teacher-directive education 	 Subjects were 2nd year undergraduate nursing students in Victoria, Australia (n=60) Subjects were randomly allocated into either self- directed (intervention) or teacher-directed (control) groups 	 The control group received instruction as usual in the lab setting. This consisted mainly of lecture/tutorial, followed by skills demonstration, and then practice The intervention group received a self-directed learning kit prior to the lab that included an array of learning resources and a self- assessment test. The students booked the lab for practice on their own time Outcome measures included test scores at midterm and end of semester for cognitive and psychomotor domains of learning 	 Demographics were statistically analyzed and were not deemed significant (no selection bias) Informed consent was obtained Tests used in the study were trialed in a pilot to test reliability, consistency, and validity One site study with a very specific group reduces transferability of findings and may not be generalizable to older adults in the CR setting Small sample size Unable to account for ancillary learning opportunities like clinical experiences or previous life experiences 	 The self-directed learning group showed a higher level of competency in both the cognitive and psychomotor domains of learning when compared to the control group (p<0.005) Conclusion: Knowles' principles view adult learners as self-directed. This study suggests self-directed learning is an effective way to increase competency in both the cognitive and psychomotor domains. It is unclear whether or not this data can be generalized to the older adult in the CR setting 		

Study 5 – Rosenblum & Darkenwald (1983). Effects of adult learner participation in course planning goal achievement and satisfaction						
Rating – Moderate quality; weak design						
Study Design &	Sample	Methodology	Strengths & Limitation	Results		
Purpose						
 Analytic study RCT The purpose of the study was to determine if learner participation in course planning led to greater goal achievement and satisfaction when compared to completing a pre- designed course 	 Nursing supervisors enrolled in a nursing supervisor course (n=28) The experimental group helped design their nursing supervisor course The control group were given the curriculum designed by the experimental group 	 The study is based on the adult learning principle that adults want to be involved in the planning of their learning and are active participants in the learning process The nurses were randomly assigned to control or experimental group The hypothesis was that nurses in the experimental group would be more satisfied with the course and would demonstrate better results The experimental group were able to choose content and how they would prefer the content delivered 	 Study is not recent work You could argue that the curriculum provided to the control diluted the effects of the study because it is reasonable to assume that the nurses would all want to learn similar things based on their similar backgrounds The test used was the Supervisory Test Advised and this has been tested for reliability Satisfaction was scored using Urdang's semantic differential scale. This was tested for reliability and validity Very specific population therefore results may not be transferable to other populations like older adults in CR 	 No differences were found between the control and experimental groups on goal achievement or satisfaction Conclusion: The overall design of this study is flawed by the lack of a true control. This study neither proves or disproves the effectiveness of Knowles' theory 		

Study 6 - Strawbridge (1999). The effectiveness of andragogical instruction as compared with traditional instruction in philosophy courses				
Rating – High quality; strong design				
Study Design &	Sample	Methodology	Strengths & Limitation	Results
Purpose				
 Analytic study Pre and post test control group design The purpose of the study was to test the effectiveness of andragogy as compared with traditional instruction among entry level philosophy students 	 College students enrolled in an entry level philosophy course (n=40) Control received traditional teaching style (n=21) Intervention group received andragogy teaching approach that included opportunities to create own learning objectives, planned their own evaluation strategies, etc. via a learning contract 	 Students were randomly assigned into to control or intervention groups Outcome measures included course achievement and course evaluations The hypothesis being that students in the intervention group would have higher grades and be more satisfied with the course 	 Setting and population may produce data that is not transferable to older adults in CR Evaluation form test for validity and reliability Informed consent obtained The two groups were statistically analyzed for homogeneity and were not found to be significantly different One site study Randomization therefore low risk of confounding variables 	 No statistical difference was found in either achievement or satisfaction between the control and intervention groups (p=0.05) Conclusion: This study does not support the effectiveness of andragogy and therefore Knowles' theory of adult learning. It can be argued that andragogy does hinder adult learning as well

Appendix B

Surveys Used During the Consultations

Health Care Professional Survey Masters of Nursing Project Creating a Cardiac Rehabilitation Curriculum

Disclosure: This questionnaire is being used to collect data as part of my final practicur project for my Masters of Nursing course at Memorial University. The purpose of this questionnaire is to collect data from health care professionals who are directly or indire involved in a cardiac rehabilitation program that includes patient education. I am intere in finding out what you feel are important topics or content to be included in a cardiac rehabilitation curriculum. I am also interested in how you feel this content should or shout be delivered. Your answers may be used to guide curriculum development but you remain anonymous in any published work. You are in no way obligated to complete this questionnaire. By answering the questions, you have given consent to use your answers project through Memorial University. If you have any questions please contact me, Tany Matthews, at <u>tamatthews@gov.pe.ca</u> or by phone 902 388 1405.

1. What content or topics do you feel should be included in the cardiac rehabilitation program?

2. What teaching methods of delivery do you feel are effective v educating this particular population? In other words, how do y feel the content should be delivered?

3. What teaching methods do you think would be highly ineffec when teaching this particular population?

Thank you for participating in this survey. If you have any question please contact Tanya Matthews RN Memorial Masters of Nursing Stu @ 902 388 1405 or vial email at tamatthews@gov.pe.ca

Patient Survey Masters of Nursing Project at Memorial University Creating a Cardiac Rehabilitation Curriculum

Disclosure: This questionnaire is being used to collect data as part of my final practicum project for my Masters of Nursing course at Memorial University. The purpose of this questionnaire is to collect data from individuals who have been directly or indirectly involved in a cardiac rehabilitation program that includes patient education. I am interested in finding out what you feel are important topics or content to be included in a cardiac rehabilitation curriculum. I am also interested in how you feel this content should or should not be delivered. Your answers may be used to guide curriculum development but you will remain anonymous in any published work. You are in no way obligated to complete this questionnaire. By answering the questions, you have given consent to use your answers in my project through Memorial University. If you have any questions please contact me, Tanya Matthews, at tamatthews@gov.pe.ca or by phone 902 388 1405.

1. What content or topics do you feel should be included in the cardiac rehabilitation program?

2. What teaching methods of delivery do you feel are effective when educating this particular population? In other words, how do you feel the content should be delivered?

3. What teaching methods do you think would be highly ineffective when teaching this particular population?

Thank you for participating in this survey. If you have any questions, please contact Tanya Matthews RN Memorial Masters of Nursing Student @ 902 388 1405 or vial email at tamatthews@gov.pe.ca Appendix C

Consultation Report

The Development of an Evidence-based Cardiac Rehabilitation Curriculum that Incorporates Patient Centered SMART Goals: Consultation Report Tanya A. Matthews

Memorial University

The Development of an Evidence-based Cardiac Rehabilitation Curriculum that Incorporates Patient Centered SMART Goals: Consultation Report

Cardiovascular disease (CVD) is a leading cause of death and hospitalization in Canada (Canadian Institute of Health Information, 2011; Janssen & Katzmarzyk, 2009). Risk factors for CVD include smoking, high blood pressure, abnormal lipid profile, inactivity, poor nutritional habits, obesity, gender, race, concurrent diseases that involve vascular inflammation, positive family history, and diabetes (Urden, Stacy, & Lough, 2014). After a patient experiences a cardiovascular event, initiating secondary prevention strategies that target modifiable risk factors and encourage h.ealthy behavior changes can avert future events (Lawler, Filion, & Eisenberg, (2011)

Cardiac rehabilitation programs that include exercise and patient education have been shown to reduce mortality, provide symptom relief, reduce smoking rates, increase exercise tolerance, reduce risk factors, and improve psychosocial wellbeing in patients with CVD (Mampuya, 2012). It is well known and undisputed that exercise improves cardiovascular health, however, there is also evidence to support that patient education can produce positive behavioural and outcomes in patients with coronary artery disease independent of exercise (Aldcroft, Taylor, Blackstock & O'Halloran, 2011; Ghisi, Abdallah, Grace, Thomas, & Oh, 2014; Mullens, Mains, & Velez, 1992). The education component of CR is an important contributor to positive participant outcomes and therefore needs to be carefully considered. The goal of this practicum project is to develop an education curriculum for a newly established CR program in PEI to assist educators in delivering evidence-based information that will assist participants in meeting their wellness goals. Education is an important component of cardiac rehabilitation and is

the first step in promoting healthy behavior change, reducing risk factors, and fostering self-management in patients who have experienced the effects of CVD.

An effective cardiac education curriculum requires appropriate content and careful consideration of the delivery of the content. An effective curriculum must be based on scientific evidence related to risk factor reduction but should also meet the learning needs identified by the target population. Furthermore, information can be gathered from staff members who work closely with CR participants. Experienced staff would house valuable information about the common learning needs of CR participants. Consulting clinical experts and patients adds to the scientific data collected via a literature review by providing information that is highly specific to the context of the program being implemented. Consultation with experts in the clinical setting acts as a bridge between knowledge and practice and can facilitate change and program development (Dias, Chambers-Evans, & Reidy, 2010; Barron & White, 2009; Lewandowski & Adamle, 2009). A consultation plan that involves patients, staff, and clinical expert's feedback is required in order to gather data necessary to create a comprehensive evidence-based CR curriculum.

The purpose of this project is to create an evidence-based CR curriculum that is patient-centered, incorporates Knowles's (1980) adult learning principles, utilizes patient SMART goals (Doran, 1981), and is framed using King's (1991) theory of goal attainment. Consulting patients and clinical experts in CR is an important part of the data collection process. The following is a description of the process of consultation, ethical considerations, a summary of the results obtained from the consults, and the implications of the findings. The data collected from the consultations, in combination with the results

from the previously conducted literature review, will be used to determine the content and delivery of an evidence-based CR curriculum in Prince Edward Island (PEI).

Selection of Participants

Empirical evidence is just one way of gathering information about a topic. There are many ways of knowing (Rycroft-Malone et al., 2004). The empirical evidence gained literature review needs to be supplemented by information about the context of the phenomenon of interest and the available resources in that particular setting need to be considered (Hudson, Duke, Hass, & Varnell, 2008). The people who work within and access the health care system are complex beings that cannot be surmised in a single literature review; therefore it is important to consult individuals as well when developing and implementing new projects. Consultations provide a valuable source of contextual information.

The first step of the consultation process was to identify key informants to provide important contextual information. For this project, I was interested in gathering information from those who participated in a CR program, health care providers who worked directly with the participants, and clinical experts in CR. The main objective was to gather data from key informants about priority education needs for participants in CR, and the most effective teaching methods used to deliver the education.

The CR program in PEI uses a collaborative model of care. This means that a variety of health care professionals are utilized to deliver care to participants. The interdisciplinary team members work directly with CR participants. The team members include a Respiratory Therapist (RT), Registered Nurse (RN), and Physiotherapist (PT). A Registered Dietician (RD) also spends six sessions with the participants. Other guest

speakers include a social worker, psychologist, internal medicine physician, spiritual care worker, and a motivational speaker.

An advisory board indirectly supports the participants by dealing with issues related to program development, implementation, evaluation, and resource allocation. The advisory board consists of a program lead, program manager, program director, an internal medicine physician with a special interest in cardiac patients, two directors of hospital services, a former CR patient, and a Heart and Stroke Foundation representative.

The CR program exists to service individuals who have experienced a cardiac event. Current and past participants of CR were key informants that provided experiential knowledge that cannot be obtained from a literature review, clinical experts, or health care providers. In order to meet the learning needs of the participants, it was imperative to gain insight into what they viewed as important education topics, effective education delivery methods, and priority health concerns.

The CR program in PEI is in its infancy. There are well-established CR programs in neighbouring provinces. Consulting experts affiliated with existing CR program can provide valuable information about lessons learned during their many years of trial and error, provide advice on what education content the staff and patients view as valuable, and share what methods of delivery have been most effective during education sessions with participants.

In an ideal situation, all of the aforementioned key informants would be approached to gather data. Unfortunately, time and circumstance did not allow for this to happen. I had planned on accessing the members of the advisory board at a meeting scheduled for March 9th, 2017 but this meeting was cancelled and rescheduled to a date

outside of my deadline. The current participants in the CR program are already burdened with completing a number of pre- and post-surveys so I felt it was more reasonable to review their previously written health care goals, rather than burden them with more surveys. Despite these shortcomings, I was able to gather data from the RT, PT, RN, RD, program manager, cardiologist, a former CR patient, and a clinical expert in CR from a well-established CR program in New Brunswick. The data collected from this diverse group of key informants can now be used to supplement the data collected from the literature review in order to develop an inclusive curriculum for the new CR program in PEI.

Data Collection and Management

Two methods of data collection were used during the consultation process: A prospective survey of key informants and a retrospective review of previously written CR participant goals. Key informants were emailed a short survey to collect qualitative data related to priority education topics for CR and effective and ineffective teaching methods. The key informants were asked three questions:

1. What content or topics do you feel should be included in the cardiac rehabilitation program?

2. What teaching methods of delivery do you feel are effective when educating this particular population? In other words, how do you feel the content should be delivered?
3. What teaching methods do you think would be highly ineffective when teaching this particular population?

The key informants included a cardiologist with previous experience in CR, a former CR patient, the program manager, a physiotherapist, registered dietician, registered nurse, and respiratory therapist. The key informants were emailed a survey. In the email I described the purpose of the survey and indicated that completing the survey implied consent. I reassured the informants that their responses would be kept confidential and their names would not be used in any written reports. I also reassured the informants they were in no way obligated to complete the survey. A due date was indicated in the email and I assumed the informant opted out if they did not respond by that date. I noted in the email that there were no right or wrong answers to the survey questions and I was simply interested in their opinion based on their experience. See Appendix A for a copy of the participant and health care provider surveys used to collect the data.

All of the key informants who were emailed completed the survey. I printed the email responses as I received them and stored them in a locked file folder in a locked room at my place of work. The electronic version of the emails is currently housed in a separate folder in my inbox and will be deleted upon completion of this project. My email account and computer are password protected. Upon completion of this project, the printed hard copies of the surveys will be manually shredded.

As mentioned, I did not want to burden the current participants in the CR program with more surveys to complete. In lieu of this I decided to retrospectively review the participant goals set on the first day of the CR program in order to gain insight into what participants felt were their priority health care concerns and areas for improvement. I

approached the program manager to discuss any concerns surrounding confidentiality and consent related to gathering this data from the participant charts. The program manager is a masters prepared physiotherapist who is very familiar with health ethics board procedures. She explained the information gathered from the patients would have been gathered and utilized anyway. The data collected would benefit the patients and not induce any foreseeable harm and therefore would not require informed consent. To protect patient confidentiality, the data collected from the patient goals was aggregated and no patient identifiers were used.

Ten documents containing previously written goals were obtained from the participant charts with permission from the program manager and staff. Each of the ten participants were asked to write down two to three personal health goals they would like to achieve during cardiac rehabilitation during the first day of CR. A total of 30 individual goals were reviewed and analyzed. Staff were instructed to notify me at any time if they needed the goals document when working with the participants. The participant goals were housed with the survey responses in a locked file folder in a locked room in a locked building with a security system when not in use. The written goals are considered part of the participant's chart. As per the Health PEI information management policy, the participant charts will be destroyed after ten years.

Ethical Considerations

Based on the Health Research Ethics Authority Screening Tool outlined in Appendix B, this project does not require approval from an ethics review board. Despite not requiring ethics board approval, there were ethical considerations that I carefully examined.

The patient goals were collected during the first session of the CR program. The purpose of the goal setting activity was to provide patients with an opportunity to think about what they wanted to achieve during CR. The goal setting activity also allowed staff to gain insight into the patients' perception of priority health concerns in order to create individualized action plans. The purpose of the activity was fully disclosed to the patients. As previously mentioned, I was concerned that using the patient goals in my project would require informed consent, however, this was not necessary. To protect participant confidentiality, the data collected from the patient goals was aggregated and no participant identifiers were used.

I ensured the survey administered to the health care professionals and former CR patient included a disclosure statement and an email message that informed the participants of how their responses would be used, put in place measures to ensure confidentiality, reassured the participants they were not obliged to participate, and made it clear that by completing the questionnaire they implied consent to participate. The patient goals and questionnaire responses are locked in a cabinet, in a locked room, in a locked building when not in use. The questionnaire data will be destroyed after completion of this project and the patient goals will be destroyed with the patient's chart after ten years.

Data Analysis

Content analysis was used to analyze the patient goals and key informant survey responses. Content analysis is a qualitative method of data analysis used to analyze text (Hsieh & Shannon, 2005). The written text was carefully reviewed and words and phrases were coded and grouped into common categories and subcategories where applicable.

The frequency of categorical data was described using descriptive statistics and presented in a bar graft.

The participant goals were analyzed and grouped into four broad categories: Diet, exercise/physical ability, psychosocial-emotional, and medical. Some patient goals were applicable to more than one category.

The survey responses were analyzed in a similar way. Three broad categories were created based on the three survey questions: Content, effective teaching methods, and ineffective teaching methods. Under each of the three broad categories, the key informant responses were analyzed and coded into sub-categories. The frequency of responses in each of the sub-categories was calculated and prioritized in order from most frequent to least frequent.

Results

The following section contains the results of the content analysis of the patient goals and survey responses. The raw data was analyzed and basic descriptive statistics were used to determine the most common patient health care goals and what key informants feel are the most important education topics in CR, the most effective teaching methods for education delivery, and what teaching methods should be avoided.

Patient Goals

The personal health goals of ten participants currently enrolled in CR were analyzed. Each participant wrote down three goals therefore a total of 30 goals were analyzed using content analysis. One goal was illegible and was therefore not used. The goals were coded and grouped into four broad categories: Diet, exercise/physical ability, psychosocial-emotional, and medical. Some participant goals were applicable to more

than one category. See Appendix C for a summary of the raw data collected from the participant goals and the categories that emerged. The frequency of goals per category was analyzed and illustrated in a bar graft. See Figure 1 for the frequency of goals per category.



The participant goals within each broad category were reanalyzed to determine

common themes that could be used to guide curriculum development. See Table 1 for a summary of the themes.

Table 1 – Summary of themes to guide CR curriculum development		
Category	Summary of common themes within patient goals that can be	
	used to guide curriculum development	
Diet	Provide examples of healthy dietary choices	
	• Tips on how to maintain a healthy diet	
	• Understanding of the components of food and how it	
	impacts the body	
Exercise/Physical	Introduction on to how to use gym equipment	

Ability	Information on how to exercise safely
	• Tips on how to maintain exercise after the CR program
	• Understanding and using proper technique during exercise
Psychosocial-	• Tips on how to stay motivated when attempting lifestyle
emotional	changes
	• Understanding the range of emotions that occur after a
	cardiac event such as anger, fear, and confidence
	Reiterate the importance of attendance
Medical	• Tips on how to safely and healthily lose weight
	• Education regarding the importance of medication
	compliance
	• Education regarding the health benefits of exercise and
	healthy diet
	• Education regarding the anatomy and physiology of the
	heart

Based on the results of the content analysis of the participant goals, the most frequently cited health goal of participants in CR was related to exercise habits and physical ability. Goals related to diet and nutrition were the next most frequent health goal identified by CR patients. The secondary analysis of the patient goals revealed themes within each of the broad categories that can be translated into actions that can be incorporated into a CR program in order to help participants meet their personal health goals.

Surveys

The survey responses were grouped into three main categories based on the three questions used in the survey: Content, effective teaching methods, and ineffective teaching methods. See Appendix D for a table containing the raw data collected from the key informants on content, effective, and ineffective teaching methods. To ensure anonymity of the respondents, the data collected was aggregated within each of the three main categories.

Each of the responses in the three main categories was reanalyzed. Responses were placed into subcategories and the frequency of responses for each subcategory was calculated. The subcategories included risk factors, anatomy and physiology, exercise, medications, psychosocial-emotional, diet and nutrition counselling, and selfmanagement. The subcategories were then merged to create a final list of potential CR topics. See Figure 2 for a bar graft listing the subcategories in order from highest number of responses to the lowest number of responses. See Table 2.a, 2.b, and 2.c. for a summary of the subcategories created for each of the main categories including content, effective teaching methods, and ineffective teaching methods.

Table 2.a. – Subcategories of Content That Emerged from Key Informant Responses		
Subcategory	Key Informant Responses	
Risk factors	Risk factors and causes of CAD	
	Smoking	
	Understanding risk factors	
	Risk factor modification	
	Smoking cessation	
Anatomy,	Pathophysiology of CAD	
physiology, and	 Anatomy and physiology 	
pathophysiology	 Anatomy and physiology 	
	Erectile dysfunction	
	Pathophysiology of cardiac conditions	
Exercise/Physical	• Exercise	
Activity	• Importance of physical activity	
	• Strategies for physical activity and exercise	
	• Guidelines for exercise delivered by a physiotherapist	
	Safety	

	Exercise progression
	• Weight management
Medications	Cardiovascular medications
	• Medical management
	• Importance of taking medications as prescribed to address
	their risk factors
	• Medication education delivered by a pharmacist
	Importance of medications
	Medications
Pyschosocial-	• Stress and anxiety
emotional support	• Strategies for managing stress, anxiety, depression –
	coping strategies
	Psychosocial needs
	• Understanding the grief process post cardiac event
	• Supporting communication between caregiver/ spouse and
	the patient
	• Emotional aspects of having a chronic illness
	• Support talk for the client's family members
Diet/Nutritional	• Diet
Counselling	• Dietary tips
	• Strategies for healthy eating
	• Nutritional counselling and education (delivered by a
	dietician)
	General healthy eating
	Meal planning
	Label reading
	• Heart healthy diet
	• DASH diet
	Portion control
	• Food skills
Self-management	Responsibility for your health outcomes
	• Recognizing the signs and symptoms of angina, acute MI,
	and CHF
	• Information about provincial health care services
	Coping strategies
	• How to treat chest pain and when to seek medical treatment
	• Information on their disease to assist them in

understanding what is happening and how they can be self
managers, recovery timelines
• How to self monitor and keep within target range
Lifestyle management
• Opportunity to share information about advanced care
planning
• Information on the health care system and how to navigate
• Implementation of the behaviour change and self
management processes
• CPR
• How to reintegrate into ADLs, job, hobbies following
event
• How to support behaviour change after rehab with a wrap
up discussion about key tools learning in rehab
• Navigating the health care system
• Going forward with exercise and healthy lifestyle changes
after rehab is over
Cardiac tests and interventions
• Information on tests , etc. not only to assist in being a self
manager, however to address fears
Interventional procedures
Testing and procedures



The teaching methods suggested by the key informants were analyzed and note taking was used to create a list of teaching methods. The list was then analyzed for common themes. The three themes that emerged from the data related to effective teaching methods were effective teaching *aids*, effective teaching *strategies*, and effective teaching *activities*. See Table 3.b. for a summary of the themes that emerged from the data related to effective teaching methods.

Table 2.b. – Themes Related to Effective Teaching Methods		
Theme	Teaching Method	
Teaching aids	Reading material to take home and share with family	
	• Pictures	
	• Models	
	• PowerPoint (< 6 words per slide; one key message per	

	slide)
	Short videos
	Printed diagrams
Teaching strategies	Include family
	• Engage group by asking questions and asking for feedback
	Opportunity for one on one teaching
	 Classroom setting in groups of 12-15 maximum
	• Ensure content is personal and relevant
	Repeat key messages
	• Cater to a variety of teaching styles (auditory, kinaesthetic,
	and visual)
	Didactic
Teaching activities	Break into smaller groups to do activities and then report
	back to entire group
	Group discussion
	Cooking class
	Label tours
	Sharing of stories

The key informants also shared what they felt were ineffective teaching methods for participants in CR. The responses were analyzed and merged into a list of ineffective teaching methods. There was significantly less data to analyze compared to the other sections of the survey therefore no subcategories were developed. See Table 3.c. for a summary of what the key informants considered ineffective teaching methods. See Figure 3 for a diagrammatical representation of the results of the survey analysis.

Table 2.c. – Summary of What Key Informants Felt Were Ineffective Teaching		
Strategies for Cardiac Rehabilitation		
•	Exclusive use of didactic teaching	
•	Lecture	
•	Wordy PowerPoint presentations	
•	Printed materials > grade 6 reading level	
•	Lack of interaction	

Figure 3 – Diagrammatical Illustration of the Results Obtained from the Survey of Key Informants



Limitations

There are a number of limitations that need to be considered when interpreting the results of this consultation report. Participants did not include any family members. Family members are considered an important part of CR and are invited to attend classes with their loved one. The data collected from the surveys lacks the family perspective. It is important to note that all of the goals were obtained from male participants from a single CR site. No females had completed the goal activity and therefore the results lack a female perspective. This is important to note because there is evidence that priority patient goals vary by gender (Ashton, 1997; Grande & Romppel, 2011). No current CR participants were surveyed on education content and delivery needs. The program in PEI does administer a participant evaluation form that contains valuable participant feedback but the evaluation will not be conducted until after the due date of this project. Content analysis, although methodical, does allow for a certain amount of subjectivity. It is possible that another researcher may analyze the data and generate different categories and subcategories that could change the frequency of the responses for each.

Discussion

In summary, data was collected from key informants including current participants enrolled in CR, a former patient of CR, a RT, RD, RN, and PT, the CR program manager in PEI, an experienced out of province CR manager, and a cardiologist with experience in CR. The health care goals of ten current CR participants were analyzed. The goals were coded and grouped into four main categories: Exercise/physical ability, diet, psychosocial-emotional, and medical. The most frequently documented goal was related to exercise and physical ability. Notably, all of goals were derived from male participants. This finding is congruent with the results of a study by Grande and Romppel (2011) that found gender differences between the types of goals set by CR participants and also found physical endurance to be the most common goal among men.

A variety of health care professionals and a former CR patient were surveyed to discover their opinion on what content should be included in a CR program and the most effective and ineffective ways of delivering the content. The key informant responses related to content were coded. Eight categories of education topics emerged and included risk factors, anatomy and physiology/pathophysiology, exercise, medications,

psychosocial-emotional, diet, self-management, and tests/interventions. The most frequently identified category was self-management; followed by diet and nutritional counselling, and exercise. It is notable that diet and exercise were both considered an important health care goal by participants of CR and viewed as an important education need by health care professionals and former CR participants.

The Canadian Association of Cardiac Rehabilitation (CACR, 2009) recommends that health behavior modification, risk factor reduction, and self-management techniques be part of all CR programs and state all participants require education and support related to nutrition counseling, lipid management, hypertension management, smoking cessation, weight control, diabetes management, pharmacology, psychosocial support, physical activity, problem-solving, decision-making, resource utilization, and action planning (CACR, 2009). There is congruency between what the CACR (2009) has established as evidence-based topics to include in CR and what the key informants surveyed in this consultation report view as important topics. One new topic, cardiopulmonary resuscitation education for participants and family members, emerged from this consultation report. This topic was not captured in the previously conducted literature review or CACR guidelines. Although not explored as part of the previously conducted literature review, it may offer family members and patients a sense of control and decrease the anxiety related to the prospects of a future cardiac event.

The responses related to effective and ineffective teaching methods were also analyzed. Three main themes emerged from the responses: Teaching aids, teaching strategies, and teaching activities. Recommended teaching aids included reading material

to take home and share with family, pictures, models, PowerPoint (< 6 words per slide; one key message per slide), short videos, and printed diagrams.

Recommended teaching strategies included involving family, engaging the group via questions and feedback, providing an opportunity for individual education, using a classroom setting, ensuring the content is personal and relevant, repeating key messages, catering to a variety of learning styles (auditory, kinaesthetic, and visual), and sparingly using a didactic approach.

Recommended teaching activities included breakout groups, group discussion, cooking classes, label tours, and sharing of stories. Exclusive use of didactic teaching, lecturing, wordy PowerPoint presentations, providing printed materials greater than a grade six reading level, in-hospital education, and lack of interaction were identified as ineffective teaching methods.

Many of the responses related to effective and ineffective teaching methods by key informants surveyed in this consultation report align with Knowles' (1980) principles of adult learning. According to Knowles' theory adults need to be involved in the learning experience and the content needs to be problem-orientated and relevant to them. Adults are self-directed learners who have rich life experiences that can be used to facilitate learning. The suggested teaching methods of sharing stories, providing opportunities for group discussion and activities, avoiding lecture-style, and ensuring content is personal and relevant are congruent with Knowles' principles of adult learning. By giving participants the opportunity to identify their health care goals at the beginning of a CR program further support the notion that adults are self-directed and capable of deciding what aspects of their health are most important based on their life experiences.

Conclusion

Based on the findings from this consultation report I can conclude that male participants in CR commonly identify exercise and improvement of their physical ability as an important health goal. No conclusion can be drawn as to whether or not this applies to women as well. The key informants surveyed in this consultation most frequently identified self-management strategies as important content to be included in a CR program, followed by diet and nutritional counselling and exercise. Many of the effective and ineffective teaching methods identified by the key informants align with Knowles' principles of adult learning.

Classroom time is limited in CR therefore the time spent with the participants needs to be utilized effectively. The results of this consultation report lend evidence to support education on physical activity, exercise, diet and nutritional counselling, and selfmanagement that is delivered in an interactive environment using the principles of adult learning may help meet the learning needs of participants and assist in achieving wellness goals.

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Appendix A

Health Care Professional Survey Masters of Nursing Project Creating a Cardiac Rehabilitation Curriculum

Disclosure: This questionnaire is being used to collect data as part of my final practicum project for my Masters of Nursing course at Memorial University. The purpose of this questionnaire is to collect data from health care professionals who are directly or indirectly involved in a cardiac rehabilitation program that includes patient education. I am interested in finding out what you feel are important topics or content to be included in a cardiac rehabilitation curriculum. I am also interested in how you feel this content should or should not be delivered. Your answers may be used to guide curriculum development but you will remain anonymous in any published work. You are in no way obligated to complete this questionnaire. By answering the questions, you have given consent to use your answers in my project through Memorial University. If you have any questions please contact me, Tanya Matthews, at tamatthews@gov.pe.ca or by phone 902 388 1405.

1. What content or topics do you feel should be included in the cardiac rehabilitation program?

2. What teaching methods of delivery do you feel are effective when educating this particular population? In other words, how do you feel the content should be delivered?

3. What teaching methods do you think would be highly ineffective when teaching this particular population?

Thank you for participating in this survey. If you have any questions, please contact Tanya Matthews RN Memorial Masters of Nursing Student @ 902 388 1405 or vial email at tamatthews@gov.pe.ca

Patient Survey Masters of Nursing Project at Memorial University Creating a Cardiac Rehabilitation Curriculum

Disclosure: This questionnaire is being used to collect data as part of my final practicum project for my Masters of Nursing course at Memorial University. The purpose of this questionnaire is to collect data from individuals who have been directly or indirectly involved in a cardiac rehabilitation program that includes patient education. I am interested in finding out what you feel are important topics or content to be included in a cardiac rehabilitation curriculum. I am also interested in how you feel this content should or should not be delivered. Your answers may be used to guide curriculum development but you will remain anonymous in any published work. You are in no way obligated to complete this questionnaire. By answering the questions, you have given consent to use your answers in my project through Memorial University. If you have any questions please contact me, Tanya Matthews, at tamatthews@gov.pe.ca or by phone 902 388 1405.

1. What content or topics do you feel should be included in the cardiac rehabilitation program?

2. What teaching methods of delivery do you feel are effective when educating this particular population? In other words, how do you feel the content should be delivered?

3. What teaching methods do you think would be highly ineffective when teaching this particular population?

Thank you for participating in this survey. If you have any questions, please contact Tanya Matthews RN Memorial Masters of Nursing Student @ 902 388 1405 or vial email at tamatthews@gov.pe.ca

Appendix B

Health Research Ethics Authority Screening Tool

	Question	Yes	No
1.	Is the project funded by, or being submitted to, a research funding agency for a research grant or award that requires research ethics review		ন
2.	Are there any local policies which require this project to undergo review by a Research Ethics Board?		V
	IF YES to either of the above, the project should be submitted to a Research Ethics Board. IF NO to both questions, continue to complete the checklist.		V
3.	Is the primary purpose of the project to contribute to the growing body of knowledge regarding health and/or health systems that are generally accessible through academic literature?	٥	Ø
4.	Is the project designed to answer a specific research question or to test an explicit hypothesis?		V
5.	Does the project involve a comparison of multiple sites, control sites, and/or control groups?		V
6.	Is the project design and methodology adequate to support generalizations that go beyond the particular population the sample is being drawn from?		
7.	Does the project impose any additional burdens on participants beyond what would be expected through a typically expected course of care or role expectations?	٥	Ø
LINE	A: SUBTOTAL Questions 3 through 7 = (Count the # of Yes responses)	0	
8.	Are many of the participants in the project also likely to be among those who might potentially benefit from the result of the project as it proceeds?		
9.	Is the project intended to define a best practice within your organization or practice?		
10.	Would the project still be done at your site, even if there were no opportunity to publish the results or if the results might not be applicable anywhere else?	Ø	
11	Does the statement of purpose of the project refer explicitly to the features of a particular program, Organization, or region, rather than using more general terminology such as rural vs. urban populations?		
12	Is the current project part of a continuous process of gathering or monitoring data within an organization?		M

LINE	B: SUBTOTAL Questions 8 through 12 = (Count the # of Yes responses)	3	
	SUMMARY		
	See Interpretation Below		

Interpretation:

- If the sum of Line A is greater than Line B, the most probable purpose is **research**. The project should be submitted to an REB.
- If the sum of Line B is greater than Line A, the most probable purpose is **quality/evaluation**. Proceed with locally relevant process for ethics review (may not necessarily involve an REB).
- If the sums are equal, seek a second opinion to further explore whether the project should be classified as Research or as Quality and Evaluation.

These guidelines are used at Memorial University of Newfoundland and were adapted from ALBERTA RESEARCH ETHICS COMMUNITY CONSENSUS INITIATIVE (ARECCI). Further information can be found at: <u>http://www.hrea.ca/Ethics-Review-Required.aspx</u>.

Appendix C

Summary of the Data Collected From the Patient Goals Per Category

The terms that are bolded in Table one are the key codes that resulted in the creation of		
the broad category		
Category	Raw Data: Patient Goals Verbatim	
Diet	 Understand dist that will halp avoid a requirement 	
Dict	• Onderstand diet that will help avoid a recurrence	
	• Maintain current weight during winter months. Stay active	
	Improve my pytritical choices to another life long healthy	
	• Improve my nutritional choices to ensure life-long nearthy eating to eliminate GERD completely	
	• Rejuvenate my diet	
	• Eat healthy	
	• Diet	
	• Diet – learn how to eat better by understanding the	
	difference in foods, fats, carbohydrates – Drop 10lbs and	
	keep off	
	• Diet – awareness of a healthy diet and tips on how to	
	integrate this into my eating habits	
	• Get some nutritional understanding as well as some	
	understanding of the functions of the heart	
Exercise/Physical	• Exercise – learn how to use different exercise equipment so	
Ability	that I feel more comfortable to use in other settings	
	• Ease my concern over exercise – what are my limits	
	• I would like to walk more comfortably without being off	
	balance	
	• Keep exercising after the program or doing the gym	
	• Participate in the 10K walk/run in October and be able to	
	walk to work by the spring (45-50min)	
	• Knowing my limits – listen to body and pay attention to my	
	reactions – be careful not to push too hard	
	• Maintain current weight during winter months. Stay active	
	and continue to choose real food	
	• Keep exercising after the program or doing the gym	
	• Motivation – get fit and stay that way	
	 Engaging in gym exercises for better health 	

	• Learn to exercise the right way and like to do it	
Psychosocial-	• Learn to exercise the right way and like to do it	
emotional	• Ease my concerns over having a stroke – my biggest fear	
	• Motivation – get fit and stay that way	
	• Exercise – learn how to use different exercise equipment so	
	that I feel more comfortable to use in other settings	
	• Becoming more comfortable with taking care of myself	
	• Anger – "why me" – eliminate or at least understand why I	
	sometimes feel this way	
	• To attend the entire program	
Medical	• Understand diet that will help avoid a recurrence	
	• Ease my concerns over having a stroke – my biggest fear	
	• Improve my nutritional choices to ensure life-long healthy	
	eating to eliminate GERD completely	
	• Healthy lifestyle without medications	
	• Get some nutritional understanding as well as some	
	understanding of the functions of the heart	
	• I would like to know how to care for my heart properly	
	• Lose 30lbs and stay at 175lbs	
	• Diet – learn how to eat better by understanding the	
	difference in foods, fats, carbohydrates – Drop 10lbs and	
	keep off	
	Maintain weight loss	

Appendix D

Raw Data Collected From Key Informants on Content, Effective, and Ineffective

Teaching	Methods	Related	to Cardiac	Rehabilitation
----------	---------	---------	------------	----------------

Summary of	f the raw data collected from the key informant survey responses
Content	• Education about CAD, causes, and risk factors
	• Health weight
	• Diet
	• Exercise
	Smoking
	Responsibility for your health outcomes
	Anatomy and physiology
	Cardiovascular medications
	• Information regarding provincial health care services available
	Cardiac tests and interventions
	Stress and anxiety
	Coping strategies
	Importance of physical activity
	Dietary tips
	• How to treat chest pain and when to seek medical attention
	• Information on their disease to assist them in understanding what is happening and how they can be self managers, recovery timelines
	 Information on tests, etc not only to assist in being a self manager,
	however to address fears
	• Understanding risk factors and how to self monitor and to keep within target range(s) (medical mgt and lifestyle mgt)
	• Importance of taking medications as prescribed. In particular to address their risk factors
	Strategies for healthy eating
	Strategies for physical activity and exercise
	 Strategies for managing stress, anxiety, depression – coping strategies
	• Information about the healthcare system and how to navigate
	Opportunity to share information about advanced care planning
	Risk factor modification and implementation of the Behavior

Change & Self- Management processes (goal setting can be
delivered by a Live Well Coach – Canadian Diabetic Association
NB initiative)
Anatomy and physiology.
Interventional procedures
• Recognizing signs and symptoms of angina, acute myocardial
infarction, congestive heart failure, etc.
• Nutrition counselling and education.(delivered by a dietitian)
• Medication education. (delivered by a pharmacist)
• Guidelines for exercise. (delivered by a physiotherapist)
• Psychosocial needs. (HADS done at intake assessment and consult
to SW or Psychology made accordingly, patients educated on local
supports)
• Safety (done at orientation)
• General healthy eating (ie. Canada's Food guide, healthy plate, etc)
Meal planning
Label reading
• Heart healthy diet (management of dyslipidemia)
• DASH diet (hypertension)
Portion control
Food Skills
• Smoking cessation.(smokers are triage before intake and teaching
starts at first contact, we use the Ottawa Model for Smoking
Cessation)
• CPR
• Erectile dysfunction (Usually done upon intake assessment however
it may be delivered in some class settings when it is felt that most of
the group would benefit)
Pathophysiology of cardiac conditions
 Understanding the grief process post cardiac event
• Supporting communication between caregiver/ spouse and the
patient
• How to reintegrate into ADLs, job and hobbies following a cardiac
event.
Importance of medications
 How to continue to support behavior change post rehab
• Wrap up discussion on the "key tools" learned in rehab to further

	 support adherence to lifestyle changes Exercise progression Navigating the health care system. Testing and Procedures Medications Emotional aspects of having a chronic illness. Support talk for the clients family members Going forward with exercise and health lifestyles after rehab is over
Effective Teaching Methods	 I believe there needs to be a variety of tactics for differing learning styles – visual, auditory and kinesthetic. Methods include pictures, models, open discussion and sharing of stories, etc. Power points should have very few words on them (read recently no more than 6 words per slide focused on one key message – use pictures). I also think key messages need to be repeated as not always get the first time around. Need to make personal and relevant. My observation is people do not always connect the relevance to their situation- e.g. taking meds as prescribed. We use 2 models. We have an outpatient program which is offered within the hospital setting (24 1 hour education sessions) and we offer a community based outpatient program (12 1 hour sessions). All education sessions are delivered in a classroom setting with small groups of 12-15 participants. We invite family members or significant others to join patients for the education component of the program. Cardiac Rehab health care professionals instruct using power point presentations. Label tours and cooking classes are offered by the dietitian in addition to the in class presentation on nutrition. In addition, individual patient understanding of his/her illness will be addressed throughout the Cardiovascular Health and Wellness Program. Education will be continued and monitored to ensure that all of the listed modules have been discussed for optimum risk factor reduction and behavior change. Power points which are not heavily worded. Emphasis on key messages Group discussions- have a question or topic on the power point and look for feedback from the group re: same. Short videos- Used one about the importance of exercises, and
	 participants seemed to really like the "key message" approach of the video. Maybe small group discussions- break group into smaller units and have each group discuss a question or idea presented and report

	 back to the group on their thoughts. May allow participants who are more shy in a larger group to feel their message is being heard. I feel the content should be delivered using pictures and some short videos to show the patients what excately some procedures are, if possible. Group discussions are very important and that is where you find out the most about what the patients already know and their experiences with the health care system. Printed diagrams to show the patients, heart diagrams would be helpful. Discussion Interactive (ie. Grocery store tour, hands on activities where principles can be applied)
Ineffective Teaching Methods	 Lecture style using power points with lots of words. Using language to high level. Need to keep at grade 6 level. Heavily worded power point presentations- difficult to focus on key areas of presentation Lecture style- Presentations that aren't looking for participant interaction or feedback throughout. Only distributing handouts upon discharge from hospital. Teaching at the bedside post cardiac event. Hospital stays are short, not enough time, patient too sedated. Some patients may be case managed but most of the time teaching takes place in a classroom. These patients usually are unable to attend a class regularly. The class setting is preferred as it allows the participant to network with others who have lived a similar experience. The relationships fostered between participants can last a lifetime and participants learn and discuss things as a group therefore they can share their journey with one another creating a kind of support group. Just presenting to the patients via slideshows and not allowing them to have open discussion would be completely ineffective. Didactic

Appendix D

Request to Include Copyright Material Form

Request to Include Copyright Material



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Updated October 2011

Appendix E

Cardiac Education Modules



Cardiac Rehab Education Curriculum - Index

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Project Description

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Cardiac Rehab Education Curriculum - Index

The following documents contain a cardiac rehabilitation education curriculum that was designed to be patient centered and evidenced based.

Literature Review: This curriculum is based on the results of a comprehensive literature review that examined the effectiveness of patient SMART goals and Knowles' principles of adult learning in cardiac rehabilitative care. The literature review also examined patients' perception of learning needs following a cardiac event. The patient's perception of learning needs were compared to the current Canadian Association of Cardiac Rehabilitation recommendations for the core components of cardiac rehabilitation education and current science related to risk factor reduction.



Expert Consultations: The content was also guided by themes that emerged from qualitative data collected during expert consultations. Key stakeholders, clinical experts, current participants of cardiac rehabilitation and a former participant of cardiac rehabilitation provided the data. The nursing theory used to frame the development of the curriculum was King's Theory of Goal Attainment.

Project Goals

Synthesize the data collected from the literature review, expert consultations, and best practice guidelines to create an evidence-based cardiac rehabilitation curriculum that is participant-centered and focused on participant goal attainment

4

- Create a standardized cardiac rehabilitation education resource to be utilized by health care professionals who are responsible for teaching in the cardiac rehabilitation setting
- Enhance the learning experience of participants in the cardiac rehabilitation program by providing an education resource that incorporates the principles of adult learning
- Provide cardiac rehabilitation educators with evaluation tools and activities that will assess if learning has occurred
- Provide information, resources, and activities educators can use during cardiac rehabilitation to help facilitate participants experience in attaining their personal wellness goals, increasing their ability to self-manage their disease, improving their psychosocial wellbeing, and becoming more informed to modify behavior as needed

Kings Theory of Goal Attainment

King's theory of goal attainment was used as an overarching nursing framework for this project. King's theory ascertains that when nurses engage in therapeutic transactions with participants, participant goal attainment is achieved (King, 1991). For the purpose of my project, the term nurse can apply to any health care provider who is engaging with a cardiac rehabilitation participant in a therapeutic manner. The transactions between health care providers and participants occur during learning activities in the classroom setting and in the gym. Each education module index will provide a link between the education activities and King's theory of goal attainment assumptions.

King's Theory of Goal Attainment Assumptions (King, 1991):

- The focus of nursing is human beings interacting with their environment
- Health is the ability to function in social roles
 - Human beings are social, spiritual, sentient, rational, reacting, perceiving, controlling, purposeful, action, and timeoriented
 - Nurse perceptions and client perceptions influence nurseclient interactions
 - Clients have a right to knowledge about their health
 - Clients have a right to accept or reject health care
 - Clients have a right to participate in decisions that influence their health and wellbeing
 - Health care professionals have a duty to provide information so that clients can make informed decisions about their health
- Health care professionals have a duty to collect information about the client's perception of goals in order to attain such goals

Knowles' Principles of Adult Learning

The Canadian Association of Cardiac Rehabilitation (2009) endorses the use of Knowles principles of adult learning in cardiac rehabilitation programs. Knowles' theory (1980) was based on the premise that adults learning differently than adolescents and children and therefore require different teaching strategies in order to facilitate learning. Knowles' theory is based on the following assumptions (Bastable & Dart, 2008):

6



Each module contains an index that outlines how Knowles' principles of adult learning were applied throughout the education module.
SMART Goals

The premise of SMART goal setting is that general goals are less effective at producing outcomes than goals that are specific, measurable, achievable, realistic, and time-bound (Doran, 1981). The American Association of Cardiac and Pulmonary Rehabilitation (2012) recommends the use of SMART goal setting as part of cardiac rehabilitation programs. Participants are capable of setting SMART goals that are relevant to their cardiac risk profiles and can be modified on an ongoing basis and be used as an action-orientated plan of care. For this reason, SMART goal setting has been incorporated into the cardiac rehabilitation program curriculum. As part of the expert consultations, a review of SMART goals set by previous cardiac rehabilitation participants was performed in order to ensure the module topics and content aligned with participant perceptions of important health care goals.

Smart Goals

- Specific
- Measureable
- Attainable
- Realistic
- Time bound

Module Content

Twenty-four education modules were created. Each module contains rationale for the module topic, objectives, key messages, teaching aids and activities based on Knowles' principles of adult learning, a link to King's theory of goals attainment assumptions, evaluation strategies, and referenced content that is patient centered and evidence-based. See Figure 1.



Figure 1 - Diagrammatical illustration of the components of each education module

List of Cardiac Rehabilitation Education Modules

1. Orientation

2. Anatomy and physiology

3. Pathophysiology

4. Tests and interventions

5. Medications I

6. Medications II

7. Risk factors I

8. Risk factors II

9. Dietician

10. Dietician

11. Dietician

12. Dietician

13. Dietician

14. Dietician

15. Stress and heart disease

16. The emotional journey of heart disease

17. Psychologist - coping with stress & grief

18. Physical activity I - Athletics director

19. Physical activity II - Physiotherapist

20. Navigating the health care system

21. Advanced care planning - Social worker

22. Physician & nurse - Q&A

23. Reflection: Keeping a healthy lifestyle

24. Moving forward

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Module 1 - Orientation

Description: This module provides participants with the opportunity to meet the cardiac rehab health care team and understand what cardiac rehabilitation is and the benefits of participating. It also provides participants with the opportunity to become familiar with the cardiac rehab daily routine, gym area, exercise logbook, and exercise equipment.

Rationale for module: An orientation session is very important to adult learners. It helps to reduce anxiety and helps participants know what to expect. Understanding exactly what cardiac rehab is and the benefits of cardiac rehab may help motivate participants to adhere to the program. The exercise portion of the program may be anxiety provoking for those who have never exercise din a group setting or for those who have never used exercise equipment. The orientation session will give the participants a chance to explore the gym and the equipment. Exercise prescription is based on target heart rates therefore teaching the participants how to take their own pulse will facilitate self-management when exercising at home. Participants in cardiac rehab are capable of setting goals that are aligned with their cardiovascular risk profiles and setting SMART goals (Doran, 1981) can improve compliance when attempting lifestyle changes (Dedoncker et al., 2012; Holtrop et al., 2006; Leistra, Streppel, Klamer, Tump, & Weijs, 2015)

Teaching aids/activities:

- PowerPoint Presentation
- Facilitated discussion
- SMART goal handout
- Pulse taking activity and handout
- Hands on orientation to gym area
- Orientation to exercise logbook

Objectives:

By the end of the education session the participants will:

- Be able to identify one benefit of cardiac rehab that is applicable to their own wellness goals
- Be able to accurately check their radial pulse and compare it to their prescribed target heart rate listed in their activity logbook.
- Be able to verbalize a normal heart rate
- Be able to differentiate between a general goal and a SMART goal
- Test one piece of exercise equipment

Key Messages for Participants:

- People who attend cardiac rehab after a cardiac event have better outcomes than those who do not
- Creating SMART goals helps us to achieve our wellness goals
- ✤ A normal resting heart rate is 60 100 beats per minute
- Your exercise logbook contains your target heart rate
- We will have heart monitors on you in the gym, but it is important for you to know how to check your heart rate when you are at home

Evaluation Activity:

Have the participants don their heart monitors. Get them to check their pulse manually and see if their result matches the heart monitor reading

Application of King's Theory of Goal Attainment (King, 1991):

- Clients have a right to knowledge about their health and clients have the right to accept or reject health care: The health
 care team provides evidence-based research related to the benefits of cardiac rehabilitation so that participants can
 choose whether or not the program meets their personal health needs
- Clients have a right to participate in decisions that influence their health and wellbeing: Wellness goals are participant-

driven, not clinician-driven

- Health care professionals have a duty to provide information so that clients can make informed decisions about their health: The participants are taught the benefits of cardiac rehab so they can decide if cardiac rehab is right for them. Participants are taught how to take their own pulse and given their personalized target heart rates so they can engage in safe exercise while at cardiac rehab and when they are at home
- Health care professionals have a duty to collect information about the client's perception of goals in order to attain such goals: The facilitated discussion provides participants with the opportunity to share their reasons for joining cardiac rehab and their personal wellness goals. This will provide the health care team with valuable information to help the team work with the participant to meet personal

Application of Knowles' Principles of Adult Learning (Bastable & Dart, 2008; Knowles, 1980):

- Learning involves change and can induce anxiety: An orientation session is provided to alleviate adult learner anxiety
- Adults are self-directed. The goal-setting activity will give participants an opportunity to direct their own plan of care
 and allow them to set health care goals that are meaningful to them
- Adults are problem focused: The participants can directly apply the benefits of cardiac rehab to their current health status
- Adults prefer engagement over didactic instruction: The pulse taking activity, orientation to the gym equipment, and orientation to the exercise logbook are all hands on activities that require participation as apposed to passive listening. The benefits of cardiac rehabilitation are presented to the group and includes discussion around why the participants chose to join cardiac rehab

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Leistra, E., Streppel, M., Klamer, J., Tump, A., & Weijs, P. (2015). Effect of smart goal setting and nutritional assessment on t reatment compliance in primary care dietetic treatment. *Clinical Nutrition*, 34, 94. doi:10.1016/S0261-5614(15)30341-1

Presenter: Core health care team (Registered Nurse, Physiotherapist, and Respiratory Therapist)





In our program we use a team approach to help you meet your wellness goals. You are at the center of the program. We are here as guides and coaches to help you reach your full potential

Physician Leads – Dr. Bergin and Dr. Irvine Manager – Carolyn MacPhail PT Program Lead - Tanya Matthews RN Registered Nurse – Lindsey Smith RN (Charlottetown) and Tammy Kerwin RN (Summerside) Respiratory Therapist – Katelyn Mahar RT Physiotherapist – Courtney Phillips PT (Charlottetown) and Vanessa Carragher PT (Summerside)

Missing from photo –Tammy Kerwin RN



Our physiotherapist is going to introduce you to your exercise log and walk you through how to take your own pulse rate.

The group will split after this: Half will be orientated to the gym and the other half will stay in the classroom to discuss the benefits of cardiac rehab and goal setting



Reference: Yohannes, Doherty, Bundy, & Yalfani (2010)



Servey & Stephens (2016)



Servey & Stephens (2016)



- · We listened to the patients who were part of the pilot program
- We have incorporated items in the new program based on what the patients told us e.g. Too much dietician, not enough social/emotional support
- Your input and feedback are important to us
- Reach out to us if you have any suggestions as to how we can improve on the program

Reference: Prince Edward Island Cardiac and Pulmonary Rehabilitation Satisfaction Survey Results (2016).



Review the schedule of education topics and routine:

- 1 hour of education and 1 hour of exercise
- The routine will always be the same: When you come in, grab your exercise log
 and heart monitor. We will then take your vitals. If you are diabetic, please take
 your blood glucose level before you come or feel free to use our glucometer. We
 will teach you how to use it if it is unfamiliar to you. We would like to check your
 blood glucose before and after exercise.
- We will take your vitals again after you finish exercising.
- Bring your Nitro/Ventolin
- Bring an epi pen if you have known allergies
- Always wear comfortable shoes
- Bring a water bottle
- Bring your family or friends for support!



You may have found during your encounter with the health care system that interventions were focused on your physical wellbeing. In this program we look at you as a person from all angles of wellbeing including:

- Psychological
- Social
- Spiritual
- As well as the physical.

You are much more than a physical body.

Your goals can incorporate any of these dimensions.

Each dimension is connected to the other.

E.g. You cannot be a physically active person if you are so depressed that you do not feel motivated to get out of bed.

E.g. If you do not have money to pay for your medications (social), than you will not be able to achieve maximum physical wellness (biological)

E.g. Perhaps you had a near death experience (NDE) with your illness and you didn't believe in a God or religion but now you are spiritually confused



Image of stickmen by Lilyu - Own work, WTFPL, https://commons.wikimedia.org/w/index.php?curid=5521126

Discussion: Why did you decide to join the program? What do you want to get out of the program?



Goals are very personal. We respect this.

If you are a smoker, as a health care provider I know that quitting smoking is the single most important thing you can do for your health. But if you are not ready to quit, than this is not a goal of cardiac rehabilitation. We will provide you with the information you need to make an educated choice, but we will not be shaming you into quitting smoking! We will set goals that are meaningful to you.

E.g. I want to be able to walk from the parking lot to the rehab center without taking a break

E.g. I want to be able to play with my grandchildren for a ½ an hour without stopping for a break

E.g. I want to walk/run a 5k by the end of July

E.g. I want to have a more positive attitude

IS Goal:	MY GO	DAL S	.M.A.F	<u>}.T.?</u>
Specific: What EXACIIY do you want to achieve?	Measurable: How will you know when you've actieved II?	Attainable: Is it something you have control over?	Relevant: Why is this applicable to your life?	Time-Based, When do you want to achieve your goal?

Has anyone ever heard tell of SMART goals before? Can you give an example of a goal? Okay, this is how we would make that a SMART goal.

Handout: Participants take home this handout and start to think about their SMART goals and they can share these goals during the next session if they like

Review the SMART goal format.

Example: I want to lose weight SMART Goal: I want to lose 10lbs by the end of the 12 weeks at cardiac rehab

Example: I want to be more social

SMART Goal: By the end of week 6 in cardiac rehabilitation I will participate in class discussions three times Pr.)



Any questions about this presentation or any questions in general about the program so far?

The only silly question is the question that is not asked.

Analogy: When I go to the bank, I am not familiar with the acronyms, the terms they use, or their lingo. I have to ask a lot of questions to fully understand investments and interest rates and so on. I am not immersed in this language every day so it is complicated to me, but it is MY MONEY so it is important for me to understand how it is being managed.

This is the same for you and your health. Health is complicated. Health care providers spend years being educated and can still find it challenging to understand. The key message is to not be afraid to ask questions. Questions are important to us. We want you to know what YOU want or need to know.



Write down two or three goals and try to make them SMART goals



- People who attend cardiac rehab after a cardiac event have better outcomes than those who do not
- · Creating SMART goals helps us to achieve our wellness goals
- A normal resting heart rate is 60 100 beats per minute
- · Your exercise logbook contains your target heart rate
- We will have heart monitors on you in the gym, but it is important for you to know how to check your heart rate when you are at home

+ References:

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Handouts &

Resources





- A normal pulse or heart rate is 60 100 beats per minutes
- Certain medications can slow your heart rate
- Your pulse should have a regular rhythm

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Module 2 – Anatomy & Physiology of the Heart

Description: This module reviews the participant's personal SMART goals and introduces the participants to the anatomy and physiology of the heart and cardiovascular system. This module provides a foundation for the participants to later understand diseases of the heart, tests and interventions, and risk factors for coronary artery disease, heart failure, and other heart problems. This module also introduces atherosclerosis and the role of cholesterol in this process.

Rationale for module: The American Associate of Cardiovascular and Pulmonary Rehabilitation (2013) promote the use of SMART goals (Doran, 1981) in cardiac rehab. Research has shown that participants are capable of setting personal health goals that match their cardiovascular risk profiles and setting these goals can assist with compliance to lifestyle changes and goal attainment (Dedoncker et al., 2012; Holtrop et al., 2006; Leistra, Streppel, Klamer, Tump, & Weijs, 2015). A literature search related to participant perception of learning needs following a cardiac event was conducted. Results indicated that participant's valued knowledge related to how the heart works as a fundamental topic for cardiac rehab (Moranville-Hunziker, Sagehorn, Conn, Feutz, & Hagenhoff, 1993; Wingate, 1990). Furthermore, consultations with key stakeholder for this project, including a former cardiac rehab participant, also indicated that anatomy and physiology was an important topic to include in cardiac rehab programs.

Teaching aids/activities:

- PowerPoint presentation
- Handout: Copy of slides
- Video: Watch video of A&P of heart
- Visual/Tactile: Heart models
- Audio: Listen to heart sounds via video
- Activity: Listen to heart sounds with stethoscopes

Objectives:

By the end of the education session the participants will:

- Have written down or articulated their personal SMART goals related to their health and wellbeing
- * Be able to point to valves, chambers, and coronary arteries of the heart on a diagram or heart model
- Be able to verbalize the difference between the function of the left and right side of the heart by stating the left side of the heart pumps blood to the entire body and the right side of the heart pumps blood to the lungs only
- * Be able to hear their own heart sounds and understand the sound is made from heart valves closing
- Have a beginning understanding of the process of atherosclerosis as evidenced by being able to state why they had heart pain during their heart attack
- Have a beginning understanding of cholesterol and the role of good and bad cholesterol in relation to atherosclerosis as evidenced by correctly answering the question, "What does cholesterol have to do with plaque build up?"

Key Messages for Participants:

- * Keep your goals in sight. Refer back to them often
- Your heart is a pump and it has an electrical system.
- Your heart has a left pump and a right pump. The right side pumps blood to your lungs and the left to the rest of the body
- * Your heart has 4 sets of valves that need to be intact in order for your heart to work properly
- Your heart has coronary arteries that feed the heart muscle nutrients and oxygen
- Coronary arteries can become plugged by plaque build up called atherosclerosis
- High levels of bad cholesterol in the blood contribute to atherosclerosis

Evaluation Activity:

Matching exercise

Application to King's Theory of Goal Attainment (King, 1991):

- Human beings are social, spiritual, sentient, rational, reacting, perceiving, controlling, purposeful, action, and timeoriented beings & clients have a right to participate in decisions that influence their health and wellbeing: In our program, goals are directed by the participants and can be psychological, social, spiritual, or physical in nature
- Clients have a right to knowledge about their health: Understanding the anatomy and physiology of the heart is the first step for participants to understand their disease, treatments, and ways to prevent future cardiac events
- Health care professionals have a duty to provide information so that clients can make informed decisions about their health: Understanding anatomy and physiology is the foundation that will allow participants to understand their disease and risk factors that contribute to the disease process. Having this information will give participants the knowledge they need to make appropriate lifestyle adjustments, if they choose to do so
- Health care professionals have a duty to collect information about the client's perception of goals in order to attain such goals: By having the participants write down and articulate SMART goals, it helps the participants to prioritize what they feel are important health care goals and gives the health care team insight into how to best help the participants achieve their wellness goals

Application to Knowles' Principles of Adult Learning (Bastable & Dart, 2008; Knowles, 1980):

- Adults are independent and self-directed learners: The goal-setting activity is driven by the participants. Participants choose what health care goals they feel are important and the health care team assists in making the goals "SMART". A question period was also included in this module to allow the participants to ask questions that are relevant to them and their specific learning needs
- Adults have a reservoir of life experiences that can be used as a resource for learning: When discussing the different types of heart attacks, the participants are asked if they know what artery or region of their heart has been damaged in order for the group to benefit from each individual story

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Presenter: Registered Nurse



Image of the dissected heart By DrJanaOfficial - Own work, CC BY-SA 4.0, https://commons.wikimedia.org/w/index.php?curid=50477765

There are three main subjects of this module:

- Anatomy and physiology of the heart. In other words, the parts of your heart and how they work
- Athersclerosis this is a fancy word for plaque build up in the arteries or hoses that feed the heart muscle blood and oxygen
- 3. Cholesterol we are going to briefly touch on how cholesterol impacts your heart





Remember your goals are personal. You decide what your goals are, not us as health care providers. We can help you write your goals in a smart format and help you achieve your goals.

Would anyone like to share their goals with the group?

Based on literature, participants in cardiac rehab frequently make goals related to physical activity and exercise or goals related to diet. These are two key components of health and wellbeing and improving in both of these areas can improve your cardiovascular health.



Do you know where your heart is located?between the breastbone and the spine just to the left of the midline inside your rib cage.

Our bodies need oxygen to survive. Blood carries oxygen and the heart pumps the blood (oxygen) through the arteries to the body tissues.

Your heart is a vital organ. You will notice that your heart is strategically placed behind a very strong breastbone we call a sternum. This is the bone that is compressed during CPR. It is very difficult to break the breastbone. During CPR the breastbone usually stays intact but the ribs that attach to the breast bone may break. Together the rib cage and the breast bone protect your heart and lungs from trauma.



In order for the heart muscle to continuously pump, it must be well supplied with oxygen- rich blood. The heart supplies itself with this blood first, before sending to the rest of the body. The heart is supplied with blood by the coronary arteries which are located on the surface of the heart.

All the coronary artery branches send many tiny blood vessels deep into the hear muscle to supply rich blood to all layers of the heart.

Without this blood supply the heart muscle could not function and blockages of the coronary arteries can lead to a heart attack.



(Image taken from http://www.sciencekids.co.nz/images.html. This is a website that permits all use of their images, worksheets, videos and posters without any issues related to copyright. They can be reproduced for school projects or used in any classroom setting)

Heart is divided into 4 chambers:

- Two top chambers (atria)
- Two bottom chambers (ventricles)

The chambers are divided into left and right. The right side of the hearts job is to pump blood that doesn't have any oxygen in it to the lungs where it picks up oxygen and comes back to the left side of the heart.

The left side of the heart's job is to pump blood to the rest of the entire body, including itself. The left side of the heart has a bigger job to do therefore it is bigger and more muscular.

- · Blood from the body (muscles, organs, brain and heart) flows into the right atrium
- When the atrium contracts (squeezes) the valve between the right atrium and right ventricle opens allowing blood to flow into the right ventricle
- When the right ventricle contracts it pumps the blood to the pulmonary artery that goes to the lungs
- Once the blood reaches the lungs, carbon dioxide is removed and fresh oxygen is added to the blood.
- Blood flows back into the left atrium
- When the left atrium contracts the valve between the left atrium and left ventricle opens and the blood flows into the left ventricle.
- From the left ventricle, the oxygen rich blood is pumped into the aorta and then to all parts of the body including the heart itself.

The atria and the ventricles are separated by valves, which allows the blood to flow through the heart in one direction and prevent back flow of blood.

-INTERESTING fact....the sound of your heart beating is caused by your valves opening and closing with each beat

-INTERESTING fact...we used to listen to heart sounds years ago by pressing our heads to the patient's chest...this was considered unmodest. The stethoscope was invented due to modesty, not clearer auscultation

-If the valves are too stiff (stenosis) or too floppy (Regurg or insuffciency), this can interfere with how well the heart pumps. Some of you may have had valve replacements for this reason.

-Does anyone know what valve they had replaced? How did you feel before your valve was replaced? How did you feel afterwards?



Animated video taken from Wikimedia - does not require copyright permission

⁺Matching Exercise:

■Handout

Draw a line from the name of the part of the heart the picture of the heart



Evaluation point: Anatomy of the heart



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Do you know the region of your heart that was affected? Sometimes patients will know if it was the left side or the right side of the heart. Both can be deadly, but the left side tends to have a higher mortality rate.

The most deadly type of heart attack is referred to as the "widowmaker". This is a complete occlusion of your left main artery (as seen in this picture). It feeds the front, side, and back part of your left ventricle. This is the biggest and most muscular part of your heart. Over half of these patients will die before they ever get a chance to seek medical attention.



Some people develop collateral circulation to help protect the heart when a coronary artery is blocked.

As an artery becomes progressively more blocked, small vessels grow to create a natural bypass

The longer the disease is present, the more developed the collateral circulation.

Who do you think is more at risk for dying of a heart attack, a 50 year old or an 80 year old?

Younger patients generally have not had the time to develop the collateral circulation and therefore are at greater risk.

As a nurse, I was always very vigilant if I had a young patient admitted with a heart attack. They often deteriorated suddenly and without warning in comparison to my elderly patients.



Permission to use the diagram has been requested and granted by the American heart association.

Your heartbeat is triggered by electrical impulses that travel down a special pathway through your heart:

The impulse starts in a small bundle of specialized cells located in the right atrium, called the SA (sinoatrial) node. It is known as the heart's natural pacemaker. The electrical activity spreads through the walls of the atria and causes them to contract. The SA node sets the rate and rhythm of your heartbeat. Normal heart rhythm is often called normal sinus rhythm because the SA (sinus) node fires regularly.

The AV (atrioventricular) node is a cluster of cells in the center of the heart between the atria and ventricles, and acts like a gate that slows the electrical signal before it enters the ventricles. This delay gives the atria time to contract before the ventricles do.

The His-Purkinje Network is a pathway of fibers that sends the impulse to the muscular walls of the ventricles and causes them to contract.

The SA node fires another impulse and the cycle begins again. At rest, a normal heart beats around 60 to 100 times a minute. Exercise, emotions, fever and some medications can cause your heart to beat faster, sometimes to well over 100 beats

per minute.

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(Urden, Stacey, & Lough, 2014)



Think of your heart like a blender.

A blender is a perfect chopping machine. As long as its blades are sharp and intact and can spin, it will work well. Just like your heart is a perfect pump as long as everything is working properly.

The blades are like valves, and the spinning of the blades is like the pumping of the heart.

In order to make the blender go, we need to plug it in to the electrical socket. In order for that to work the plug and cord need to be intact

In order for your heart to pump, the electrical conduction system needs to be intact

E.g. You may know someone with a pacemaker. This is one scenario where the electrical conduction system of the heart isn't working and we had to add a synthetic man-made device to replace our natural pacemaker.



Image by the National Heart Lung and Blood Insitute (NIH) - National Heart Lung and Blood Insitute (NIH), Public Domain,

https://commons.wikimedia.org/w/index.php?curid=29587657

Another common name for atherosclerosis is hardening of the arteries. A slow build up of fatty materials (cholesterol plaque) along the inner walls of the arteries causes the arteries to gradually narrow and to lose their elasticity. Atherosclerosis is a slow, progressive condition that may begin as early as childhood.

Sometimes the plaque will crack and bleeding results. The body will form a clot in this area. This clot may totally block the artery.

(Urden, Stacey, & Lough, 2014)



Image by LadyofHats - This is a unlabeled version of File: Circulatory System taken from Wikimedia

Atherosclerosis can occur anywhere in the body but usually affects large and medium sized arteries.

- Any artery in the body
- Occurs more often in areas where arteries branch
- Most common in arteries to the:
 - head carotid artery disease
 - heart coronary artery disease

legs - peripheral artery disease Organs: kidneys, male sex organs

Risk factors for atherosclerosis include: High blood pressure, smoking, diabetes, obesity, high blood cholesterol, eating a high-fat diet, or a family history of heart disease.



Image by By BruceBlaus - Own work, CC BY 3.0, https://commons.wikimedia.org/w/index.php?curid=28761812

Good cholesterol: The good cholesterol is referred to as high density lipoprotein or HDL. This is represented by the blue ball in the image. Bad cholesterol: The bad cholesterol is referred to as low density lipoprotein or LDL.

This is represented by the yellow ball in the image.

LDLs will embed under the artery wall and start the plaque building process. If you have a higher level of HDL in your bloodstream, the HDLs can actually suck out the LDLs.

Eat avocado, olive oil, and plant based fats/oils and not fats that are firm at room temperature. Examples of foods that contain bad cholesterol include the fat in a juicy piece of steak or butter.

(Bowden, Hebert, Wilson, Gentile, & Lanning, 2006)



The little pink balls embedded under the inner lining of the blood vessel represent the LDL or bad cholesterol

When the inner lining of the blood vessel is irritated by friction (HTN, smoking) or chemical imbalances (toxins from cigarettes, elevated blood sugar levels), the LDLs embed under the inner lining

The body knows this is wrong so it sends White blood cells call to gobble up the LDLS. This process continues and the placque builds unless the cause goes away (eg. BP is lowered, blood sugar levels normalize, patient continues smoking)

It is very important to keep your LDLs low and your HDLs high in order to minimize plaque build up

Foods high in HDLs include olive oil, avocodo, oily fish like mackreal, flax seed Food high in LDLs include butter, creams, and fatty meat products

(Bowden, Hebert, Wilson, Gentile, & Lanning, 2006; Heart & Stroke Foundation, 2017)



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Image by U.S. Navy photo by Mass Communication Specialist 3rd Class Samantha A. Lewis - Public Domain,

https://commons.wikimedia.org/w/index.php?curid=15116486

Atherosclerosis is not a new age problem related to our sedentary lifestyle and poor dietary habits.

Plaque build up had been discovered in 3000 year old Egyptian mummies

(Thompson et al., 2013)



Permission to use video with heart sounds sent via email and awaiting response

Pass around some stethoscopes and have patients listen to their heart The sound you hear is your valves opening and closing The link is of normal S1 S2

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People who attend cardiac rehab after a cardiac event have better outcomes than those who do not

Creating SMART goals helps us to achieve our wellness goals

A normal resting heart rate is 60 - 100 beats per minute

Your exercise logbook contains your target heart rate

We will have heart monitors on you in the gym, but it is important for you to know how to check your heart rate when you are at home

This is a lot of information for one day. We will repeat a lot of what you learned today so eventually it will all sink in and make sense.



C

+ References:

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Handouts



Resources

How to take your pulse?



- A normal pulse or heart rate is 60 100 beats per minutes
- Certain medications can slow your heart rate
- Your pulse should have a regular rhythm



Module 3 - Pathophysiology

Description: This module introduces the participants to common cardiac conditions including atherosclerosis, heart failure, atrial fibrillation, and valve problems. It also includes information about angina, nitroglycerin administration, and when to seek medical attention. The PowerPoint presentation can be used as a guide, but the presenter should titrate the discussion to the conditions relevant to the participants in the group.

Rationale for module: A literature review was completed to determine what patients felt were important learning needs following a cardiac event and that review revealed that patients ranked what to do when in chest pain, signs and symptoms of heart problems, and when to call a doctor as priority topics (Clark & Lan, 2004; Timmins & Kaliszer, 2003). Key stakeholders in cardiac rehab, including a former patient, cardiologist, and health care providers who work in the cardiac rehab setting were consulted for this project to determine what they felt were important topics to include in a cardiac rehab curriculum. Based on the results of those consultations, self-management skills, such as how to treat chest pain and knowing when to call a doctor, were the most frequently cited topic. The American Association of Cardiovascular and Pulmonary Rehabilitation (2013) guidelines for secondary prevention also list angina and pathophysiology as important education topics for cardiac rehab participants.

Teaching aids/activities:

- PowerPoint presentation (to be used as a guide and visual aid only-discussion, drawing on the whiteboard, and fielding
 questions is encouraged)
- * Nitroglycerine administration demonstration with a placebo
- Facilitated discussion around the various ways angina can present itself
- What to do when you have chest pain: Laminated pocket card
- Oral fill in the blanks activity

Objectives:

By the end of the education session participants will be able to:

- Accurately describe the pathophysiology of their disease to a friend or family member
- Verbally state their presentations of cardiac pain
- Identify two signs and symptoms of heart failure
- Safely administer Nitrospray
- Verbalize when to seek medical attention for chest pain and heart failure

Key Messages for Participants:

- Knowing how your disease affects your heart is important because it will help you to understand the treatments to prevent future problems
- Cardiac pain can present in many different ways: Know your heart pain
- Never hesitate to seek medical attention if you experience chest pain and are concerned
- + Heart failure is a problem that can occur after a cardiac event
- The signs and symptoms of heart failure include shortness of breath, increased fatigue, swollen ankles, lack of energy, and decreased ability to exercise or perform activities of daily life
- If you have chest pain: Stop what you are doing, get your Nitro, and sit down. If the pain persists, take a spray of Nitro every five minutes. If it is not relieved after 5 minutes, call EMS
- If you have shortness of breath that is new or distressing that does not dissipate with rest, seek medical attention.

Evaluation Activity:

* Fill in the blanks activity: Group orally fills in the blanks at the end of the session

Application of King's Theory of Goal Attainment (King, 1991):

Human beings are action orientated beings: This module contains hands-on and practical information that will give participants the tools they need to safely self-manage chest pain and be able to recognize the signs and symptoms of complications like heart failure

Clients have a right to knowledge about their health, clients have a right to accept or reject health care, and health professionals have a duty to provide information so clients can make informed decisions about their health: This module provides information about the pathology of heart disease. Understanding the disease process will help the participants understand the treatments and will provide them with the information they need to make informed decisions on how to manage their disease

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Health care professionals have a duty to collect information about the client's perception of goals in order to attain such goals: This module provides the participants with the opportunity to discuss their experience with heart disease and provides an opportunity for the participants to ask questions. By doing this, the health care providers are able to collect information about the learning needs of the participants and provide information that will help the participants acquire the information they feel they need to reach their health care goals

Application of Knowles' Principles of Adult Learning (Bastable & Dart, 2008; Knowles, 1980):

- Adults are independent and self-directed learners: In this module participants are given the opportunity to ask questions specific to their disease and describe to others the signs and symptoms related to their disease so the participants can co-teach each other about the pathophysiology of the diseases based on their experiences
- Adults have a reservoir of life experiences that can be used as a resource for learning: One of the objectives of this module is for the participants to understand the various presentations of angina and to learn how to identify the signs and symptoms of heart failure. The participants who have experienced chest pain and heart failure first hand are given the opportunity to share their experience with the rest of the group in order to achieve this objective. A variety of teaching aids are used to accommodate the various learning styles including a video, handout, diagrams, discussion, and a demonstration of how to use Nitroglycerine spray
- Adults are problem centered learners who want information that has immediate application potential: This module contains practical information about what to do if the participants experience chest pain, how to safely administer Nitroglycerine spray, how to identify the signs and symptoms of heart failure and stroke. All of these topics have the potential for immediate application to the participants who are living with heart disease
- Learning involves change and can induce anxiety: Objectives are provided so the participants know what to expect. Sharing of personal experiences is optional and the fill in the blank evaluation activity is done in a group setting to reduce learner anxiety

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American Association of Cardiovascular and Pulmonary Rehabilitation. (2013). Guidelines for cardiac rehabilitation and secondary prevention programs (5th ed.). United States: Author

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Presenter: Registered Nurse



What could possibly go wrong?





- MIn the last class we talked about how plaque can build up on your heart arteries. This is caused by high LDLs, HTN, Smoking, elevated blood sugars, toxins, excessive protein, etc (Urden, Stacy, & Lough, 2014). We will do two sessions on the risk factors for heart disease.
- This plaque can cut off blood supply to the heart. Normally your vessels can
 expand and contract depending on demand. If you are running, your heart arteries
 can dilate and feed you more blood, nutrients, and oxygen.
- · Once a blood vessel has plaque on it, it loses its ability to expand.
- · When you starve your heart of oxygen, it causes pain.
- Once an artery becomes 70% occluded, patients may experience chest pain on exertion. Plaques can be stable or unstable. Stable plaques have a thick calcified cap. Unstable plaques have a thin cap that can crack. When the plaque cracks, the body treats it in the same way it would treat a cut or crack on your skin. A clot forms. This is what we call a myocardial infarction or heart attack (Dalager, Bøttcher, Thygesen, Andersen, & Bøtker, 2015; Mulryan, 2010).



What is angina?

Angina means chest pain that occurs because the heart muscle is not getting enough oxygen to meet the heart's demand for oxygen (Lehne, 2001).

Analogy: Your heart is a muscle just like the muscles in your thighs. If you did a lot of squats in a row, eventually you would start to feel a burning sensation in your thighs. This burning means that your muscles are using more oxygen than our arteries can supply. Once we run out of oxygen, we start trying to make energy for our cells and tissues without oxygen. One of the byproducts of this is lactic acid. Too much lactic acid can damage or destroy tissue. Our leg muscles can repair the injury because they have special satellite cells that stimulate muscle regeneration. Our cardiac muscle does not have this feature. Once the cells die, they cannot be repaired and a scar will form (Borisov, 1999; Grounds, 2011).

Location of Angina:

Angina can present in a variety of ways. No two people will describe their chest pain in the same way. It can be felt anywhere between the nose and the naval and include the chest, back, stomach, neck, jaw, or arm pain. Some people call it pain, while others describe it as a pressure, burning, or just a general sense of doom.

Silent heart attack:

Up to 45% of all heart attacks can be silent (Zhang et al., 2016), meaning the person is

actively having a heart attack but they did not experience chest pain. These are often picked up on routine exams.

- Angina is a sign that your heart is in distress. You may be working harder than your heart can keep up with (e.g. heart failure patients) or you may have ruptured a plaque and the blood supply is being cut off to the muscle. Chest pain may be benign for someone with stabel angina or it can be a warning sign of someone having a heart attack. A heart attack occurs when a formerly stable plaque ruptures and a clot forms.
- Lack of oxygen to the heart can lead to death of heart muscle. This can escalate
 into a cardiac arrest. When a person stops breathing and the heart stops beating,
 the condition is called cardiac arrest. There may also be dangerous arrhythmias
 (abnormal heart rhythm) and these can cause sudden death. This is why it is
 important to go to the hospital as quickly as possible.

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 the condition is called cardiac arrest. There may also be dangerous arrhythmias
 (abnormal heart rhythm) and these can cause sudden death. This is why it is
 important to go to the hospital as quickly as possible.



- As you can see from the various descriptions of chest pain, no two people present exactly the same.
- Chest pain presents differently for each person. Chest pain isn't always pain.
 Sometimes it is a pressure, or shortness of breath, or sometimes it can be silent.
 You can have a heart attack and not even know it.
- · Diabetics, women, and the elderly tend to have more subtle symptoms as well.
- I had a lady who presented with gum pain. I've also had a diabetic who knew her heart pain presented as a tingling in their thumb



Tips:

- · Always carry your nitro with you
- · If you need to use your Nitro, make sure you sit down before taking it
- In this program, if you have chest pain make sure you let one of the cardiac team members know
- Bring Nitro with you for every class
- You should not drive or have a loved one drive when you are having ongoing chest pain
- · Your loved one cannot do anything for you if you arrest in the car but EMS can
- Nitro is contraindicated with erectile dysfunction drugs



How does Nitro work?

- Nitro works in two ways: 1) It dilates the coronary arteries to allow more O2 to reach the heart muscle 2) It also reduces the workload of your heart (Lehne, 2001)
- Nitro can come in tablets or a spray bottle
- The two most common side effects of Nitro include headache and dropping of your blood pressure
- If after a spray of nitro you feel dizzy or woozy. Stay still and don't get up too fast. Usually the drop in blood pressure does not last but if this feeling persists, you should seek medical attention
- Nitro and erectile dysfunction medications should not be taken together because both can dramatically drop your blood pressure to the point where you may pass out
- Some patients may wear a Nitropatch. This medication slowly releases throughout the day to prevent chest pain from occurring (Lehne, 2001)



- In general, the smaller the mammal, the faster the heart beats. E.g. An elephants heart beats about 20 – 30 times per minute. A baby's normal HR is around 130 – 150 beats per minute. An adult human is 60 -100
- Women are more likely to die than men after a heart attack. Women are typically
 older when they have their heart attack and they are more likely to delay going to
 the hospital (Joshi & Usendi, 1998). Women's signs and symptoms are often less
 pronounced.



- A normal heart rate should range from 60 -100. Your heart rate is slower when you
 are at rest and speeds up with activity.
- After a heart attack we want your resting heart rate to be 50-60 (Gibbons et al., 2003).
- For every 10 beats you can decrease your resting heart rate, the odds of cardiac death drop 30% (Cuchet, 2007).
- Your health care provider may have prescribed a B-blocker like Metoprolol
- This helps keep your heart rate low. It reduces the workload of your heart and can
 prevent complications like dysrhythmias or heart failure
- If you are at low risk for heart failure of dysrhythmias after a heart attack, you may only be on a beta blocker temporarily
- Beta blockers are also used in heart failure. They reduce the oxygen demands of the heart by causing the heart to pump slower and less forcefully
- We will be doing an entire session on medications. In the meantime, feel free to ask the cardiac rehab nurses about your medications at any time.



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- Just like your heart can get pain when it doesn't get the amount of oxygen it needs, your leg muscles respond the same way. One of the first signs of peripheral vascular disease is muscle cramping of the leg muscles during activity (Urden, Stacy, & Lough, 2014). Let your nurse practitioner or doctor know if this starts to bother you on a regular basis.
- There are procedures that can be done to help.

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 In this program, If you experience leg pains rest as long as you need to but keep going!


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- Normally your heart beats in a very organized fashion. The top two chambers contract, followed by the bottom. This allows for the most amount of blood to be pumped in the most efficient way.
- Your heart tracing looks different if you have atrial fibrillation. It is very irregular as you can see on this diagram
- Each of the spikes represents your heart beating
- The top tracing is nice and regular.
- The bottom is irregular with chaotic wiggly waves in between the beats.
- This condition is common after Bypass surgery but it is usually temporary.
- In atrial fibrillation, the top chambers wiggle chaotically like a bag of worms. The blood doesn't get squeezed down into the bottom chambers like it should. This reduces the amount of blood that gets circulated by your heart. This may cause you to feel tired, have palpitations, shortness of breath, or have chest pains (Urden, Stacy, & Lough, 2014).
- When your heart is in atrial fibrillation, the blood pools and is at risk for forming clots. You will be put on a blood thinner to prevent these clots. It is very important

to take the blood thinner as prescribed.

- · We want to prevent these clots from being thrown to your lung or brain.
- It is very important to take your blood thinner medication for this reason.





One of the signs a person is in Atrial Fibrillation is a fast and irregular heart beat. Check your pulse in your wrist. Is your heart rate regular? Does anyone have known A.fib? Compare my pulse to yours!

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Permission to use FAST logo obtained from the Heart and Stroke Foundation of Canada

- Transient Ischemic Attack (TIA)
- If you have blocked coronary arteries, there is a greater chance you may have the same plaques in your legs or your brain arteries.
- If you experience any of these signs, call EMS. Never attempt to drive and avoid being taken to the hospital by friends or family.

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I highlighted sleep apnea because a lot of people feel this isn't a dangerous thing. Sleep apnea causes your heart to enlarge. This is not good. Your heart is a perfect pump in its natural shape. If you enlarge the heart, it loses its ability to function properly. When you change its shape, you change its function. For example, a spoon with its curve is a great way to scoop up soup. If I flatten out that spoon, it no longer is good at bringing soup to my mouth.

Heart failure is when your heart does not pump as strongly as it should so your body does not get the right amount of blood and oxygen it needs to work properly.

Analogy: Think of your heart as a sump pump and your blood like the water a sump pump removes from your home. A sump pump with a 8 horse power motor would be really good at keeping the water out of your house even in heavy rains but if you damaged that sump pump and reduced its motor to a 5 horse power, it would be less efficient at moving the water out. (Draw out on white board)

Heart failure has many causes including: poor blood flow to the heart, heart muscle damage from a previous heart attack, long standing high blood pressure, a faulty heart valve, an infection causing inflammation of the heart muscle, excessive use of alcohol or drugs, diabetes, and infections of the heart muscle.

Heart failure is always caused by something. The key message for you is to know that

things like heart attacks, atrial fibrillation, sleep apnea, valve problems, and high blood pressure can all lead to heart failure. You need to be aware of the signs and symptoms of heart failure so you know when to get help.



Image by National Heart, Lung, and Blood Institute, National Institutes of Health; originally uploaded by Wouterstomp at en.wikipedia. -

http://www.nhlbi.nih.gov/health/dci/Diseases/Hf/HF_SignsAndSymptoms.html; transferred from en.wikipedia to Commons by Stevenfruitsmaak using CommonsHelper., Public Domain,

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- When the heart doesn't' t pump well the weakened pumping action can cause a backup of fluid in your lungs and other parts of your body. You may experience shortness of breath, swollen ankles and legs, sudden weight gain, tiredness or loss of energy, loss or change in appetite, and fluid build up in the lungs causing a cough that is more prominent in the night time. (Urden, Stacy, & Lough, 2014)
- Did anyone in the room have a valve replacement? How did you feel before you
 had the valve replaced? What were the symptoms that brought you to your
 doctor? How did you feel afterwards.

One of the causes of heart failure is valve problems. Valves can be too stiff (stenosis), making it hard for the heart to squeeze the blood out of the chambers of the heart. The valves can also be too floppy (regurgitation) and not allow the blood to move forward in the heart.



Aortic Stenosis has similar risk factors to coronary artery disease.

First we will watch a video of a normal aortic valve. Remember, this is the valve that sits in your aorta. The left ventricle pumps oxygen rich blood from out the aorta. The aortic valve opens when the left ventricle contracts.

Now look at the picture on the screen. You can see the leaflets of the valve are merged together and thick. This makes it very hard for the heart to eject the blood.

This can result in left sided heart failure. Signs and symptoms include shortness of breath, fatigue, rapid breathing, lack of energy, and cough. A murmur can be heard with a stethoscope.

Heart failure: Treatments

- Treatment goal is to manage the problem
 - Fix the underlying cause!!!
 - Medications
 - Exercise
 - Diet
 - Manage blood pressure
 - Refrain from alcohol or quit smoking
 - Heart devices eg. Pacemaker, Internal defibrillator
 - Surgery transplant
- Like other heart diseases, in order to manage heart failure you need to take your medications as prescribed and modify your lifestyle in order to prevent progression of the disease.
- Does anyone in the room know they have heart failure and like to share what caused your heart failure and how your heart failure is being treated?

Do you have any questions for me about heart failure?



- 1. Stop what Iyou are doing, get your Nitro, and sit down.
- Swollen ankles, enlarged abdomen, fatigue, shortness of breath, unable to lie flat, cough, etc.
- 3. F facial drooping A arm weakness S speech difficult T- time to call 911
- 4. Blood clots that can dislodge and cut off blood supply to the lungs or brain

Any Questions?



+References

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Handouts



Resources

What to do if you have chest pain: What to do if you have chest pain: Stop what you are doing. Stop what you are doing. Sit or lie down. Sit or lie down. Spray the Nitro into the air Spray the Nitro into the air Spray the Nitro under your tongue Spray the Nitro under your tongue Wait 5 min Wait 5 min If the pain does not go away, call 911 If the pain does not go away, call 911 What to do if you have chest pain: What to do if you have chest pain: Stop what you are doing. Stop what you are doing. . Sit or lie down. Sit or lie down. Spray the Nitro into the air Spray the Nitro into the air Spray the Nitro under your tongue Spray the Nitro under your tongue ٠ Wait 5 min Wait 5 min If the pain does not go away, call 911 If the pain does not go away, call 911 What to do if you have chest pain: What to do if you have chest pain: Stop what you are doing. Stop what you are doing. Sit or lie down. Sit or lie down. Spray the Nitro into the air Spray the Nitro into the air Spray the Nitro under your tongue Spray the Nitro under your tongue Wait 5 min Wait 5 min If the pain does not go away, call 911 If the pain does not go away, call 911 What to do if you have chest pain: What to do if you have chest pain: Stop what you are doing. Stop what you are doing. . Sit or lie down. Sit or lie down. Spray the Nitro into the air Spray the Nitro into the air Spray the Nitro under your tongue Spray the Nitro under your tongue Wait 5 min Wait 5 min If the pain does not go away, call 911 If the pain does not go away, call 911 What to do if you have chest pain: What to do if you have chest pain: Stop what you are doing. Stop what you are doing. Sit or lie down. Sit or lie down. Spray the Nitro into the air Spray the Nitro into the air Spray the Nitro under your tongue Spray the Nitro under your tongue Wait 5 min Wait 5 min If the pain does not go away, call 911 If the pain does not go away, call 911

Module 4 – Tests and Interventions

Description: This module describes the many cardiac tests, interventions, and procedures that participants may have encountered or will soon encounter in their journey with heart disease. Understanding the terminology, purpose of procedures, potential risks, and necessary ongoing medical therapy and lifestyle changes is important for increasing participant compliance. The information provided in this module will help increase participants' self-confidence in managing their heart disease and enhance their ability to communicate with the health care professionals they encounter.

Rationale: Consultations with experts in cardiac rehab and former patients were performed to gather information for this project. The results indicated that information on tests and procedures related to cardiac disease was important to include in a cardiac rehab program in order to alleviate fear and confusion and assist participants in fully understanding prior experiences and how to manage their disease in the future. Understanding tests and interventions will also help participants communicate more effectively with their health care providers. The American Association of Cardiovascular and Pulmonary Rehabilitation (AACVPR) lists coronary artery bypass grafting and percutaneous transluminal coronary angioplasty in the education checklist for cardiac rehab participants (AACVPR, 2013).

Teaching aids/activities:

- PowerPoint presentation containing visual images to help participants understand the complex cardiac procedures
- Question and answer period
- Activity: Recall prior procedures and discuss those that caused worry or anxiety and why (Blank paper & pen)
- Visual/Tactile: Model of normal heart and model of heart with CABG
- Video: Normal aortic valve

Objectives:

By the end of this module participants will:

- Be able to list the tests and interventions they had or will have in the future
- State understanding the reason for having the test or intervention and be able to identify two risks related to the procedure
- * Ask questions about any procedure, test, or intervention

Key Messages for Participants:

- * The information gathered from your health history and physical exam are as important as any test.
- There are many complex tests and interventions related to heart disease: Don't be afraid to ask questions.
- Understanding the purpose of tests and interventions and the risks helps you to make informed decisions about your health and helps to improve communication with your health care providers.
- You have the right to refuse any procedure.
- Understanding what intervention you had can help you understand the importance of taking your medications and making lifestyle modifications.

Evaluation Activity:

Do you feel this session has helped you? How will you be able to use this information going forward?

Application of King's Theory of Goal Attainment (King, 1991):

Clients have a right to knowledge about their health and clients have the right to accept or reject health care & clients have a right to participate in decisions that influence their health and wellbeing: This module provides clients with information procedures they may have experience or will experience in the future. The module highlights the importance of knowing the risks and benefits to each procedure and reinforces the right to refuse.

Application of Knowles' Principles of Adult Learning (Bastable & Dart, 2008, Knowles, 1980):

Adult learners are self-directed: This module provides an opportunity for participants to ask a Registered Nurse about tests and interventions specific to those encountered during their personal journey with heart disease. This module also provides an opportunity for the participants to share any fears or anxiety related to these tests and procedures and how they coped with those feelings. Tests and interventions that do not apply to the group or that are of no interest to the group are not discussed.

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Adults prefer engagement to didactic instruction: Although one of the more didactic modules, this module does allot time for a question period and includes an activity that allows participants to express any fears or anxiety related to tests and interventions. The PowerPoint provides an elaborate visual gallery to help participants visualize and understand the complex procedures that are often difficult to visualize from description alone.

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Presenter: Registered Nurse



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+ Objectives:

By the end of this module you will:

- Be able to list the tests and interventions you had or will have related to your heart
- Understand the reason for having the test or intervention and be able to identify the risks related to the procedure
- Have the opportunity to ask questions about any procedure, test, or intervention you may have had and did not fully comprehend at the time
- Appreciate the importance of medication therapy and lifestyle modification even after an intervention



- · Tests and interventions are used to supplement the clinical assessment.
- When you present to your health care provider with a concern, they will gather a thorough health history and do a physical exam. Although this assessment may seem low tech, it is very very important. Based on the clinical assessment, your health care provider may want to investigate further. This is when tests and interventions are prescribed.
- All tests and interventions come with a certain amount of risk. Not all tests are appropriate or safe for everyone.



Most of you in the room would have experienced at least one of these procedures. Which ones do you want to talk about today? Do you have any questions about these procedures?



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Who has had an ECG before? Does anyone remember having multiple ECG's after their event?

Last week we talked about the fact that your heart is a pump and an electrical system.

An electrocardiogram is a test that measures the electrical activity of the heart. When your heart beats an electrical impulse is generated that creates a wave. This wave causes the chambers of your heart to squeeze or contract and pump blood. This is displayed on the screen of the ECG machine.

The first wave on your ECG is a result of your atria contracting and is displayed by the "p" wave. Following is a short flat line as the impulses move to the bottom chambers of the heart, the ventricles. When the ventricles contract a "QRS" complex is displayed on your ECG. The last wave, the "t" wave represents the recovery phase for the ventricles.

An ECG is used to assess your heart's rhythm which can be helpful in diagnosing heart problems. ECG's can also be used to monitor recovery from or progression of heart disease. It can tell us if your heart is deprived of oxygen and where it is deprived. It can also show us other things including if your heart is enlarged, in an abnormal rhythm, or if you have a heart infection. Interpreting an ECG is not an easy

task. Sometimes the changes in pattern are very subtle or inconclusive and more tests need to be done.

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Electrodes are attached to various locations on your body including legs, arms and chest. Sensors in the pads detect the electrical activity of your heart.

Holter Monitor – This may be ordered to record the heart rhythm over a 24-hour period. It is usually used to diagnose irregular heart rhythms in patients who are experiencing palpitations, dizziness, or fainting episodes. Electrodes are place on the chest and connected to a small device that records heart rate and rhythm.



An exercise stress test is a test that assesses your heart function while you are exercising, typically on a treadmill. You will be attached to a monitor with electrodes attached to the skin on your chest. The monitor will record your heart rhythm and rate while you are exercising. Your blood pressure and oxygen level will also be monitored.

Most of you have had an EST. As part of the Cardiac Rehab Program the physiotherapists have used your EST to create an exercise prescription for you. You will be learning about this in the gym and physio will be talking more about this at a later session.



- An echocardiogram uses high frequency sound waves or ultasound to make pictures of your heart's chambers, valves, walls, and vessels. An ECHO helps determine how your heart is functioning. It is a painless procedure.
- Did anyone have an echocardiogram? What was the experience like for you?
- The "echo", as it is commonly referred to, gives us more information than the ECG alone. An ECHO tells us:
 - The size and shape of your heart
 - How strong your heart can pump
 - If your valves are working properly
 - If blood is moving backwards through your valves (regurgitation)
 - If your heart valves are too narrow (stenosis)
 - . If there is a tumor or infectious growth in the heart



This test is used to confirm physical findings suggestive of heart disease. This test provides detailed information about:

- The patency of the coronary arteries
- · How well the heart is pumping
- · Determine the pressures within the left and right side of the heart

Although this is a common procedure, it does come with risks. That is why routine screening for atherosclerosis in the coronary arteries is not recommended. It should only be done if absolutely necessary.

If indicated, stents will be placed in the blocked arteries. Blockages less than 70% are typically not stented. Some blockages cannot be reached if they are in very distal or small regions of the artery networks.

Risks include:

- Damage to the kidneys from the dye
- Bleeding for the insertion site
- Low blood pressure or bradycardia
- Anaphylaxis
- Infection
- Stroke
- Heart attack

Dysrhythmias

Tearing of the coronary artery

(Urden, Stacy, & Lough, 2014; Mayo Clinic, 2017)

Patients who are unable to be stented may be candidates for Bypass surgery or medical management.



There are two types of stents: Bare-metal stents and drug-eluting stents.

- One of the potential complications of stenting is restenosis. The body reacts to the foreign object and a clot forms on the stent, reoccluding the artery. This usually happens shortly after the stent is placed.
- Drug-eluting stents help to reduce this complication because they are coated in a drug that prevents clots from forming on the stent.
- Drug-eluting stents have a lower rate of restenosis, however, if you have a baremetal stent do not worry. A recent study by Bonaa et al. (2016) showed no difference in mortality rates at six years between those with DES and those with BMS.
- Someone with a BMS may only need to be on Plavix for 3 months, where as someone with a DES will need to be on Plavix for at least a year.



Troponin – This is an enzyme that is only found in heart cells (Trop I). It is released into the blood stream after heart cells die. It will begin to rise 3 – 6 hours after the heart damage so if you come into the hospital immediately after you have pain, the value may be negative. We continue to measure it every 8 hours until the number has peaked. It can remain elevated for weeks after the damage has occurred (Urden,Stacy, & Lough, 2014). You can still be diagnosed with a heart attack based on your clinical symptoms and presentation and your ECG, even if your Troponin level is negative.

CRP – This is a general marker of vascular inflammation. It is not specific to the heart, however, it is sometimes used to gauge if our treatment of heart diseases is effective. Medications such as statins and ACE Inhibitors help to reduce vascular inflammation and lower risk of a future event (Bodi & Sanchis, 2006).

Cholesterol and triglycerides – All of you had this test done prior to entering the cardiac rehab program. High cholesterol is one of the major risk factors for the development of heart diseases. We will go into greater detail on this topic during the risk factors and medications modules. Are there any questions related to cholesterol levels and its role in cardiac diseases?

BNP – This test is used to determine if someone is in heart failure. When the heart muscle is stretched and overloaded with a back up of blood, it releases a chemical

called brain natriuretic peptide (BNP) that can be detected in the blood. An elevated BNP level is one indication that heart failure is present (Urden, Stacy, & Lough, 2014).

Is anyone on Warfarin?

This is a type of blood thinner that requires monitoring to determine how thin your blood is. The higher the number, the thinner your blood and the less likely clots will form. This is a good thing if you have atrial fibrillation or a mechanical valve replacement but if the number is too high, you are at risk for bleeding. The dose of the blood thinner is dependent on your INR level.

Surgical Procedures



- Artery Bypass Grafting
- Pacemakers
- Implantable Defibrillators
- Valve Replacement
- Heart Transplantation

Has anyone had a surgical procedure?



Has anyone had an open heart bypass surgery? Would anyone like to share their first hand experience?

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CABG – This surgery is to improve blood flow to the heart muscle where there is a build up of plaque in the coronary artery. A section of blood vessel is taken from the leg, arm or chest and is inserted above and below the section of the blocked artery. This surgery may be indicated when medications or angioplasty cannot control angina or when cardiac testing shows a high risk for extensive heart damage to occur if the patient were to suffer a heart attack.

Veins or arteries can be used to bypass the blockage. Veins have a higher rate of atherosclerosis redeveloping after the surgery, however, better harvesting techniques are improving this fact. The most common vein used is the great saphenous vein from the leg and the most common artery used is the internal mammary artery that is already attached to the subclavian artery therefore only one anastomosis is required (Urden, Stacy, & Lough, 2014).


If a person's heart has a damaged electrical system, it may not beat fast enough to meet their body's oxygen demands. People may feel quite tired, faint, or have signs and symptoms of heart failure if their heart is beating too slow. In these cases, a person may require an internal pacemaker.

Describe the visual image.

The battery life in a pacemaker is around 10 years. You will go for check ups to make sure everything is functioning well.

Most people have pacemakers because their heart rate runs too low. A pacemaker can be set at 60 so that if the person's heart rate fell below 60 the pacemaker would then take over.

Modern pacemakers are not effected by the majority of electrical equipment. Exceptions would be those who work with high voltage power lines or electrical equipment. Microwaves are not harmful. Cellphones are fine to use but try not to carry the phone over the pacemaker. Pacemakers may be detected in airport scanning equipment but this equipment does not harm your pacemaker. If you need an MRI, make sure that you let your health care team know in advance because this may not be safe for you.

Implantable Defibrillator – Similar to a pacemaker except it also has the ability to detect life-threatening shockable dysrhythmias. If a life-threatening dysrhythmia is detected, the device will automatically fire. It is like your own personal automatic AED inside your body. It is commonly inserted into people with enlarged hearts and heart failure caused by ischemic heart disease or cardiomyopathy.



- There are two main types of artificial valves: Bioprosthetic and mechanical
- Mechanical valves are made of various metal alloys. They are very durable but do
 require anticoagulation to prevent clotting.
- Bioprosthetic valves are made from animal or human cardiac tissue. Biologic valves do not require anticoagulation but are less durable than mechanical valves.
- The decision as to whether or not you get a mechanical or biological valve depends on your age, compliance, and risk of bleeding. If you are elderly, then a biologic valve with a shorter lifespan may be appropriate. If you are younger, compliant, and without risks of bleeding then the more durable mechanical valve may be more appropriate (Urden, Stacy, & Lough, 2014). You and your cardiac surgeon will discuss what is most appropriate for you.



- Heart transplant is the removal of a failing heart and its replacement by a donor heart. It is used to treat sever, end-stage heart failure.
- The first heart transplant happened in South Africa in 1967. The patient lived 18 days.
- Now with medical advances and anti-rejection medical therapy, survival rates are much greater. The antirejection drugs, including steroids and immunosuppressants do put patients at risk for infection and other diseases such as osteoporosis, joint poroblems, thin skin, kidney damage, and weight gain (Urden, Stacy, & Lough, 2014).
- Coronary artery disease develops more quickly in the transplanted heart so risk factor reduction and lifestyle modification are key. Recipients are carefully screened for compliance (Urden et al., 2014).

Activity

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Write down what tests or interventions you received or will be receiving in the near future?

This about what procedure were you most anxious about? Why?

What is it about the procedure that made you anxious? What would you do differently? How can you alleviate procedure anxiety?

Discussion points:

- Trust
- Fear
- Importance of asking questions
- Right to refuse
- Benefit versus risk



Any questions or comments? Was this helpful?

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It was a lot of information but remember, many of you have experienced these complex procedures first hand. Experience is the best teacher. At the time, you may not have fully understood the reasons behind these interventions but hopefully now you have a greater understanding of why things went they way they did for you.



Evaluation: Do you feel this session has helped you? How will you be able to use this information going forward?

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Module 5 & 6 – Medications I & II

Description: Modules 5 and 6 provide an overview of some of the most common medications prescribed for participants with acute coronary syndrome, heart failure, dysrhythmias, cardiomyopathies, and diseases of the heart valves. The pathophysiology of the participant's underlying disease is reviewed to help participants better understand the purpose of taking the medication and scientific data is provided to reinforce the importance of medication compliance. Practical tips about side effects, when to seek medical attention, medical plans, how to consistently and properly take medications, and contraindications are included to promote self-management. The teaching activities outlined in this index can be spread out over two sessions.

Rationale for module: Up to 50% of patients living with heart disease are not taking their medications as prescribed (Laba et al., 2013). Medication compliance is necessary in order for patients to mitigate the symptoms of heart disease, slow disease progression, and prevent future events (Haynes et al., 2005). The causes of medication non-compliance are unintentional in the majority of patients (Molloy et al., 2014), therefore, education and clear communication is an important part of reducing medication non-compliance. Furthermore, a literature review conducted for this project revealed that participants consistently listed education related to medications as a priority learning need (Clark & Lan, 2004; Moranville-Hunziker, Sagehorn, Conn, Feutz, & Hagenhoff, 1993; Wingate, 1990). For this project, health care professionals and a former cardiac rehab participant were surveyed to gather their opinion on what topics should be included in cardiac rehab education. Education on medications revealed that increased knowledge related to cardiac medications was a common goal.

Teaching aids/activities:

- Personal medication profile: Each participant will be given a copy of their medication list obtained during their initial assessment that they will use as a reference during the education sessions
- Nitroglycerin administration demonstration
- Whiteboard and marker
- Videos: Atrial fibrillation & heart failure
- Visual aid: Pictures via PowerPoint presentation and heart models of pathologies
- Discussion questions around causes of non-compliance and tactics used to maintain a medication schedule
- Oral question and answer
- Learning activity: Participants will identify their heart pill, blood pressure pill, blood thinners, and cholesterol pill on their medication profiles
- * Handouts: Personal medication profile, cholesterol handout, heart failure handout
- Heart model used to describe valve diseases

Objectives:

By the end of the next two sessions participants will:

- * Be able to simply describe their heart disease in comparison to a healthy heart
- 🔅 Be able to identify their heart pill, blood pressure pill, cholesterol pill, and blood thinners on your medication list
- Be able to list one or two side effects for each of the medications
- Be able to describe safe administration of Nitroglycerin
- Be able to orally state one reason why medication compliance is important

Key Messages for Participants:

- Taking your medications as prescribed can prevent future heart problems
- * Always carry a list of medications with you and take this list to your medical appointments
- One major side effect of Aspirin, Plavix, Warfarin and other blood thinners is internal bleeding. Beware of tarry stools, coffee ground emesis, and signs and symptoms of stroke (FAST)
- If you feel faint, weak dizzy, sweaty, and nauseated, your blood pressure or heart rate may be too low. Check your
 pulse and seek medical attention right away

Side effects from your cholesterol pills are rare, however, if you have cramping in your legs, difficulty urinating, and your skin turns yellow or itchy; seek medical attention right away.

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- Never stop your medications on your own. If you can't afford your medications or you are experiencing uncomfortable side effects, make an appointment with your doctor or nurse practitioner to find a solution together
- Ask questions. Medications are complicated

Evaluation Activity:

- Oral question and answer activity
- Identify your medications activity Participants will write down the action of their medications on their personal medication profile (e.g. What pill is your heart pill? Blood pressure pill? Cholesterol pill?)

Application of King's Theory of Goal Attainment (King, 1991):

- Human beings are action orientated: This module provides practical tips to teach participants what their medications do, how the medications prevent future heart problems, how to properly administer their medications, how to remember to take their medications, what side effects to beware of, and what to do if they experience side effects. All of this information can translate into actions that participants can use to self-manage their disease and improve communication with health care providers
- Clients have a right to knowledge about their health and have a right to accept or reject health care; Health care professionals have a duty to provide information so clients can make informed decisions: Non-compliance with medications is most often unintentional due to participants having a knowledge deficit about how to take medications and why they are important. This module intends to mitigate this problem by providing participants with the information they need to make an informed decision about the medications they take
- Health care professionals have a duty to collect information about the client's perception of goals in order to attain such goals: Consultations and a literature review was performed to identify what cardiac patients and expert health care providers felt were important education topics for participants in cardiac rehab. Both groups identified medications as an important education topic for this population

Application of Knowles' Principles of Adult Learning (Bastable & Dart, 2008; Knowles, 1980):

- Adults are independent and self-directed learners and adults are problem-centered learners who want information that has immediate application potential: Although there is a script laid out for this module, it will be adjusted based on the disease processes that exist within the group and what medications they are taking. Question and answer periods and personalized medication profiles will be provided so the information provided is relevant to the participants and can be immediately applied to their current situation. Knowing the benefits of taking medications can help participants appreciate how this intervention solves a future problem with heart disease
- Adults have a reservoir of life experiences that can be used as a resource for learning: This module provides an opportunity for participants to share tactics on how to manage taking medications daily and share their own personal experiences with side effects and how they mitigate the cost of medications in order to help each other learn the side effects and trouble-shoot how to keep the cost of medications affordable

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Presenter: Registered Nurse

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It is important that you know the names of the medications you take, the dose, what they do, the side effects, and the reason you are taking them Knowing these things makes you more compliant, helps you to achieve the most benefit, and allows you to identify negative side effects.

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In order to fully understand your medications, you need to first understand how a normal heart works and then understand how your heart problem deviates from the normal. Once you understand the normal heart and the diseased heart, you then can learn how the medications help to prevent further disease from occurring.







- Before we get into the different medications you may be on, we want to discuss the sometimes confusing nomenclature around medications.
- Every drug has a drug classification that tells us health care professionals how it acts on the body
- There can be many drugs within a classification with various names (E.g. Beta blocker – Metoprolol, Atenolol, Bisoprolol, etc.). Although there may be slight differences in the drug, they all work in a similar way and produce the same result.
- Every drug within a classification has a single generic name and many brand names. We will use an example of a drug we are all very familiar with, Tylenol.
 - Classification: Antipyretic & Analgesic
 - · Generic name: Acetaminophen
 - Brand name: Tylenol, Paracetamol

Is the Tylenol brand better than the generic brand?

- Generic drugs must be bio-equivalent and therapeutic equivalent
- They may differ in shape, packaging, size, taste, and inactive ingredients
- They work as well and cost less (less money placed on advertising an create more competition on the market to help drive down the cost)



These are the seven classes of medications we are going to focus on over the next two sessions, however, if you have any medications on your list that you are unsure of, feel free to ask questions at any given point.

In front of you is a photocopied list of your medications. You can take notes as we go through each class of medication. For example, you might want to write next to your statin "cholesterol pill, take in the evening". You can take this sheet home with you to refer to.

Handout: Photocopy of each participant's medication list to make notes on.



<u>Coronary Artery Disease</u> (A whiteboard and marker and heart model can be used in conjunction with the picture to explain CAD and the effects of medications)

- You may remember that your heart is a muscle that requires a constant supply of oxygen and nutrients
- The heart delivers oxygen to itself through the right and left coronary arteries
- Due to a number of risk factors, plaque can form on the coronary arteries and block the flow of blow
- If the plaque (also referred to as atherosclerosis) becomes very large or ruptures, this can lead to clot formation and a heart attack
 - Do you remember the main risk factors for coronary artery disease?
 - High blood pressure
 - High levels of bad cholesterol
 - Genetics
 - Diabetes
 - Smoking
 - Other risk factors include prolonged stress, sedentary lifestyle, inactivity, obesity, inflammatory diseases like lupus or arthritis, age, waist size, etc.

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 The risk factors cause inner lining of the coronary artery becomes inflamed, bad cholesterol imbeds under the lining and merges with other cells to begin plaque formation. This process of plaque build up will continue until the source of inflammation goes away. You will notice that some of the risk factors cannot be controlled (age, genetics, race), but most can be altered through lifestyle changes and medication therapy.

So how do your medications help prevent a future problem? (Write down ACE Inhibitor, Beta blocker, ASA, Plavix, Nitrates, and Statins on the board)

Beta-blockers:

- You have Beta receptors in your heart that when activated, cause your heart rate to rise. Exercise, caffeine, fear, a fever, are all examples of times when your heart rate might rise.
- The more your heart beats, the harder it has to work. A fast beating heart uses more oxygen (Lehne, 2001).
- Beta blockers decrease the oxygen demands of the heart by slowing down the rate AND decreasing how hard it pumps with each beat (decreases contractility)
- We know that patients who take beta blockers after a heart attack have lower mortality rates, less angina, and less chance of experiencing another heart attack or coronary event particularly if you have had a STEMI and if you experienced pump failure after your heart attack (Urden, Stacy, & Lough, 2014).
- Sometimes Beta Blockers can be safely discontinued, so if you are not on a Betablocker, don't panic!
- Beta blockers are not for everyone. Anyone with a reactive airway disease like COPD, asthma, or bronchitis may be prescribed a different class of heart rate lowering agents called calcium blockers.

Side effects: Lethargy, depression, too low of a heart rate, drop in blood pressure, and erectile dysfunction.

- These are the most typical complaints I hear from patients and side effects I have seen during my time as an ICU nurse
- We want your heart rate to be low, but not so low that you are not getting enough blood to your brain and organs.
- Ideally a resting HR should be 50-60s at rest.
- If your heart rate or blood pressure get too low, you may feel weak, dizzy, spacey, and you may even become sweaty and faint. LISTEN to your body.
- Sexual dysfunction and depressed mood have not been well studied but patients do complain of these side effects.
- Based on the anecdotal complaints of patients, a few studies have compared ED rates for patients using metoprolol and those given a placebo and found no difference in ED rates. Furthermore, when two groups of patients were placed on Metoprolol, one group being told of ED as a side effect and the other not made aware, the group who were told they could get ED had higher rates of ED. There is a pyschological element to ED (Cocco, 2009), however, CAD is definitely affiliated with ED (Dusing, 2005). If you have atherosclerosis in your heart arteries you can

also have blockages in the arteries that feed the penis muscles. The jury is out on the cause-effect relationship between beta blockers and ED but the it is VERY REAL to those who suffer from it.

 Meta analysis of 7 studies suggests that physical activity and exercise interventions improve patient-reported erectile dysfunction, particularly aerobic exercise with moderate-to-vigorous intensity (Begot et al., 2015).

Antiplatelet medications:

- This class of medications includes both Plavix (Clopidogrel), Prasurgrel, Ticagrelor, and Aspirin.
- · These medications interfere with clot formation
- Remember we are trying to prevent endothelial inflammation, plaque formation, and plaque rupture.
- If a plaque ruptures, a clot forms on the inside just like when your skin is cut on the outside.
- · The body's natural defense is to form a clot over the cut.
- It is no different on the inside but in this case you are at risk for plugging one of your coronary arteries.
- When the plaque ruptures it stimulates platelets to flock to the site of the injury and become sticky and clump together over the clot.
- Plavix and Aspirin help make the platelets stay smooth and round and less likely to stick and form the clot Kumar & Cannon, 2009)
- Four randomized trials have each demonstrated that, compared with placebo, aspirin reduces the risk of death or MI by more than 50% for patients presenting with UA/NSTEMI (Cairns, 1985; Lewis et al., 1983; Risk Group, 1990; Theroux et al., 1988)
- You will be on Aspirin for life
- · You will temporarily be on Plavix for most conditions

Side effects:

 The major side effect of Plavix and Aspirin is the risk for bleeding. If you have dark bowel movements, vomit coffee grounds, or have any signs and symptoms of stroke (FAST) then you be experiencing an internal bleed and need to seek medical attention right away



Bare metal stent – you will typicallty be on ASA and Plavix for about 3 mos. After three months you will be taken off the plavix and kept on the asa Drug eluding stent – You will be on ASA for life and Plavix for a year

Your interventional cardiologist chooses what type of stent you get based on risk assessments. It is a complex process. If you have risks for bleeding, you may be better of with a BMS and be on plavix for a shorter period of time. If you are at a high risk of clotting in the immediate post intervention stage then a DES would be better for you.



- There is no better way to learn a side effect than to experience it. Experience is always our best teacher. Did you have any side effects from your medications? What were they? How did you manage this?
- Key point: Even if you have a nasty side effect from a medication, do not selfadjust. Make an appointment with your primary health care provider (doctor or nurse practitioner)



Compliance is a word that is often used in the medical world. Patients are compliant or noncompliant. What nurses and other health care professionals are interested in is why patients are non-compliant? In other words, why do people stop taking their meds? What are the barriers?

- Up to 50% of patients are not taking their cardiac medications as prescribed at the two year mark (Laba et al., 2013)
- Patients who adhere to a statin after MI have a relative risk of recurrent MI which is 81% lower than that of non-adherent patients (Wei et al., 2002)
- _Post-MI patients who discontinue their prescribed aspirin, statin, and beta-blocker are more than three times more likely to die than patients who remain adherent (Ho et al., 2006)
- Reasons: MD failed to prescribe, cost, side effects, feeling better therefore didn't feel the need, and the nuisance of taking the mediations daily (Ho et al., 2006)
- The most common reason for non-compliance is misunderstanding how to take the medication, for how long, and why taking the medication is important and therefore patients tend to unintentionally be "non-compliant" (Molloy at al., 2014)

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Handout: Cholesterol handout

- · When you get your cholesterol checked we refer to that as a lipid profile
- Cholesterol is made by your liver
- The only type of food that contain cholesterol is something that had a liver (eggs, steak, butter, etc.)
- Our liver makes all of the cholesterol our body needs, however, we do ingest some cholesterol as well through our diet
- There are three main types of cholesterol: Low density lipoproteins (LDL), high density lipoproteins (HDL), and triglycerides
- High levels of LDLs and triglycerides are strongly correlated with the development of coronary artery disease
- LDLs embed under the endothelial lining and start the plaque forming process
- HDLs have the ability to efflux the LDLs from under the endothelial lining
- Triglycerides are stored in fat cells and used in times of deprivation

(American Heart Association, 2017; Collins, 2016)

Statins work by blocking the enzyme in the liver that catalyzes cholesterol production. Large randomised control trials shows that **statin** therapy reduces the risk of major vascular events like sudden cardiac death, heart attack, and stroke by about 25% for each mmol/L drop in LDL cholesterol during each year (after the first) that it continues to be taken and only 5 out of 10,000

people will experience the side effect of leg pains or cramping and some of these cases can be explained by other problems such as arthritis, claudication, etc. (Collins, 2016).

- Reduce total cholesterol
- Reduce LDL " bad cholesterol
- Reduce triglycerides
- Raise HDL "good cholesterol"
- May provide other protection after heart attack anti-inflammatory effects
- NO GRAPEFRUIT The grapefruit juice binds with the enzyme leaving more statin in your blood unmetabolized therefore causing greater side effects
- Side effects: Other side effects include increased blood glucose levels, rhabdomyolysis, elevated liver enzymes, myalgia, and central nervous system complaints but these are very rare (Thompson, Panza, Zaleski, & Taylor, 2016)

Although statins are the first line cholesterol lowering agents that have the most evidence to support their effectiveness, there are other cholesterol lowering agents for those who do not tolerate statins (only discuss if some participants are on these agents. If not, omit this section):

- Ezetimide
- Resins
- Fibrates
- Niacin



- ACE stands for Angiotensin Converting Enzymes
- · Angiotensin II is a powerful vasoconstrictor that is produced by the body
- · ACE inhibitors prevent the conversion of Angiotensin I to Angiotensin II
- ACE inhibitors prevent ventricular remodeling of the heart for patients with ischemic heart disease, cardiomyopathy, and resulting heart failure
- They reduce the risk of heart failure, prevents the extension of current heart failure, and reduces the risk of a future myocardial infarction
- If the heart has to pump against a tight vessel over a prolonged period of time, the heart changes shape and becomes an ineffective pump.
- ACE inhibitors reduce blood pressure reducing blood pressure reduces the demands of the heart muscle
- All generic names for ACE Inhibitors end in "pril" but yours may be listed by its brand name

Question:

- What is a normal blood pressure?
- · What are some signs and symptoms of too low blood pressure? Too high?
- ACE Inhibitors are often used to treat patients with heart failure or an enlarged heart and those with coronary artery disease but ACE inhibitors can also be used to protect the kidneys of patients with diabetes
- · Side effects include a dry cough or tickle in the back of the throat, a drop in blood

pressure below normal, high potassium, and renal dysfunction. In rare cases ACE inhibitors cause angioedema that causes swelling of the face, nose, and throat. Dropping your blood pressure too low can make you feel dizzy and faint. You will need to have your bloodwork done to check for high potassium and any abnormal kidney function after starting this medication (Heart and Stroke Foundation, 2016)

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(Images are my own photos)

- Nitroglycerin is used to prevent and treat chest pain
- It reduces the workload of the heart, reduces blood pressure, and opens up coronary arteries so that the heart muscle receives the oxygen it needs to function
- Let's review the chest pain procedure and I will demonstration proper use of the medication
 - If you have chest pain stop what you are doing and go get your Nitro
 - Sit or lie down before taking your Nitro
 - · Prime the pump by squirting one spray into the air
 - Place one spray under your tongue
 - Wait five minutes
 - If the pain is still there, you can take another Nitrospray. It should be waning after the first spray. If it continues to intensify, call 911
 - Do not have your loved one drive you to the hospital. If you go unconscious
 or deteriorate in the car there is nothing your loved one can do
 - If this is the first time you have experienced chest pain since an intervention like a stent or CABG, then you should let your doctor or nurse practitioner know right away
 - Other people live with stable angina and have frequent and familiar chest pain. This type of chest pain can be safely managed on your own, however, if your pain does not go away or you start to experience chest pain while at

rest, you should seek medical attention right away

- The two main side effects are a drop in blood pressure and a headache. The drop in blood pressure is usually temporary. Your headache can be treated with Tylenol
- The Nitropatch is used to prevent chest pain in someone who has recurring chest pain. It slowly leaks a small amount of Nitro into the bloodstream over the course of the day and then is taken off at night
- A Nitropatch can also be used in heart failure patients to reduce the amount of work the heart has to do

(Heart and Stroke Foundation, 2016)

Brief summary of medications for coronary artery disease:

- Beta-blocker slow heart rate and reduces force of contraction
- Antiplatelet prevents clot formation
- **Statin** cholesterol lowering agent
- ACE Inhibitor lowers blood pressure
- Nitro treats chest pains
- Anticoagulant added protection against clot formation in those with heart valve replacements, dysrhythmias like atrial fibrillation, and left ventricular hypertrophy

So far today we discussed the pathophysiology of coronary artery disease and the medications used to prevent a future heart problem including

Beta blockers Antiplatelets Statins ACE Inhibitors Nitro

Do you have any questions so far?



- · You all have your personal profile in front of you
- Look at the list and see if you can identify your heart pill, blood pressure pill, cholesterol pill, chest pain medication, and blood thinner(s)
- Write down what the pill is for next to it on your sheet
- If you are unsure, just ask and I will help you decipher what pill is for what

Next day we will cover:

- Medications used to treat heart failure and valve diseases. We will also touch on dysrhythmias if this is applicable to the group
- We will also review tactics to improve medication compliance, medication plans to help cover cost of medications, and some foods that interact with cardiac medications



Last day we talked mainly about coronary artery disease but some of you may also have other heart diseases like cardiomyopathies, heart failure, valve diseases, dysrhythmias, and other more rare conditions. Even though understanding your medications is complex, the good news is that no matter what heart disease you have, the risk factors and lifestyle adjustments required to prevent future problems are all very much the same. Medication compliance, living an active lifestyle, managing high blood pressure, diabetes, and high cholesterol levels, adjusting your diet, finding ways to relax and improve your mental health, and smoking cessation are apply to all of these conditions.

I will start by asking you what you would like to know about your medications. Does any one have any of these conditions or would like to know more about a medication that you are taking? (Use this as a tactic to gain what they want to know as apposed to reviewing each medication individually to prevent wasting time on medications the group may not be on)

Heart failure

- Heart failure occurs when the heart cannot pump enough blood to meet the body's demand
- The heart either has a hard time filling up, or it has a hard time pumping out.



Permission granted by the Heart and Stroke Foundation Coordinator to use Heart and Stroke handouts and video for teaching purposes.

Heart failure is ALWAYS caused by another underlying problem. Remember, you need to fix the source of the problem first.

Heart Failure Medications (To the presenter: It is not necessary to go into all the details related to the mechanism of action but the details are here if needed)

- Beta blockers help to reduce the oxygen demands of the heart muscle by decreasing the rate and force of contraction of each heart beat
- ACE Inhibitors help to lower blood pressure so that the heart can easily
 pump blood out of its chambers. When the heart has to work hard to release
 the blood, it changes shape and this further reduces its ability to pump well
- Aldosterone is a hormone that is released from the kidneys when the heart is not pumping enough blood to generate an adequate blood pressure. The kidneys detect this drop in blood pressure and release aldosterone that causes the body to retain sodium. This is very harmful to someone with heart failure because they already have too much fluid not being circulated.
 Aldosterone antagonists stop this complex process and prevent aldosterone from being released into the blood stream. An common example of this medication is Aldactone

- Persons with advanced heart failure may require Digoxin. Digoxin increases the force of contraction of the heart to help eject blood from the chambers but it also slows the heart rate down to reduce oxygen demand of the heart. It is a fine balance between helping the heart pump better wiithout stressing the heart in the process. Digoxin can be toxic at high doses therefore digoxin levels need to be drawn regularly. Digoxin can also prevent dysrhythmias that are caused by the stretching of the heart tissue. For example, it is sometimes used for patients in Atrial Fibrillation who also have heart failure
- People with more advanced heart failure may also be on diuretics like Hydrochlorothiazide or Lasix. This drugs vasodilate the renal arteries and promote excretion of excess fluid in urine. Potassium levels have to be monitored for those taking Lasix
- People with more advanced or symptomatic heart failure may require Nitroglycerine patches. In this case, the Nitro is not being used to treat chest pain but rather to dilate the veins and reduce the preload of the heart. The more blood in the chamber of the heart, the harder the heart beats. Nitro reduces the amount of blood in the chamber and therefore reduces the force of the beat and thus uses less oxygen. Sometimes you will be on a pill instead of a patch. E.g. Isosorbide dinitrate

(Heart and Stroke Foundation, 2017)


We have talked about problems that can occur with your coronary arteries such as plaque build up and resulting heart attacks. We have also talked about the heart muscle and how it can be damaged, stretched, and fail to pump or fill properly. We can also develop problems with the valves in our heart.

(To the presenter: Use the heart model to review the anatomy of the valves)

- To review, we have 4 valves in our heart: The right side has the tricuspid valve between the top and bottom chambers and the pulmonic valve in the pulmonary artery between the right ventricle and the lungs. The left side of the heart houses the mitral valve between the top and bottom chambers and the aortic valve sits in the aorta between the left ventricle and the rest of the body.
- Valves can become floppy and not close properly. This is called regurgitation or insufficiency
- · Valves can also become hard and stiff. This is called stenosis
- The name of your valve disease depends on what valve is affected. If you have stiffening of your aortic valve, it is called aortic stenosis. If you have a floppy mitral valve it is called mitral regurgitation
- No matter what your problem is, if the valves are not working properly, this makes it very difficult for the heart to pump blood effectively and it can lead to heart failure
- Causes of valves problems include:
 - Viral or bacterial infections

- Birth defects
- Age and general wear and tear
- Cardiomyopathy
- Heart attack that damages the chordae tendinae
- · The valve can be repaired or replaced
- Valves can have tears that can be repaired by a cardiac surgeon, or they can be completed replaced if needed with a tissue or mechanical valve
- · Tissue valves can come from human donors, pigs, or cows.
- Mechanical valves are made of metals
- Mechanical valves last longer than tissue valves but require the patient to be on blood thinners
- Tissue valves do not require blood thinners in most cases but they tend not to last as long
- Valves can last 5 -15 years before they begin to malfunction. The mechanical valves being placed at the longer end of that range
- You can help preserve the lifespan of your valve by exercising regularly, quitting smoking, eating a balanced diet, and properly managing your blood pressure, cholesterol, and blood glucose levels

Mechanical valves will require an anticoagulant like **Warfarin** (Carnicelli, 2015). Although there are new oral anticoagulants (NOACs) available now,, Warfarin remains the drug of choice for anticoagulation related to mechanical valves (Eikelboom et al., 2013). Example of NOACs include:

- Pradaxa (Dabigatran)
- · Xarelto (Rivaroxaban)
- Eliquis (Apixaban)

Side effects of Warfarin

- · The biggest side effect you need to be aware of is the risk of bleeding
- Be careful when brushing your teeth. Your gums may bleed but more importantly it can be a pathway for bacterial to enter your bloodstream and destroy your valve. If you have a mouth, throat, or gum infection you need to be seen right away
- If you have dark stools or coffee ground emesis, this is a sign of internal bleeding
- If you have any signs of stroke, you need immediate medical attention (Fface drooping A-arm drift S-speech T – time to call)
- Leafy greens are high in Vit K and this can reduce the effectiveness of Warfarin
- If you make any drastic changes in your diet, let your health care professional know

(Heart and Stroke Foundation, 2017)



Atrial Fibrillation and Atrial Flutter

(Note to the presenter: If no one in the room has a dysrhythmia problem, most of this material can be omitted)

(Image by By BruceBlaus -

https://commons.wikimedia.org/wiki/File:Atrial_Fibrillation.png, CC BY-SA 4.0, https://commons.wikimedia.org/w/index.php?curid=56628328)

- You have learned that a normal heart rate is between 60-100 beats per minute
- You have also learned to check your pulse to count the beats and ensure that the beats come in on a regular interval (review pulse taking skill)
- When your heart tissue has been damaged or stretched, this can cause a disturbance in the normal electrical conduction pathway
- Remember that your heart is like a blender. The blender needs electricity to make the blades chop. The heart is a muscle that needs the electrical stimulus to fire in order for the heart to pump
- The term dysrhythmia refers to a disturbance in the normal electrical pathway
- The electrical problem is classified as either an atrial and ventricular disturbance depending on where the problem originates
- Heart rates can be too fast or too slow and this can be treated by fixing the underlying cause and treating in various ways including medications, electricity, and lifestyle changes

- Atrial dysrhythmias such as atrial fibrillation are the most common type of dysrhythmia
- The most serious complication is stroke caused by the formation of clots in the blood that pools in the atria
- Temporary atrial fibrillation is common after heart surgery. Temporary atrial fibrillation is sometimes called paroxysmal a.fib and if it comes and goes with 24 hours without any symptoms, it generally does not require treatment
- Persistent or permanent atrial fibrillation will require some form of treatment, namely anticoagulation

Does anyone in the room have atrial fibrillation, atrial flutter, heart block, ventricular tachycardia, or ventricular fibrillation? How were you treated to control this problem? What were your symptoms?

Video on the signs and symptoms of A.fib: https://www.youtube.com/watch?v=Ov98MPCFmp8

Treatment

- Find and treat the underlying cause if possible
- Medications to slow and/or return the heart to a normal rhythm (e.g. beta blockers, calcium channel blockers, antidyrhythmics like amiodarone or sotolol)
- Anticoagulants (NOACs or Warfarin)
- Cardioversion
- Ablation

Causes

- The most common cause is hypertension
- Any change in the structure of the heart puts a person at risk for developing atrial fibrillation
- Other causes include hyperthyroidsim, cardiomyopathy (ischemic, secondary to excession ETOH intake, congenital, etc.), valve problems, critical illness

Heart Blocks

- Atrial fibrillation and flutter typically result in a rapid heart rate but a heart beat that is too slow can also cause problems
- When your heart rate drops too low, not enough blood is delivered to the rest of the organs in the body and you may feel symptoms like chest pain, weakness, fatigue, nausea, sweatiness, and feeling faint or even passing out
- If the electrical pathway through the heart is stretched or damaged, your heart rate can drop. We call these types of dysrhythmias heart blocks
- Sometimes heart blocks or too slow of a heart beat is induced by medications and the solution is simple. Your care provider may just need to reduce or discontinue a

medication that is slowing your heart rate

Does anyone in the room have a pacemaker? Why did you receive a pacemaker? What were your symptoms before you had the pacemaker inserted?

Treatment

- · Discontinue or reduce heart lowering agents
- Take away the cause (e.g. treat an acute MI)
- Pacemaker insertion

Reference: Heart and Stroke Foundation (2017)



Angiotensin Receptor blockers (ARBs) – Angiotensin is an enzyme that binds to receptors on the blood vessels and causes vasoconstriction. ARBs block angiotensin and causes blood vessel relaxation. ARBs are sometimes used when ACE Inhibitors are not tolerated

Calcium channel blockers – Calcium is needed to cause adequate cardiac muscle contraction. Calcium enters the cell and then causes the endoplasmic reticulum to release more calcium and this causes myocardial cell contraction. Calcium channel blockers stop the calcium influx and therefore reduce contractility and heart rate. They are sometimes used when beta blockers are not tolerated. They decrease the work load of the heart. They can also prevent atrial dysrhythmias

Diuretics – Sometimes used to lower blood pressure or treat those with an element of heart failure. HCTZ is potassium sparing but Lasix is not. Lasix has the potential to drop your potassium. Potassium rich foods include things like bananas, kiwi, oranges, melon, dried fruit (apricots, raisons, dates), spinach, unpeeled potatoes, sweet potatoes (yams), orange or pineapple juice



- Just to confuse you, some drugs come combined.
- This tends to promote compliance but reduces the ability to titrate individual dose
- These medications are often used for someone who has stabilized and is consistently taking the same dose of medication for many months



- Bananas High source of potassium. If you are on an ACE inhibitor and a
 potassium sparing diuretic, be cognizant of potassium rich foods. You can have
 them in moderation but avoid large quantities
- Grapefruits and grapefruit juice can increase the amount of statins in your blood and this can lead to adverse side effects
- Kale and other leafy greens are a rich source of Vit K. This can interfere with your Warfarin. If you make a major change in the amount of Vitamin K rich foods you eat, make sure you talk to your prescribing health care provider
- Black licorice can reduce the effect of Digoxin
 - Orange juice helps with the absorption of iron
- BOTTOM LINE Read your labels ASK THE PHARMACIST!!! They are the experts!



- In order to prevent another heart attack you need to take all your medications as prescribed. Benefits of medications are cumulative.
- Proper storage can help make it easier to take medications as prescribed (e.g. keep bedtime meds on your nightstand and morning medications next to your toothbrush, use a doset, and note refill dates on a calendar)
- Disposal: Do not flush or put down the sink Return to pharmacy Check expired medications
- Traveling: Plan ahead, pack in carry-on (except syringes and liquids)
 - Leave in original containers
 - Carry written prescriptions
 - List of contact names
 - List of prescription numbers



Medications prevent future heart problems

- Taking medications is as important as diet, exercise, and smoking cessation
- Take medications as prescribed
- ■Know your meds keep a list with you
- Report any side effects or unusual symptoms to your doctor or nurse practitioner
- Know when and how to take Nitro



- Can you think of one reason why taking your medications is important?
- What are two side effects of Nitroglycerine?
- What are two signs or symptoms of heart failure?
- What should you do if you think you are having an unpleasant side effect from your medications?
- What are some signs and symptoms that your heart rate is too low? Too high?





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Handouts &

Resources

Cholesterol: Understanding Your Lipid Profile

- Your body makes all the cholesterol you need, but we also take in cholesterol from food
- Anything that has a liver, contains cholesterol

- Cholesterol is needed to produce hormones and Vit D. It also helps digest fats and keeps cell membranes intact
- When your health care provider orders a lipid profile, we look at the different types and components of cholesterol



High density lipoproteins (HDL) – Good
 Low density lipoproteins (LDL) – Bad
 Triglycerides – Bad

Total cholesterol score should be < 4

These 3 components make up your total cholesterol score



 High levels of LDLs and triglycerides are associated with an increased risk of heart diseases



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Understanding Heart Failure – The Basics

How Does the Heart Work?

Your heart is a muscle about the size of your fist. It works like a pump, pumping blood and nutrients around your body.



The heart is actually a 2-sided pump. The *right side of the heart* pumps 'used' blood from

the body to the lungs. In the lungs, your blood is loaded up with oxygen. The *left side of the heart* pumps 'fresh' blood full of oxygen from the lungs to the rest of the body. The left side of the heart is usually the larger than the right. That is because it has to pump hard to get the blood out to all parts of your body.

Each side of the heart has 2 chambers. Valves link the chambers and keep blood pumping in the right direction. These valves open and close with each heartbeat.

What is Heart Failure?

Heart failure is when your heart is not pumping as strongly as it should. Your body does not get the right amount of blood, oxygen, and nutrients it needs to work properly.

Heart failure usually gets worse over time. While heart failure cannot be cured, people do learn to live active, healthy lives by managing their heart failure with medication, changes in their diet, weighing daily and physical activity.

There are two main types of heart failure:

- A weak pump: When the heart muscle is weak, it gets larger and 'floppy'.
- A stiff pump: When the heart muscle cannot relax between beats because the muscle has become stiff. The heart cannot properly fill with blood between beats.





Both types of heart failure reduce the blood flow and oxygen to your body.

The Heart and Stroke Foundation gratefully acknowledges Cardiac Services BC and the experts at British Columbia's Heart Failure Network as the original creators of this resource.

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What Causes Heart Failure?

Heart failure has many causes including:

- Heart attack
- · High blood pressure
- Heart valve problems
- Heart defects at birth
- Lung conditions
- Excessive use of alcohol or drugs

Other possible causes of heart failure include:

- Obesity
- Sleep apnea
- Infections affecting the heart muscle
- Abnormal heart rhythm
- Severe anemia
- Severe kidney disease
- Overactive thyroid gland
- Exposure to chemotherapy or radiation

Not sure what caused your heart failure? Ask your doctor or nurse practitioner.

Signs of Heart Failure

- · You may notice any of the following signs.
- You feel short of breath when you do daily activities.
- You find it harder to breathe when resting or lying down.
- · You wake up at night feeling short of breath.
- · You find it easier to sleep by adding pillows or by sitting up in a chair.
- · You cough often, especially when lying down.
- · Your cough is either dry and hacking, or moist and you cough up mucus (which could be slightly pink).
- You feel your heart beat faster and it does not slow down when you rest.
- · You feel your heart racing, jumping, or pounding in your chest.

- You cannot walk as far you normally can.
- · You are tired all the time and have no energy to do daily activities.
- · You feel lightheaded or dizzy, especially when you stand up or increase your activity and this is new for you.
- · You cannot eat as much as you normally would.
- You are not hungry and do not feel like eating.
- · You feel bloated or your clothes feel tighter than normal.
- · You have swelling in your feet, ankles, legs, or even up into the belly (abdomen).
- Sudden increase in body weight where you gain more than 4 pounds (2 kilos) in 2 days.
- · You feel uneasy, like something does not feel right.
- · You feel confused and have trouble thinking clearly (and this is new for you).

Tests to Identify Heart Failure

There is no single test for heart failure. Instead your doctor does a number of tests. The doctor looks at all the test results to determine if you have heart failure.

Tests can include:

- Blood tests to check certain enzymes
- Chest x-ray to look at the size of your heart
- · Electrocardiogram (or ECG) to look at the electrical activity of the heart
- · Exercise stress test to look at how your heart responds to exercise
- Nuclear medicine scan to get a close look at the pumping of your heart
- · Angiogram to look for blockage in your heart arteries
- Echocardiogram or ultra sound of the heart to look at the movements of your heart and measure your ejection fraction

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More About Ejection Fraction

This test is usually done during an echocardiogram or a nuclear medicine scan. Your ejection fraction can go up and down, depending on your heart condition and how well the treatment is working. It is good to know what your ejection fraction reading is. The reading is given as a percentage with normal being between 55 and 70%. Less than 55% means your heart is not pumping as strongly as it should be. Your ejection fraction helps your doctor or nurse treat your heart failure.

How is Heart Failure Treated?

Look in the mirror — the key to treatment is you.

Your doctor relies on you to make changes in your lifestyle and eating habits. While there is a team of health care providers working with you to manage your heart failure, you are the one in charge.

Treatment is focused on helping you live a longer and healthier life. This includes:

- Monitoring your symptoms
- Reducing salt in your diet
- Increasing your daily activity through regular exercise
- · Keeping your blood pressure low
- · Maintaining a healthy weight
- Stopping unhealthy habits such as smoking
- Taking your medications as prescribed

For some people, surgery and medical devices are needed to treat the problem that led to the heart failure. Treatments could include:

- Coronary bypass surgery
- · Valve repair or replacement surgery

- Implanted device such as a pacemaker and/or defibrillator
- Mechanical device to help the heart pump
- Heart transplant

For novel new ideas on heart failure treatment consult your health care provider.

Plan today for the Future

Your heart failure may get worse over time. Start thinking now about how you wish to be cared for if your disease progresses. This is called 'advanced care planning'. Advance care planning allows you to have a say in your health care if you are unable to speak for yourself.

Talk to your family and your doctor about helping you live well with heart failure and about the care you do or do not want in the future.

Things to think about and consider:

 What does it mean to live well with heart failure?



- What is important to you to make your life the best it can be?
- What is important to you as your condition progresses?
- What worries and concerns do you have?
- How will your progressing heart failure affect you and your family?
- Who or what gives you support when you need it?
- If you are not able to make your own health care decisions, who will you want to make them for you? Does that person know what you want?
- Do you have written instructions for how you want to be cared for if you cannot make decisions for yourself (this is called an advance directive).

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Why Learn to Manage Your Heart Failure?

When you take charge of your health and learn to manage your heart failure, it helps you:

- · Improve the quality of your life.
- Feel confident that you can manage your heart failure.
- · Control your condition so it will not control you.
- . Know when to ask for help from your care team.
- Limit the need to go to the hospital for care.
- Prevent or limit heart failure complications as the disease progresses.

Talk with your family and your care team about your disease and care plan. People who learn to manage their heart failure are more likely to live a longer, healthier life than those who do not.

For More Information on Heart Failure

BC's Heart Failure Network www.bcheartfailure.ca

Heart and Stroke Foundation www.heartandstroke.ca/heartfailure

Heart Failure Society of America www.hfsa.org

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Modules 7 & 8 – Risk Factors I & II

Description: Modules 7 and 8 focus on the risk factors for heart disease and provide participants with the opportunity to identify their own risk factors and reflect on how they can improve their risk profiles. The modules provide the participants with practical tips on how to reduce their risk of a future cardiac problem and live a healthy lifestyle via physical activity, a balanced diet, smoking cessation, stress reduction, and proper control of cholesterol, blood glucose levels, weight, and blood pressure.

Rationale for module: One of the main goals of any cardiac rehabilitation program is to reduce risk factors that contribute to cardiovascular disease in order to prevent future cardiac events (CACR, 2009). American and Canadian cardiac rehabilitation guidelines recommend education on smoking, high blood pressure, hyperlipidemia, diabetes, obesity, stress, and inactivity to be an important part of cardiac education in cardiac rehab programs (AACVPR, 2013; CACR, 2009). A literature review related to cardiac rehabilitation participant perceptions of important education topics was performed for this project. The results from the literature review indicated that participants viewed reducing their risk profiles and preventing a future heart problem as key rehab goals (Fernandez et al., 2012; Leistra, Streppel, Klamer, Tump, & Weijs, 2015). Consultations with those considered experts in cardiac rehab and a former cardiac rehab participant were conducted for this project. Education on risk factors was one of the main themes that emerged from the data collected during the consultations. In summary, educating participants on risk factors related to cardiovascular disease can prevent future cardiac events and is viewed as an important topic for education by participants and clinical experts.

Teaching aids/activities:

- Handout: Risk factors: Circle your risk factors and identify modifiable and non-modifiable risk factors
- PowerPoint to guide presenter and provide a visual aid for participants
- Discussion question around diabetes as a modifiable versus non-modifiable risk factor
- Facilitated discussion related to smoking cessation challenges and tactics to overcome these challenges
- Handout: DASH Diet
- Handout: Stress Quiz
- Facilitated discussion around the benefits and barriers to exercise

Objectives:

By the end of the two modules participants will:

- Be able to circle their risk factors for heart disease when given a list of risk factors
- Be able to identify high blood pressure and diabetes as two major risk factors for heart disease
- Be able to identify smoking cessation as the single most important action to help improve overall health and will be able to select seeking help from health care professionals as the best strategy for quitting
- Be able to identify if their blood pressure is normal or abnormal when the nurse takes the blood pressure after exercise
- Be able to orally state two benefits of exercise
- Be able to calculate how much a 5 10% weight loss would be for them
- Be able to identify one moderate activity that they could preform for 30 minutes each day

Key Messages for Participants:

- It only takes a 5 10% weight loss to improve your cardiovascular health
- It only take 30 minutes of moderate activity a day to improve your cardiovascular health
- Exercise has many other benefits including improved sleep, reduced anxiety, and reduced depression
- Cholesterol is a major risk factor that may require medication therapy and dietary changes to control it

Evaluation Activity:

- Oral question and answer, true and false, and fill in the blank activity at the end of the class
- Blood pressure activity: Is the participant able to identify their blood pressure as normal or abnormal when taken
- after the exercise portion of the program

Application of King's Theory of Goal Attainment (King, 1991):

Health is the ability to function in social roles: Educating participants on cardiovascular risk factors is intended to give the participants the information they need in order to change their risk profiles where necessary in order to prevent a future cardiac event. By doing this, participants have the opportunity to maintain and improve their current level of wellness in order to function at their highest level possible in all of their social roles in their day to day life

2

- Human beings are rational, purposeful, and action-orientated: Once participants are given the information about how risk factors can lead to cardiovascular disease. King's theory assumes participants will rationalize their to decision to adopt new behaviors or continue to behave in the same way
- Clients have a right to knowledge about their health and have a right to accept or reject health care & health care professionals have a duty to collect information about the client's perception of goals: During these two modules the nurse will provide participants with all the information they need to make an informed decision about their lifestyle behaviors related to their cardiovascular risk profiles. Participants may choose to make changes, or they may refuse to make such changes even if this means jeopardizing their health. It is the nurses responsibility to collect the reasons why the client refuses in order to better understand the barriers to change, but always respecting that the clients have a right to refuse

Application of Knowles' Principles of Adult Learning (Bastable & Dart, 2008; Knowles, 1980):

- Adults are independent and self-directed learners that have a reservoir of life experiences that can be used as a resource for learning: This module was designed with this principle in mind. It provides an opportunity for participants to share their smoking cessation experiences (successes and challenges) with the group in order to educate one another on this difficult task. There is also an opportunity for participants to share their experience with exercise (what works for them and what has been a challenge). These activities demonstrate the facilitators respect for their abundance of life experiences that may benefit others in the group
- Adults want to learn things relevant to them and can be readily applied: During this module the participants are given information that they can apply to their own personal cardiovascular risk profiles. There is an activity where the participants circle and count their cardiac risk factors to help them identify what areas they need to work on in order to prevent future cardiac events. This information is all highly relevant to them and can be readily applied

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Presenter: Registered Nurse



- You are all in this room because you experienced some form of heart disease that disrupted your life and now you are taking steps to educate yourself and learn how to cope with your new reality
- You may have wondered, "Why did this happen to me?"
- Over the next couple of classes we are going to discuss the risk factors for heart disease that increase a persons chances of developing a heart disease
- · Some risk factors you can control while others are set in stone
- The more risk factors you have, the more likely you are to have a future heart problem so it is very important to reduce the risk factors you can control



- Modifiable risk factors are those that you have the power to change!
- Non-modifiable risk factors are those that you cannot control. For example, some
 of you may have been born with your heart problem or had a positive family
 history of premature coronary artery disease. You cannot change this. It is
 important to focus on the things you can change and not dwell on the factors that
 are out of your control
- Non-modifiable risk factors include:
 - Age
 - Sex
 - Race
 - Family history
 - Genetic predisposition to diseases like hyperlipidemia, cardiomyopathy, depression, etc.



- · Having diabetes is one example of a risk factor for heart disease
- In fact, if you have had a heart attack and you have diabetes, you are 2 4 times more likely to have another heart attack than your non-diabetic counterparts, your mortality rate is higher after a cardiac event, and about 30% of people admitted to hospital with acute coronary syndrome have diabetes (Jacoby, & Nesto, 1992; World Heart Federation, 2017)
- A person who has Type I diabetes might say, "I was born with this diseases. I had no control over that"
- This is true, however, you CAN control how well your blood sugars are managed by taking your insulin or oral medications as prescribed, being active, and eating a balanced diet
- Most risk factors for heart diseases are modifiable



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Question: Of these, which ones do you not have any control over? Handout: Circle the risk factors that you have. Count the number of risk factors you circle and place them in the box. Now count up the risk factors you cannot control and put the number in the box

Discussion: What risk factors can you control? How motivated are you to change those aspects of your health profile? What change do you consider to be the most difficult? Why?

- Diabetes
- HTN
- High cholesterol
- Smoking
- Physical Inactivity
- Obesity

Can you think of any others?

- Family history
- Gender: Men are more likely to have a heart attack than a woman until a woman reaches menopause, then she is at equal risk. Our estrogen protects our heart until menopause

4

 Inflammatory diseases like vascultis and rheumatoid arthritis are correlated with CAD

- Metabolic syndrome
- Waist size > 35 women and 40 in men (Apples versus Pear body shape)

Heart and Stroke Foundations (2016)



in.

- Stress is a normal emotion. We all experience it from time to time. Some people
 are more easily stressed than others
- Does stress cause heart disease? Some textbooks do not list stress as a risk factor
- The INTEREHEART Study was a massive study conducted in 2004. It looked at over 30 000 patients in many different countries who had an MI. These patients were assessed for their perceived level of psychological stress. There was a positive correlation between who felt more stressed and heart attack in comparison to a comparable control sample of people who did not have a heart attack. There is an association between stress and having heart disease (Rosengren et al., 2004)
- Prolonged psychological stress in the form of work related stressors, marital breakdown anxiety, depression, abuse, and psychological trauma are also correlated with an increased risk of heart disease.
- We will spend an entire session on stress and heart diseases later on in this program



The poor fellow in the picture has had his heart damaged just like you, only he probably could not the control the risk factors that contributed to his broken heart. The image is a Valentine card from the 1800s and it reads:

"Tis said you share your love with many, but I believe you have not any; At least enough to give away, you keep it for yourself they say"

Smoking HTN Cholesterol Family history

These four risk factors are strongly linked with the development of coronary artery disease (Urden, Stacy, & Lough, 2014)

This program can help with all of these except your family history and genetics. You can pick your friends but not your blood line!

Certain diseases are also correlated with CAD including PVD, CRF, Diabetes, and cerebral vascular disease. Remember, if you have plaque in one area like your heart, there is a greater chance that you may have it in your brain, kidneys, and legs as well (Heart and Stroke Foundation, 2016)



- Quitting smoking is a PROCESS, not a moment in time.
- There are stages to change. This program is not about making you feel guilty if you haven't quit yet. This program is about helping you make an informed decision. If you are not ready to quit, NO PROBLEM. We believe you have the ability to quit and when you are ready, we will be here to help. There are many new therapies to help a person quit smoking comfortably. All of the staff in this program have been specially trained in smoking cessation education so please seek any of us out if you want to discuss this important topic.

The stages of change:

 Pre-contemplation – Not even thinking about it. Our job is simply to inform you and be there for you when you are ready

2.Contemplation – Considering it. Our job is to explore your reasons for quiting and reasons for continuing. We can show you the options

3. **Preparation** – Want to quit and are planning how to do it. You might even set a quit date. At this stage the pleasure of smoking is outweighed by the negatives and we can help you make a plan that works for you

4. Action – Smoking ceases and your brain and body start healing. You find ways to resist temptation and adapt to your new smoke free lifestyle. It is all about preventing slip ups, seeking support, and breaking patterns.

5. Maintenance – Remaining a non-smoker has its challenges but you are in more control during this phase. You may still slip up from time to time but you learn from

this, and grow stronger.

(Health Canada, 2009)

(



Some of you have already quit smoking.

Try to remember why you quit.

What was the most difficult part for you? How did you overcome these challenges What advice would you give someone who is starting to think about quitting but feels it will be too stressful or difficult?



- Most people who have high blood pressure and don't even know it
- It is a common problem. So common that people often think of it as a serious problem. It is a VERY serious problem
- · It is a major cause of heart attack, heart failure, and stroke
- If you are on a blood thinner and your blood pressure is not well controlled this can double and triple your risk for a brain bleed!

(Heart and Stroke Foundation, 2016)



For most people, we want your top number to be 100 - 130 and the bottom number should be 60-80

As you age, we sometimes allow for a slightly higher threshold. For those over 80, a systolic blood pressure < 150 is acceptable

(Heart and Stroke Foundation, 2017)

ACTIVITY: After you complete your exercise today, the nurse will take your blood pressure. Make sure you look at the number and see if you can identify if it is within normal range. If you are unsure, ask us!


· These are all signs of high blood pressure

· Remember, most people have high blood pressure and don't know it



TIP - Navigating the system

- This seems like a straight forward question. Yes or No
- Health care providers will constantly be asking you about your medical history. It is very important information. It is only useful if it is accurate
- If you have a normal blood pressure AND you are not on any medications the correct answer is NO!
- If you have a normal blood pressure that is being controlled with medications....the answer is YES!



- Imagine this picture as a cross section of one of your heart arteries.
- There are three layers of cells that make up these arteries
- The inner most layer is called the endothelium. It is one cell thick. It is very thin
 and sensitive. When it becomes inflamed or irritated, plaque begins to form
- Blood pressure is the force exerted on the walls of the artery with each pump of blood from the heart
- Ideally we want the blood vessel to be relaxed so that the heart can pump the blood through the vessel easily
- · When you have high blood pressure, the vessel is clamped down or constricted
- The blood is forced through a narrow space. This creates a shearing or friction on those delicate cells and so the process of plaque formation begins
- The heart muscle itself has to pump against the tight vessels. Over time, the heart grows larger to help over come this extra work. As the heart enlarges it loses its perfect pumping shape (remember the spoon; Shape = function). If the heart continues to work against the tight vessel, the heart no longer pumps well and the heart muscle begins to fail. Blood backs up and fluid can be pushed into the lungs and/or the rest of the body (swolen ankles, poor appetite, enlarged liver or spleen). We call this heart failure
- High blood pressure can also rupture arteries. We call these aneurysms. Some of you may have dilated arteries or known aneurysms. It is especially important for you to keep your blood pressure in the normal range. You can have aneurysms in your upper body, lower body, or your brain!



The DASH diet (Appel et al., 1997) :

In the DASH study, people were given one of three eating plans:

- A plan similar in nutrients to what most North Americans eat
- The same plan but with extra vegetables and fruit, or
- The DASH diet, which is rich in vegetables, fruit and low-fat dairy foods and lower in saturated fat, total fat and cholesterol
- The DASH diet had the greatest effect on blood pressure. Blood pressures in the DASH diet group were significantly lower within two weeks of starting the plan. Not only was blood pressure reduced, but total cholesterol and low-density lipoprotein (LDL) or "bad cholesterol" were lower as well

Handout: DASH Diet

+ RECAP

- 1. What are two major risk factors strongly associated with the development of a heart disease?
- 2. What are two diseases that high blood can cause?
- 3. What is a normal blood pressure?
- 4. What is the easiest way to quit smoking
 A. Cold Turkey
 - A. Cold Turkey
 - B. Buying the patch
 - C. Seeking help from a health care provider



Any questions or comments?

We will continue to discuss risk factors and risk factor modification in the next class Also, we will have six sessions with a dietician who can further counsel you on how to make proper dietary choices and changes that will maximize your heart health



Almost all of you had elevated cholesterol levels in your initial bloodwork Don't be despaired....cholesterol can be controlled with meds....but also with diet and

exercise...this is what this program is all about You are going to have 6 sessions with a dietician...and if you stick with us for 12 week

of exercise...this can also reduce your cholesterol levels

Some of you had elevated blood pressures....exercise can help with this Some of you may want to lose weight...diet and exercise can help with this...it can

also reduce your blood sugar levels and even reduce the amount of medications you take for your diabetes

Sometimes people dont think of diet and exercise as a treatment. WELL IT IS. It can impact almost every risk factor of heart disease!

It also acts as a natural anti-anxiety and anti-depressant. It causes a release of serotonin in your brain... The HAPPY chemical...the same effect that antidepressant meds have

Confession: (Feel free to share this with our patients about me) I am melancholic by nature....Depression runs in my family...I would be on medication if I didn't try to eat right and exercise daily. When I dont exercise I feel blue, hopeless, and have to force myself out of bed. I've had thoughts of suicide (but would never follow through)...do NOT under estimate the power of diet and exercise.

+ Risk Factors Continues:

✓ Smoking

√High blood pressure

✓ Diabetes

✓ Stress

□Obesity/Obstructive Sleep Apnea

□Physical activity

Cholesterol levels



(Permission granted from Mayo Clinic to use photo depicted in this slide)

- Obesity is correlated with having a greater risk of having a heart attack
- So why did we measure your waist circumference on your initial assessment?
 - People who carry their weight around their midsection have a greater chance of having a heart attack and heart diseases like heart failure, than those who carry their weight through their hips booty and thighs
 - In studies, a waist size greater than 35 inches in women and 40 in men has been strongly correlated with a future cardiac event
- If you are battling the bulge, you are not alone. Obesity rates are high and are on the rise
- Obesity is more than a physical problem. There are many psychological consequences of living with obesity as well

(Heart and Stroke Foundation, 2017)



- In PEI almost 60% of the population is either overweight or obese.
- Our rates are higher than the national average
- Obesity isn't just affiliated with heart disease. It is also an underlying cause of diabetes, stroke, heart failure, joint pain,fatty liver disease, gallstones, depression, chronic headaches, obstructive sleep apnea and a large number of other ailments
- Obesity should be taken as seriously as high blood pressure or any other risk factor for heart disease

(Statistics Canada, 2011)



(Picture taken from the following open access website: https://openi.nlm.nih.gov/detailedresult.php?img=PMC3932353_ceo-7-66g001&query=snoring&it=xg&req=4&npos=25)

- Why did we ask you if you snore or wake up with headaches during your initial assessment?
- Those are some signs of Obstructive Sleep Apnea (OSA)
- Obesity is one of the primary causes of OSA
- The muscles around your neck that help stent open your away are less effective the more overweight you are
- You kink off your airway
- Snoring is a sign or partial obstruction
- Stopping breathing is a sign of complete obstruction
- · Your oxygen levels drop when you obstruct.
- · Over time your body responds by constricting your pulmonary arteries
- Now the right side of your heart is trying to pump against a really tight pulmonary artery. This causes right sided heart failure
- · Right sided heart failure can lead to left-sided heart failure
- Signs of right sided heart failure include swelling around the ankles, poor appetite, and an enlarged liver or spleen

(Hopps & Caimi, 2015)



(Picture taken from the open access biomedical search engine: https://openi.nlm.nih.gov)

- You do not have to be overweight to have sleep apnea. Some people have a normal weight but have a thicker neck circumference are larger than normal structures around the oropharynx (e.g. tonsils)
- Some people have enlarged adenoids or tonsils that cause obstruction during sleep
- It is VERY important to treat your OSA because it can lead to heart failure
- The companies that sell these devices will let you trial various devices until you find one that works for you
- It does take time to get used to the mask. You can learn to gradually wear it longer and longer until it feels natural
- You will find you will sleep better, wake feeling rested, and not wake with a headache anymore



Many of you set a goal for weight loss. Remember to set attainable goals. Even a small amount of weight loss can have a big impact.

Break big weight loss goal down into smaller portions. 5lbs a month etc.



(The image used in this slide was adapted from Public Health England website which offers an open licence. The images and information are free to duplicate and disseminate as noted on the following link:

https://www.nationalarchives.gov.uk/doc/open-government-licence/version/3/)

- Dietary changes combined with physical activity can help to achieve and maintain a normal weight
- · Physical activity has many other benefits outside of weight loss

(Public Health England, 2016)



- Studies have shown that exercise can treat mild to moderate depression as effectively as antidepressant medications without the side effects. Severe depression may require medication but when paired with exercise, can reduce the dose required
- 2) Exercise causes the release of endorphins in the brain and this produces a feeling of happiness and calmness. A recent study (Batallgia et al.,2015) of 64 prisoners was completed. Participants were randomly assigned to either a cardiovascular plus resistance training, just high intensity weight training, or no exercise. The participants completed a mental health survey before and after a 9 month period. Both exercise groups had lower levels of depression and anxiety, and the no exercise group actually had increased rating of depression and anxiety
- 3) Studies have shown that patients who suffer a cardiac event experience more anxiety than their healthy counterparts. One study by Lidell, Segestend, & Fridlund (1998) also showed a link between anxiety and a lower sense of self esteem. Exercise helps to reduce these feelings



- Take it slow
- Stretching is therapeutic
- Cost efficient options (walking outdoors in the summer, free track at CUP, malls, Stratford town hall, \$5 dollar zumba sessions, free family skates, using your own body weight like squats, push ups etc.)
- Sore muscles are good, joint pain is bad a little pain is normal. Give yourself time to heal
- Motivation: set dates, goals, events. For example, I want to lose an inch by a certain date
- Make sure you have a cheerleading squad and ask someone to hold you accountable



- This is the report we get back when you send a fasting lipid profile
- It is very important not to cheat if you are asked to fast because it can alter blood work results
- The first number is your total cholesterol. It is broken down into three parts : HDL, LDL, Triglycerides
- Triglycerides are part of both HDL and LDL but are found in greater numbers in the LDL
- · If your LDL is up, your triglyceride level will be up as well
- Your total cholesterol for someone with diabetes or a cardiac event should be < 4
- HDL > 1.0 in males and > 1.3 in females
- Triglycerides < 1.8
- Most of your cholesterol is made by your liver
- · We do ingest cholesterol from animal products as well
- Here are some foods that contain HDLs
 - olive oil
 - beans

legumes

fatty fish (such as salmon, mackerel and sardines)

high-fibre fruit (mangoes, apples, oranges, bananas and strawberries are excellent sources of fibre)

nuts

chia

flax

Limit your LDL intake Bacon Grizzle on meat Hot dogs Sausages Liver Cream Cheeses Egg yolks Baked goods Fast foods Deep fried foods



Exactly how exercise lowers LDL levels is not fully understood but there is evidence to support a few theories:

- When you exercise the LDLs are mobilized from the blood vessels and into the liver and is excreted more readily in bile
- Exercise seems to make the LDLs bigger and less able to embed under the endothelial lining

(Davis, 2008)

- Physical activity guidelines tell us that we should all get 30 min of moderate exercise each day
- What is moderate intensity exercise? Walking, biking, swimming, jogging, or using an exercise machine at low speed are all examples of moderate exercise
- · Vigorous is more than that. Light is less than that
- ANYTHING is better than nothing

+ What have you learned?

- **True or False**: Your waist size is more important than the number of pounds you weigh in determining your risk for heart disease
- True or False: Obstructive sleep apnea is a snoring problem that has nothing to do with your heart
- What are two important benefits of exercise that you would like to gain?
- Fill in the blank: High density lipoproteins are your (good or bad) cholesterol?









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Handouts &

Resources



Cardiac Rehabilitation Program: DASH Diet Information

Sheet (Heart & Stroke Foundation, 2017)

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DASH Food Groups	 Vegetables Fruit Grains (mainly whole grains) Low Fat or No-Fat Dairy Foods Lean meats, poultry and fish Nuts, seeds and dry beans Fats and Oils
Vegetables: 4-5 servings	 250 mL (1 cup) raw leafy vegetables 125 mL (½ cup) cooked vegetables 170 ml (6 oz) juice
Fruit: 4-5 servings	 1 medium piece of fruit 63 mL (¼ cup) dried fruit 125 mL (½ cup) fresh, frozen or canned fruit
Grains (mainly whole grains): 7-8 servings	 1 slice bread 250 mL (1 cup) ready to eat cereal 125 mL (½ cup) cooked rice, pasta or cereal
Low Fat or No-Fat Dairy Foods: 2-3 serving	 250 mL (1 cup) milk 250 ml (1 cup) yogurt 50 g (1½ oz) cheese
Lean meats, poultry and fish: 2 servings or less	 3 ounces cooked lean meats, skinless poultry, or fish
Nuts, seeds and dry beans: 4-5 servings <u>per week</u>	 1/3 cup (1.5 oz.) nuts 30 mL (2 tbsp) peanut butter 2 tbsp (1/2 oz.) seeds 1/2 cup cooked dry beans or peas
Fats and oils: 2-3 servings	 5 ml (1 tsp) soft margarine 15mL (1 tbsp) low-fat mayonnaise 30 mL (2 tbsp) light salad dressing 5 ml (1 tsp) vegetable oil



ARE YOU "STRESS FIT"? Find out by taking the 5-minute stress test

We all experience stress in our daily lives. Stressful situations may be as dramatic as a major change in our ser fiels, such as the death of a family member or ser fiels, such as the death of a scorrmon as being caught in a traffic jam or having a computer break down.

At different times, and for different people, stress can manifest fitself in a number of ways. You may actually experience physical symptoms such as a pounding heart, headaches or muscle tension. You may feel depressed or angry. Even your behaviour may change. It's important to know what situations or tasks trigger your stress symptoms and how you commonly deal with these situations in your life.

Complete our 5-minute stress test

Think back over the last few weeks or months to a situation in your life that caused you stress. It could be a major change or an everyday hassle. Imagine yourseff in that situation and then read the stratements that follow. Each describes a possible 'stress-coping' strategy.

Answer True or False to whether or not you reacted in this way. Then compare your answers to those that follow this quiz. Remember, this is not a scientific test. It's a guide you can use to see how your stress management is affecting your life.



THE BEST COPING STRATEGIES TO KEEP 'STRESS FIT'

If you've answered in the same manner as below, you're already practicing some 'Stress Fit' strategies. If not, you may want to review the strategies that may help you live a healthink, more erjotpible life. Remember, there is not single stress coping skill that will effectively help you manage your stress in all situations or all of the time. The best approach to stress management is developing a flexible set of techniques that works for you as an individual.

- F The first step to managing stress is acknowledging the need for change. Take some quiet time to try to identify the source of your stress. Continuing to deny a stressful situation can have serious long term effects on your heart health.
- T Once you've identified what causes stress in your life, it's important to find information on how to develop new skills or improve already existing ones. A certified professional can help.
- F A number of problems an increase in heart rate and blood pressure, muckle tension, poor concentration, initiability, and sleep problems – can all be symptoms of accessive stress in your life. Don't ignore these signs – they're your body's way of telling you something's wrong. See your doctor or stress management specialist.
- 4. F You may feel that alcohol, smoking or other substances may numb your stress and help you deal with a difficult situation. But any relief is only temporey, and this behaviour can only lead to additional problems for your physical and emotional health.
 - T Setting some priorities and being flexible about things that aren't critical can help you adapt to a particularly stressful time. Learn to manage your time and set realistic deadines. This should be part of your overall stress

management plan.

6. T – Realize that there are equally rewarcing sources of satisfaction available to you. You may want to look for inspiration in art, literature, philosophy or religion. Or simply spend time on the activities you enjoy.

- T Stressful stuations often present an opportunity for you to grow in your positive emotions and artitudes. These can include the ability to see the humour in your struation, to trust in your convictions, and to develop more confidence in the people close to you.
- T Sometimes it may be necessary to re-examine your life goals to see if they still effectively reflect what you want out of your life or career. If they don't, maybe it's time to re-asses your goals and priorities.
- 9. F When you're under pressure or stress you may be more irritable with the people closest to you. There are more positive ways of letting out the emotional and physical tension contributing to tress. Try to avoid situations that are bound to be stressful, exercise to reduce tension or temporarily remove yourself
- 10. F At times stress can lead to feelings of anxiety or helpesness. It's important to break the cycle of negative houghts by booking for ways to reduce stress or cushion how much it disrupts your life.
- F Talking to others can give you a fresh perspective on a stressful situation. Plus, friends and family can provide valuable moral support when you need to feel good about yourself.
- T Sometimes it's important to get some emotional distance from your daily hassless. Take on an activity that lets you temporarily forget what's going on. Enjoy yourself.

12 QUICK TIPS FOR DEALING WITH STRESS

Follow the "G-E-T S-T.R.E-S-S F-I-T" plan for a healthier, more enjoyable life. Here are 12 easy-to-remember tips on how you can bring stress fitness into your life. Keep them handy and review them often.

Give yourself a break. Go for a walk; get a good night's sleep: get away from it all.

Eat a healthy diet.

Talk it out.

Spend time with family and friends.

Relax with a good book, a great movie or your favorite music.

Take a course, for fun or self improvement.

Exercise: walk, jog, swim, dance, go to the gym.

Schedule your time.

Set priorities.

Find alternative sources of satisfaction. Increase your awareness of what causes you

stress.

from a situation.

Take action! Address the person or situation that's causing your stress. And, if you're still not sure how to manage, talk to your health care professional or contact the Heart and Stroke Foundation for more information

For more information on managing stress, visit our web site at www.heartandstroke.ca/

(1-888-HSF-INFO).





RECOGNIZING STRESS IN YOUR LIFE It's important to identify the events in your life that trigger your stress symptoms. Your ability to manage and prevent stress is built on your awareness of your stress symptoms and the events that fuel those symptoms. Over the next few days, take a closer look at the stressful activities in your life. Keep track of the symptoms that helped you identify a stressful situation and the trigger that caused it.

After you've monitored your stress for several days, review the situation. Think about the coping strategies you used. Were there techniques that could have helped you better manage or eliminate the stressful situation?

Try to be prepared for the next time you encounter these or other stress causing situations.



Modules 9-14 – Dietary Education

Description: Modules 9-14 will provide participants with dietary information delivered by a Registered Dietician (RD). The teaching aids and activities used to deliver the information will be at the discretion of the RD. Topics include, but are not limited to, the basics of healthy eating using Canada's Food Guide, the DASH diet, the Mediterranean Diet, label reading, and using diet to control blood glucose levels, high blood pressure, and cholesterol levels.

Rationale for module: A review of 30 cardiac rehabilitation participant goals was conducted for this project. Goals related to diet were the second most prevalent goal set by cardiac rehab participants. A survey of clinical experts and a former cardiac rehab patient was performed for this project to determine what key stakeholders felt were important education topics for cardiac rehab. Diet and nutrition counseling was the second most prevalent response. The development of atherosclerosis is perpetuated by a diet high in saturated fat, low in fiber, high in cholesterol, and low in plant based foods (Ballesteros, Gonzalez, Perez, & Crespo de las, 2012; Hooper et al., 2000; Merriman, 2013). The DASH diet and the Mediterranean Diet are two diets that have been proven to reduce the risk of cardiovascular disease (Appel et al., 1997; Heart and Stroke Foundation, 2017; Kaplan, 2006; Ozner, 2008). The Mediterranean Diet is now part of the 2016 Canadian Cardiovascular society Guidelines for the management of dyslipidemia to prevent cardiovascular disease in adults. Participants will have the opportunity to have their dietary questions answered during the six sessions with the RD and can be referred to a dietician in the community if needed.

Teaching aids/activities:

Teaching activities and use of teaching aids will be left to the discretion of the RD, however, here are a couple suggestions that may be utilized:

- One session will be devoted to a healthy food preparation demonstration
- Take home activities and healthy eating challenges are encouraged to promote behavior change and create good eating habits
- Grocery store tour
- Food props to demonstrate portion sizes
- DASH diet handout
- ✤ Canada's Food Guide

Objectives:

By the end of the six sessions with the dietician the participants will:

- Be able to identify a diet low in saturated fats, bad cholesterol, high in fiber, and high in plant based foods as important components of a heart healthy diet
- Be able to draw a healthy plate (1/4 starch, 1/4 protein, ½ complex carbohydrate)
- Have a beginning understanding of how to read labels
- Be able to locate the recommended servings for each of the main food groups in Canada's Food Guide
- * Be able to identify areas of improvement in their current diet patterns
- Be able to identify diet as an important part of controlling blood glucose levels, cholesterol levels, and blood pressure
- Be able to understand the importance of daily weight measurements and fluid restriction for those with heart failure

Key Messages for Participants:

- Use the 80/20 rule: Eighty percent of the time eat a healthy balanced diet with foods low in saturated fat, high in fiber, low in bad cholesterol, and try to increase intake of plant based foods, but twenty percent of the time it is okay to enjoy foods that may not be as nutritious
- Be aware of your portion sizes
- Use the healthy plate rule
- Avoid adding salt to food
- Limit added sugar
- * The DASH diet and the Mediterranean Diet are two diets that have been proven to reduce cardiovascular risk
- Limit cholesterol intake to < 200mg/day</p>

Evaluation Activity:

- Discretion of the dietician
- Example of evaluation activities include diet logs at the beginning and end of the six sessions, oral multiple choice based on the key messages, or providing weekly challenges and monitoring progress (try to drink water only as your fluid intake for a week and keep track of this on a daily log sheet)

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Application of King's Theory of Goal Attainment (King, 1991):

- The focus of nursing is human being interacting with their environment: Diet and nutrition is a part of every person's life. This module provides participants with dietary information they can then take and apply in their day-to-day lives. This is an example of how nurses and other health care providers influence how clients interact within their own personal environments
- Health is the ability to function in social roles: A health crisis, like a cardiac event, can interfere with a client's ability to perform in their social roles. The information provided in these six modules is aimed at changing dietary patterns or reinforce current healthy behaviors in order to prevent the progression of heart disease and therefore give participants a better chance at functioning in all of their social roles
- Clients have a right to knowledge about their health and they have a right to accept or reject health care; Nurses have a duty to provide information so that clients can make informed decisions and they have a duty to collect information about the client's perception of goals: The link between a balanced diet and the reduced risk of cardiovascular disease is well established and it is important to provide participants with strategies to incorporate healthy eating principles into the daily routine. Every participant may not incorporate all of the recommended diet advice. In this case, the health care providers in the cardiac rehab program will explore the barriers to adopting the healthy eating behaviors. If participants decline to change their behaviors despite being properly educated, then the health care team will respect that choice

Application of Knowles' Principles of Adult Learning Bastable & Dart, 2008; Knowles, 1980):

- Adults are independent and self-directed learners: Cardiac rehab is a voluntary program so by being present the
 participants demonstrate their independent and self-directed learning capabilities. Providing weekly challenges and
 logging meals is a way to engage the participants and utilize their ability to self-motivate
- Adults have a reservoir of life experiences that can be used as a resource for learning: Eating is a universal activity shared by everyone in the group. Everyone has experience planning and preparing meals within the context of their own life. The distician can draw on these experiences so the group can benefit from sharing healthy eating strategies with one another
- Adults want to learn things that are relevant to their social roles and developmental tasks & are problem-centered learners who want information that has immediate application: Adopting a heart healthy diet is highly relevant to everyone, but particularly for someone who has already experienced a cardiac event. The six sessions with the RD provide very practical tips on how to make adopting a heart healthy diet easy so that the new behaviors are easily implemented within the context of the participants day-to-day life

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Presenter: Registered Dietician

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Module 15 – Stress and heart disease

Description: This module contains information about the physiological consequences of prolonged stress, the relationship between stress and heart disease, and offers coping strategies to assist participants with managing stress.

Rationale for module: Psychological stress is associated with the development of coronary artery disease and Takosubo cardiomyopathy, and increases the risk of a poor prognosis following a cardiac event (Iso et al., 2002; Rosengren et al., 2004; Tanabe & Akashi, 2016). Life stressors such as work place stress and divorce have been associated with an increased risk of cardiovascular mortality in individuals with risk factors for coronary artery disease (Matthews & Gump, 2002). The Canadian Association of Cardiac Rehabilitation (2009) guidelines recommend that cardiac rehabilitation programs include psychological interventions that provide participants with strategies to manage stress. Furthermore, a literature review conducted on cardiac rehabilitation participants' perception of learning needs following a cardiac event demonstrated that rehab participants viewed dealing with workplace stress and psychological support as two important education needs (Grande & Romppel, 2011). Thirty personal goals created by cardiac rehabilitation participants at the beginning of the program were reviewed for this project. Four themes emerged from the data, one being psychosocial-emotional support. A group of clinical experts and a former participant in cardiac rehabilitations showed that psychosocial-emotional support was the third most prevalent category that emerged from the data.

Teaching aids/activities:

- Assessment of stress level using Holmes' stress rating instrument
- Handout: Get-Stress-Fit Pamphlet
- Discussion question: Stress response
- Discussion question: Coping strategies during times of stress
- Discussion question: Work and reward systems
- PowerPoint presentation to guide presenter and provide a visual for participants

Objectives:

By the end of the module participants will:

- Be able to verbalize the link between the physiological response to stress and the risk factors for heart disease
- Be able to list three physical, behavioral, or emotional responses they exhibit during a stressful situation
- Be able to identify two activities they plan to incorporate into their daily lives to reduce stress

Key Messages for Participants:

- Stress is correlated with the development of heart disease
- Psychological stress can negatively effect your physical health
- Reducing stress in your life should be taken as seriously as taking medications, making diet changes, smoking cessation, and exercise
- Learning to cope with stress in a healthy manner is very important for your mental and physical health
- Make a conscious effort to become stress fit!

Evaluation Activity:

Oral question and answer at the end of the session

Application of King's Theory of Goal Attainment (King, 1991):

The focus of nursing is human beings interacting with their environment: This assumption of King's theory is highly applicable to heart disease and stress. People react to stressors in their environment in many different ways. This module helps participants to identify their stressors, reflect on how they cope with the stressors, and offers positive strategies for coping with stress

Human are social, reacting, controlling, and perceiving beings: Social interactions with others can be positive or stressful depending on the nature of the relationship. How each individual perceives the relationship and interactions determines if the relationship is positive or stressful in nature. This module teaches participants that if they cannot control the actions and behaviors of others, then it is important to monitor their reactions to the stressful situation

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Clients have a right to knowledge about their health, they have a right to reject or accept health care, health care professionals have a duty to provide information so that clients can make informed decisions, and health care professionals have a duty to collect information about the clients perception: Like all of the modules in this curriculum, this module is providing participants with evidence-based information about stress and heart disease so they can make informed decisions about how to change their lifestyle in order to maximize their heart health. Discussion questions are built into the module to illicit the participants' experience with stress and how they cope with stressors

Application of Knowles' Principles of Adult Learning (Bastable & Dart, 2008; Health PEI, Knowles, 1980):

- Adults learn best when they are involved in diagnosing, planning, implementing, and evaluating their own learning: This module provides an opportunity for participants to rate their own level of stress using the Holmes stress rating instrument and discuss how they respond to stress and what coping mechanisms they use to deal with stress. The last section of the module invites participants to think of two stress-relieving activities they could incorporate into their day-to-day life. These activities provide the participants with an opportunity to assess, plan, and implement stress management skills
- Life experiences are a primary learning resource: Everyone experiences stress and therefore this module is designed to allow for the facilitator to draw on the participants' experiences with stress in the past and draw on tactics that have been helpful in coping with stress

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Presenter: Registered Nurse



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Thinking Activity + Think about the last time you felt stressed What was the trigger? Describe how it felt physically?

- Stress can be brought on by a real or imagined situation that brings on mental or emotional tension
- The real or imagined stressor may have caused you anxiety, panic, fear, sense of being overwhelmed
- How did your body feel? Nauseated, heart racing, sudden hot flash, dry mouth, rapid breathing, lethargic
- How did you react to the stressor? Were you irritable, abrupt, sad, quiet, or withdrawn?
- No two people will react to stress the same way. No two people will have identical stressors
- Some people work well under pressure. Others may appear to work well under pressure but are stressed on the inside, and others may simply breakdown
- What I might view as devasting or very frightful, may seem petty to you
- Personality and character are very complex. The experience of stress is unique, however, there is a physologic response to stress that is universal



- Physiologist Hans Seyle back in the early 1900s performed some of the earliest scientific experiments to help explain the stress response
- He exposed mice to extreme cold, shocked them, induced prolonged exercise, and exposed them to infections to see how their body physically responded to these stressors
- The same response types of responses found in the mice are found in people. It is sometimes referred to as the *fight or flight* response
- The stress response is a complex process that effects many parts of the body

Stress Response:

- 1. The brain perceives a stressor
- The pituitary gland in the brain secretes a hormone called Adrenocorticotropic hormone ACTH
- The ACTH stimulates the release of cortisol, epinephrine, and norepinephrine from the adrenal glands that sit on top the kideny
- 4. The cortisol causes the liver to release glucose into the blood stream
- The Epinephrine and norepinephrine cause the heart to beat harder and faster, blood pressure to rise, the airways to dilate in the lungs, and directs blood to the skeletal muscles and essential organs

If the stress response is prolonged, the body runs out of cortisol and glucose stores. Fatigue sets in and the body's immune system does not work as efficiently

(Urden, Stacy, & Lough, 2014)

Can you see the relationship between the stress response and the risk factors for heart disease?

- Increases blood pressure
- Increases serum glucose
- Increases heart rate
- Decreased immunity (more prone to carditis)



(Photo taken from wikimedia commons website)

 Think back to a recent stressful time in your life. Did you have an physical, emotional, behavioural, or mental symptoms of stress. Did your family and friends know you were stressed? How did they know?

5



- A large Japanese study looked at over 30,000 healthy individuals without any health issues and measured their perceived level of stress. Eight years later they followed up with these patients and found a statistically significant correlation between increase levels of stress and mortality secondary to a coronary event (Iso et al., 2002).
- There is a lot of conflicting evidence out there. Some studies support work place stress and marital distress as a risk factor for CAD while others produced null results
- Work places that have a high demand and low reward or control are affiliated with an increased level of stress and heart disease
- Work places that have organization unfairness or injustice and work places where you give a lot of effort with low reward are considered toxic as well
- · The key is to find a work-life balance
- We cannot always avoid the stressors in our workplace so it is very important to destress in other aspects of your life to balance the effect
- Men are 50% less likely to have an MI if they are married (Eaker, Sullivan, Kelly-Hayes, D'Agostino, & Benjamin, 2007)

Discussion question: What rewards do you (or did you) get from your work?



How do you know when you are stressed? How do you react to stress? How do you cope?



- · Can you imagine a life with no stress?
- Stress increases motivation to accomplish things
- Weddings, birth of a child, graduations, vacations, parties can all have stressful moments but the product is enjoyable
- Think about stressful events from your past. They have made you who you are today! You learned lessons and developed ways to cope from these experiences
- Have you ever met someone with what I call "no grit"? Easy lives do not usually
 produce interesting or resilient people!
- Stressful moments, failures, and times when you fall flat on your face create empathy. You are able to relate to other people and support others in their time of stress



Handout: Holmes Stress Rating Scale (Holmes, 1981)



The higher your total score, the greater your risk in developing stress-related symptoms or illnesses. Of those with a score of **over 300** for the past year, almost 80% will get sick in the near future. Of those with a score of **200-299**, about 50% will get sick in the near future. Of those with a score of **150 – 199**, about 30% will get sick in the near future. A score of **less than 150** indicates that you a low chance of becoming ill. The higher your score the harder you should work to manage stress and stay well (Holmes, 1981)

Heart disease:

- 1. Change in eating habits = 15
- 2. Change in financial situation = 38
- 3. Change in amount of recreational activities = 19
- 4. Sexual problems = 39
- 5. Major illness = 53
- 6. Change in working schedule = 29

Total = 193

This tool demonstrates what many of you know first hand: Having heart disease enter your life can be very stressful



The Heart and Stroke Foundation (2017) uses the "G-E-T S-T-R-E-S-S F-I-T" plan to help reduce stress in your life **Handout:** GET STRESS FIT Heart and Stroke Pamphlet

nandout. GET STRESS ITT Heart and Stroke Pamphet

- Give yourself a break. Go for a walk; get a good night's sleep: get away from it all.
- Eat a healthy diet.
- Talk it out.
- Spend time with family and friends.
- Take a course, for fun or self improvement.
- Relax with a good book, a great movie or your favorite music.
- · Exercise: walk, jog, swim, dance, go to the gym. Set priorities.
- Schedule your time.
- Find alternative sources of satisfaction.
- Increase your awareness of what causes you stress.
- Take action! Address the person or situation that's causing your stress. And, if you're still

not sure how to manage, talk to your health

care professional or contact the Heart and Stroke Foundation for more information (1-888-HSF-INFO).

Do you use any of these tactics? What works for you? What doesn't work for you?



This list is taken from the Heart and Stroke Foundations website https://www.heartandstroke.ca/-/media/pdf-files/canada/other/coping-with-stressen.ashx

(Heart and Stroke Foundation, 2017)

Do any of these coping strategies resonate with you?

What coping strategies on this list would you find difficult? Why? Let's trouble shoot!



. 1





Handouts &

Resources

Stress Rating Instrument Thomas Holmes, MD

SCHEDULE OF RECENT EXPERIENCE

Instructions: Think about each possible life event listed below and decide how many times, if at all, each has happened to you within the last year. Write that number in the Number of Times column. (Note that if an event happened more than four times, you would still give it a 4 in that column).

	Event	No. of times	X	Mean Value	=	Your Score
1.	A lot more or a lot less trouble with the boss.		х	23	=	
2.	A major change in sleeping habits (sleeping a lot more or a lot less or a change in time of day when you sleep).		x	16	=	
3.	A major change in eating habits (eating a lot more or a lot less or very different meal hours or surroundings).		x	15	=	
4.	A revision of personal habits (dress, manners, associations, and so on).		х	24	=	
5.	A major change in your usual type or amount of recreation.		x	19	=	
6.	A major change in your social activities (e.g. clubs, dancing, movies, visiting, and so on).		X	18	=	
7.	A major change in church activities (attending a lot more or a lot less than usual).		х	19	=	
8.	A major change in the number of family get togethers (a lot more or a lot fewer than usual).		x	15	=	
9.	A major change in your financial state (a lot worse off or a lot better off).		x	38	=	
10.	Trouble with in-laws.		х	29	=	
11.	A major change in the number of arguments with spouse (a lot more or a lot fewer than usual regarding child rearing, personal habits and so on).		X	35	=	
12.	Sexual difficulties.		Х	39	=	
13.	Major personal injury or illness.		Х	53	=	

Stress Rating Instrument Thomas Holmes, MD

 Death of a close family member (other than spouse). 	x	63	=	
15. Death of spouse.	x	100	=	
16. Death of a close friend.	X	37	=	
17. Gaining a new family member (through birth, adoption, oldster moving in, and so on).	x	39	=	
18. Major change in the health or behavior of a family.	x	44	=	1.00
19. Change in residence.	x	20	=	
20. Detention in jail or other institution.	x	63	=	
21. Minor violations of the law (traffic tickets, jaywalking, disturbing the peace, and so on).	x	11	=	
22. Major business readjustment (merger, reorganization, bankruptcy, and so on).	x	39	=	
23. Marriage.	x	50	=	
24. Divorce.	x	73	=	
25. Marital separation from spouse.	×	65	=	
26. Outstanding personal achievement.	x	28	=	
27. Son or daughter leaving home (marriage, attending college, and so on).	x	29	=	
28. Retirement from work.	x	45	=	
29. Major change in working hours or conditions.	x	20	=	
30. Major change in responsibilities at work (promotion, demotion, lateral transfer).	x	29	=	
31. Being fired from work.	x	47		
32. Major change in living conditions (building a new home or remodeling, deterioration of home or neighborhood).	x	25	=	
33. Spouse beginning or ceasing to work outside the	x	26	=	

home.				
 Taking out a mortgage or loan for a major purchase (purchasing a home or business and so on). 	x	31	=	
35. Taking out a loan for a lesser purchase (a car, TV, freezer, and so on).	x	17	=	
36. Foreclosure on a mortgage or loan.	x	30	=	
37. Vacation.	x	13	=	
38. Changing to a new school.	x	20	=	
39. Changing to a different line of work.	x	36	=	
40. Beginning or ceasing formal schooling.	x	26	=	
41. Marital reconciliation with mate.	x	45	=	
42. Pregnancy.	x	40	=	
ur Total Score:				

Copyright 1981 by Thomas H. Holmes, MD. The University of Washington Press Edition, 1986. Department of Psychiatry and Behavioral Sciences, University of Washington School of Medicine, Seattle, WA 98185.

Scoring:

- Multiply the mean value by the number of times an event happened, and enter the result in the Your Score Column.
- ✓ Add up your scores to get your total score and enter it at the bottom of the schedule. (Remember, if an event happened more than four times within the past year, give it a 4 in the Number of Times column. A 4 is the highest number that can be used in the Number of Times column).

The higher your total score, the greater your risk in developing stress-related symptoms or illnesses. Of those with a score of **over 300** for the past year, almost 80% will get sick in the near future. Of those with a score of **200-299**, about 50% will get sick in the near future. Of those with a score of **150 – 199**, about 30% will get sick in the near future. A score of **less than 150** indicates that you a low chance of becoming ill. The higher your score the harder you should work to manage stress and stay well.

ARE YOU "STRESS FIT"?

Find out by taking the 5-minute stress test We all experience stress in our daily lives. Stressful situations may be as a tormatic as a major change in our life, such as the death of a family member or serious problems at work, or family member or serious problems at work, or as common as being caught in a taffic jam or

having a computer break down. At different times, and for different people, stress can manifest itself in a number of ways. You may actually experience physical symptoms stuch as a pounding heart, headsches or muscle tension. You may feel depressed or angry, Even your behaviour may change.

It's important to know what situations or tasks trigger your stress symptoms and how you commonly deal with these situations in your life.

Complete our 5-minute stress test

Think back over the last few weeks or months to a situation in your life that caused you stress. It could be a major change or an everyday hassle, imagine yourself in that that on and then read the statements that follow. Each describes a possible 'stress-coping' strategy.

Answer True or False to whether or not you reacted in this way. Then compare your answers to those that follow this quiz. Remember, this is not a scientific test. It's a guide you can use to see how your stress management is affecting your life.



THE BEST COPING STRATEGIES TO KEEP 'STRESS FIT'

If you've answered in the same manner as below, you're already practicing some 'Stress Fit' strategies. If not, you may want to review the strategies if and consider alternative strategies that may help you live a healthier, more enjoyable life.

Remember, there is not single stress coping skill that will effectively help you manage your stress in all eutotons or all of the time. The best approach to stress management is developing a facible set of techniques that works for you as an individual.

- F The first step to managing stress is acknowledging the need for change. Take some quiet time to try to identify the source of your stress. Continuing to deny a stressful situation can have serious long term effects on your heart health.
- T Once you've identified what causes stress in your life, it's important to find information on how to develop new skills or improve already
 - existing ones. A certified professional can help. 3. F – A number of problems – an increase in
 - Provident and blood pressure, musical tanking heart rate and blood pressure, musical tanking poor concentration, initiability, and sleep problems – can all be symptoms of excessive stress in your life. Don't gione these signs – they're your body's way of telling you something's wrong. See your doctor or stress management specialist.
- 4. F You may feel that alcohol, smoking or other substances may numb your stress and help you deal with a difficult situation. But any relief is only temporary, and this behaviour can only lead to additional problems for your physical and emotional health.
- T Setting some priorities and being flexible about things that aren't critical can help you adapt to a particularly streasful time. Learn to manage your time and sat reasistic deadlines. This should be part of your overall streas management plan.

 T – Realize that there are equally rewarding sources of satisfaction available to you. You may want to look for inspiration in art, literature, philosophy or religion. Or simply spend time on the activities you enjoy.

- 7. T Stressful stuations often present an opportunity for you to grow in your positive emotions and autuelas. These can include the ability to see the humour in your situation, to ability to see the humour in your situation, to curst in your convictions, and to develop more confidence in the people close to you.
- 8. T Sometimes it may be necessary to re-examine your life goals to see if they still effectively reflect what you want out of your life or career. If they don't, maybe it's time to re-asses your goals and priorities.
- 9. F When you're under pressure or stress you may be more irritable with the people closest to you. There are more positive ways of letting out the emotional and physical tension contributing to stress. Try to avoid situations that are bound to be stressful, avancise to reduce tension or temporarily remove yourself
- 10. F At times stress can lead to feelings of anxiety or helplessness. It's important to break the cycle of negative thoughts by looking the ways to reduce stress or cushion how much it disrupts your life.

from a situation.

- F Talking to others can give you a fresh perspective on a stressful situation. Plus, friends and family can provide valueble moral support when you need to feel good about yourself.
- T Sometimes it's important to get some emotional distance from your daily hassles. Take on an activity that lets you temporarily forget what's going on. Enjoy yourself.

12 QUICK TIPS FOR DEALING WITH STRESS

Follow the "G-E-T S-TR-E-S-S F-I-1" plan for a healthier, more enjoyable life. Here are 12 essy-to-remember tips on how you can bring stress fitness into your life. Keep them handy and review them often.

Give yourself a break. Go for a walk; get a good night's sleep: get away from it all.

Eat a healthy diet.

Talk it out.

Spend time with family and friends. Take a course, for fun or self improvement. Relax with a good book, a great movie or your

favorite music.

Exercise: walk, jog, swim, dance, go to the gym. Set priorities.

Schedule your time.

Find alternative sources of satisfaction.

Increase your awareness of what causes you stress.

Take action! Address the person or situation that's causing your stress. And, if you're still not sure how to manage, talk to your health care professional or contact the Heart and Stroke (1-888-HSF-INFO).

For more information on managing stress, visit our web site at www.heartandstroke.ca/



	Contraction of the second		400						Heart&Stroke	STRESS TEST	to managing stress?	HEAPT 8.	STROKE	rinaing answers. For tife.	www.heartandstroke.ca		
	Thanks to the millions of Canacians who put their heart into supporting our vital work. Because of you, the Foundation has helped	reduce the mortainty rate from heart disease and stroke by 70% over the past 50 years. Sarky still one in three Candian darks are	due to heart disease and stroke every year - and millions remain at risk.	More answers are needed to facilitate further medical advances, effect social change and provide public and professional health education that save lives - today and for cenerations to come.	The Heart and Stroke Foundation web site offers a wealth of information and tools to help	you and your family prevent and manage heart disease and stroke. Find:	 Delicious heart-healthy recipes Tips to get and stay active for life Current heart disease and stroke patient 	 Intermetion Breaking news on Foundation fundad research Free newletters, Heart&Stroke He@Ithline and He@Bithline for Parents 	 How to get involved and make a difference in your community 	STROKE	Finding answers. For tife.	SEE WHAT HAPPENS WHEN YOU PUT YOUR HEART INTO IT. ¹²⁴	heart health ask your health care professional where you can obtain stress management services, or contact your local office of the Heart and Stroke Foundation.	Carl HP4103E V3D	www.heartandstroke.ca	-	
	act?		щ	Щ	ш	ц.	ш	ш	ш	ш	u.	ш	ш				
	on re	-	-	H	-	-	-	-	H-	F	-	F	+	inside ies an			
	In a recent stressful situation, how did Answer True (T) or False (F) 1. Lignored the fact that something	was bothering me and tried to carry on as usual.	I made sure that I had information on how to manage this stressful situation.	 I refused to admit that anything was bothering me, and I triad not to notice that I was experiencing signs of stress such as an increase in heart rate, music tightness, and humied behaviour. 	 I used alcohol, smoking, or other sub- stances as a way of relieving my stress. 	I made a plan and followed it, one step at a time.	 Every so often I took time to relax and forget about my stress. I read, listened to music, watched a film or rested. 	 I looked at the humorous side of the shuation, or 1 gave my support and understanding to people around me who were also under stress. 	 I took time to remind myself of the important things in life. I received the goals for my personal life and the priorities of my work. 	 I took out my anger and frustration on my friends and family. 	10. I kept thinking that I was helpless to deal with this situation.	 I dich't let anyone know what was really bothering me, even though there were people available who would have been supportive or helpful. 	 I started exercising or doing a hobby, so that I could enjoy myself for a while. 	Compare your answers to those on the pages to find out if your coping stratec. "Strate fit"			
Contraction of the second	RECOGNIZING STRESS IN YOUR LIFE	It's important to identify the events	in your life that trigger your stress symptoms. Your ability to manage and	prevent stress is built on your awareness of your stress symptoms and the events that fuel those symptoms.	Over the next few days, take a closer look at the stressful activities in vour	life. Keep track of the symptoms that	nelped you identify a stressful situation and the trigger that caused it.	Atter you ve monitored your stress for several days, review the situation. Think about the coping strategies you	used. Were there techniques that could have helped you better manage or eliminate the stressful situation?	Try to be prepared for the next time you encounter these or other stress	causing situations.			LUN HAL		~	

Module 16 – Heart disease: The personal and emotional journey

Description: This module focuses on facilitating self-reflection among participants. The participants are given information on the four general types of personalities and how these are associated with heart disease. Participants have the opportunity to reflect on their personality type and coping mechanisms. The signs and symptoms of depression are reviewed and the relationship between depression and heart disease is discussed. The last section of the module provides an opportunity for the participants to reflect on the emotions they experienced before, during, and after their cardiac diagnosis and the impact this diagnosis had on their worldview, family, and their day-to-day lives. Given the nature of the topic, group discussion is the staple activity embedded into this module.

Rationale for module: Stress is a risk factor for heart disease and stress can be brought on by emotional reactions to events that occur in everyday life (Heart and Stroke Foundation, 2016; Iso et al., 2002; Rosengren et al., 2004; Tanabe & Akashi, 2016). The Canadian Association of Cardiac Rehabilitation (2009) recommends psychosocial-emotional counseling be part of cardiac rehab curriculums. A literature review conducted for this project revealed that finding emotional-equilibrium was an important goal for participants following a cardiac event and participants achieve maximum benefits from cardiac rehab when exercise, education, and psychosocial support are used together (Giannuzzi et al., 2008; Grande & Rompell, 2011; Mampuya, 2012). Thirty goals set by cardiac rehab participants' were analyzed using content analysis to determine what participants wanted to get out of cardiac rehab. Four categories emerged, one of which included increased psychosocial-emotional wellbeing. Consultations with clinical experts in cardiac rehab and a former cardiac rehab participant were conducted for this project to discover what topics they felt were important components of cardiac rehab education. Eight categories emerged from the data collected during the consultations and psychosocial-emotional support was one of these categories. Given this data, it seemed participants with an opportunity to self-reflect on their experience and become more aware of their emotional reality.

Teaching aids/activities:

- PowerPoint presentation to use as a guide and a visual cue
- Handout: Self-reflection on your personality type and emotions
- Discussion: Personality types
- Discussion: Link between mind, body, and heart
- Discussion: Difference between guilt and shame
- Discussion: Emotional journey from the time of diagnosis until now

Objectives:

By the end of this module participants will:

- Be able to select the personality type they identify with most
- * Be able to verbalize Type A and Type D personalities as being affiliated with the development of heart disease
- Be able to list the emotions felt at time of diagnosis, discharge, and now
- * Be able to verbalize 3 signs of depression and know where to seek help

Key Messages for Participants:

- The first step to dealing with your emotions and your psychological wellbeing is to become aware of your emotions and thoughts
- * Knowing your personality is part of self-awareness
- Your emotions and mental are linked to heart disease
- * If you experience the signs and symptoms of depression, do not suffer in silence: Seek help
- Experiencing a wide range of emotions is normal and healthy

Evaluation Activity:

 Participants are given an opportunity to self-reflect on their emotions and coping mechanisms in the face of crisis and self-evaluate the effectiveness of their behaviors in this module

2

Application of King's Theory of Goal Attainment (King, 1991):

- The focus of nursing is human beings interacting with their environment: Life events and interacting with others in the environment can trigger emotional responses. In this module participants are given the opportunity to self-reflect on this human-environment interaction within the context of living with heart disease
- Health is the ability to function in social roles: Health includes emotional wellbeing. Heart disease can cause distressing emotions such as fear, guilt, shame, hopelessness, and frustration. In order for participants to function to return back to equilibrium and return to their previous social role, it is important for them to understand the origins or their emotions and be able to express the emotions and find healthy coping mechanisms to deal with the emotional journey of heart disease
- Human beings are sentient and perceiving beings: In the acute care setting, the focus is on the biological aspects of the participant. This module acknowledges that the participants are far more than a physical body and acknowledges that heart disease also impacts many psychosocial aspects of their life because we are sentient beings who perceive and emotional feel the world around us
- Nurse perceptions and client perceptions influence nurse-client interactions & health care professionals have a duty to collect information about the client's perceptions: It is very important for the facilitator of the session to put any biases or personal opinions aside and allow the participants to describe the emotional impact heart disease has had on their life. The facilitator's role is to provide the scientific evidence about personality, emotions, depression, and the link with heart disease but at the same time recognizing that each participant is going to have a unique experience. There are no right or wrong answers when using self-reflection activities during this module

Application of Knowles' Principles of Adult Learning (Bastable & Dart, 2008; Health PEI, 2012; Knowles, 1980):

- The role of the facilitator is to create and maintain a supportive climate that promotes learning: This module has been strategically placed closer to the end of the cardiac rehab education cycle because the participants are more likely to feel comfortable in the group setting. Talking about emotions is a very personal and intimate activity and it requires the facilitator to be very respectful and non-judgmental of all reflections expressed by the participants. If a participant chooses not to share, it may still be comforting for participant to know that others have experienced similar emotions and their silence should be respected
- Adults have a reservoir of life experiences that can be used as a resource for learning: This module provides some evidence-based material but the primary source of information is drawn from the participants themselves during the discussion questions and activities noted above
- Adults learning best when they are involved in diagnosing, planning, implementing, and evaluating their own learning needs: This module provides the participants with the opportunity to assess their own personality traits and how these characteristics influenced their response to the crisis of being diagnosed with heart disease. Participants will have the opportunity to identify what actions were helpful and what actions were not helpful in their recovery

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Presenter: Registered Nurse

1.1



Heart Disease - A personal and emotional journey

By Julia Folsom - Flickr: Butterfly and Chrysalises, CC BY-SA 2.0, https://commons.wikimedin.org/w/index.php?cuvid=15807784

The image of a caterpillar transforming into a butterfly is the ultimate metaphor for change. Your heart condition has changed your day to day reality. It may have profoundly changed the way you view life and the world around you and it may have changed your day-to-day activities. Experiencing any illness, including a heart condition, can evoke various emotional response. These emotional responses vary from person to person and depend heavily on the person's dominant personality traits. This module walks you through the emotional consequences of heart disease and provides an opportunity for reflection on the events that brought you to this point. We will also discussion the relationship between depression and heart disease and how to know when to seek help.

+ Topics

Personality type and heart disease

- Depression and heart disease
- The emotional journey from a patient's perspective



Type A Personality – This personality type is thought of as predictive of developing CAD because of the hostility, impatience, competitiveness and dominance affiliated with this personality (Jinling et al., 2016; Rozanski, Blumenthal, & Kaplan, 1999; Steptoe & Molloy, 2007). Type A personalities love perfection, are self-driven, and have a need to succeed

Type B Personality – Charismatic, easy-going, cooperative, agreeable, accommodating, and laid back (Ansari et al., 2013)

Type C Personality– Introverted, less likely to speak their mind, keep their thoughts to themselves, strong attention to detail, shy, quiet, but always observing. They are prone to internal stress due to their perceptiveness but there are often very dependable (Ansari et al., 2013)

Type D Personality– Love routine, good soldier, follow orders, tend to be less social, see the glass half empty, dislike change, but are very predictable. Type D personalities have been correlated with poorer prognosis following a cardiac event and are more likely to have anxiety and depression (Defazio, 2012)




When someone survives a cardiac event, they are often motivated to make lifestyle changes but once patients feel better they can lose the sense of urgency. A number of studies have linked unhealthy habits like excessive drinking, smoking, inactivity, and poor diet habits to Type D personality. Type D personalities tend to return to unhealthy habits sooner than other personality types after an MI (Ginting, 2016; Mommersteeg, Kupper, & Denollet, 2010; Williams, O'Conner, Grubb, & O'Carroll, 2011)

+ If you are Type D, it doesn't mean that you are Doomed!

TIPS:

✓1. Self-awareness

✓2. Gradually push your boundaries

✓3. Seek support

- The first step to changing your thoughts and behaviors is self awareness. Pay attention to your attitude, your response to events, and monitor your thoughts. Critically examine your thoughts. Are they based on facts? Challenge yourself (Heart and Stroke Foundation,
- Do you always think, worse case scenario? Is this rationale?
- When you feel a negative emotion, notice it, feel it, monitor it, and question it. Do
 not immediately react to it. Stay in control. Decide how you will respond to your
 feelings as apposed to just letting your personality take over in the moment
- Gradually push your boundaries. Type D personalities are less trusting of others and tend to keep people at a distance. Gradually ease yourself into social situations and start by confiding in one or two people you trust. Type D personalities are often reluctant to change their behaviors. Just commit to one change at a time.
- Seeking support may be challenging, especially for Type D personalities. It can
 sometimes be viewed as a weakness or make you feel vulnerable. It is very
 therapeutic to share your experience with others and it can also be very
 therapeutic to reach out and help others. It is very difficult to overcome a life
 threatening event without support (Heart & Stroke Foundation, 2016)



- The famous painter who everyone has heard of Pablo Picasso, fell into a deep depression after his good friend shot himself in the temple in a Paris in 1902. The colour tones he used in his paintings during this time changed and followed a particular pattern, namely shades of grey and deep and dark blues. The picture on the screen is one of the paintings he created during this period of depressin "The Blue Nude". Picasso had difficultly selling his bland painitings during this time. Now, of course, they are considered masterpieces.
- Churchill referred to his depression that would overtake him from time to time as his "Black Dog"
- Abraham Lincoln was said to be dripping with melanchology. He had great and prolonged periods of hopelessness and often stated suidicidal ideations. He managed his disease using humour
- Many great people who did outstanding things suffered temporarily or lived a lifetime with depression
- If you suffer symptoms of depression, there is nothing to be ashamed of and it should be taking as seriously as any other disease



- 1/5 people who have a heart attack (without known depression prior to the event) will experience symptoms of depression after the event
- People who are depression are more likely to experience a heart attack and it is an ailment that is associated with impeding recovery post-cardiac event (Urden, Stacy, & Lough, 2014)
- People who suffer from depression who experience a cardiac event were less likely to return to work even at six months and one year post-cardiac event (O'Neill, Sanderson, & Oldenburg, 2010)
- It is difficult to know if some of the 1/5 who experience a heart attack may have had depression prior to their heart attack but were unaware or undiagnosed

Discussion Point:

Do you feel like being active and social when you are sad and blue? What happens to our minds and psychological wellbeing when we isolate ourselves and are inactive?

How does inactivity and psychological stress effect our body?

As you can see, our minds, our bodies, and our heart health are all intimately entwined with one another

Signs and Symptoms of Depression

□Irritable

Dread getting out of bed

□Loss of interest in things you used to enjoy

□Change in appetite

□Insomnia or excessive sleep

□Hopelessness

□Your work, relationships, or leisure is being negatively impacted

- We all feel these things from time to time, if they are prolonged and you can't shake them then you need to seek help
- Having suicidal thoughts is not a normal thought process. Seek someone you trust and share your thoughts
- If you feel like harming yourself or others, please let us know. We want to help you. There are experts in the field of mental health who can decide what treatments are best for you
- If you do tell us that you want to harm yourself or someone else, it is our obligation to act and confidentiality may need to be breeched at that point but keep in mind, we are always going to have your best interests at heart



- Even the terminology used to describe your illnesses are foreign, complex, and confusing
- · No one asks to have a heart problem
- You were all faced with a diagnosis that you likely did not expect and knew little about. The unknown can evoke many emotions



There are many emotions that following a life threatening event like a cardiac event:

Discussion Questions:

- Did you feel any of these emotions? When? Do you remember when you received your diagnosis? What thoughts ran through your mind? How did you feel?
- · How was your family impacted by your diagnosis?
- The hearts on the screen depict negative emotions, however, there are also
 positive emotions that can occur during a cardiac event
- · Did anyone experience a new appreciation for life, friends, and family?
- Did anyone experience a sense of relief to be alive?
- · Did anyone find a deep sense a motivation to change unhealthy patterns?
- Your lifestyle changes can often inspire others and this can be very rewarding. Discussion Question:
- · What is the difference between guilt and shame?
 - Guilt I feel bad about what I did
 - Shame I AM bad because of what I did
 - You may feel guilty for not making lifestyle changes sooner and many patients express feeling bad for putting their family through the trauma of the cardiac event or diagnosis. It is important to identify your past weaknesses. This is a great quality because it means that you are not denying your contributions and this paves the path for you to change in the future

- It is very important to focus on what you can change in the future and not dwell in the guilt from past behaviors
- There is no reason to be ashamed. This is an opportunity for you to become your best self. People loved you for who you were before you heart problem, and now they are still going to love you and they are going to be inspired by your lifestyle changes





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Handouts



Resources



Self Reflection Exercise

Check the personality type do you most identify with?



A stressful situation, like being diagnosed with a heart condition, can trigger an emotional response.

Think of two emotions you felt:

C

The moment you were diagnosed: 1.

2._____

The week after being discharged: 1.

2._____

*Now: 1._____

Module 17– Coping with stress & grief

Description: This module reinforces topics previously covered in modules 15 and 16 including stress and emotions with a focus on the grieving process and healthy ways to cope with adversity. The presentation also includes relaxation techniques and an opportunity for participants to share their experiences with these concepts within the context of heart disease. Ideally, a psychologist would deliver this module with expertise in available resources in the community for those struggling with emotional or mental health issues.

Rationale for module: There is a correlation between development of cardiovascular disease (CVD) and psychosocial risk factors such as depression, anxiety, psychological stress, low socioeconomic status, Type-D personality, and lack of social supports (Canadian Association of Cardiac Rehabilitation, 2009; Grewal, Gravely-Witte, Stewart, & Grace, 2011; Pogosova et al., 2015). Collaborative outpatient cardiac rehabilitation programs that include psycho-education sessions that address behavioural risk factors and adjustment using group workshops and individual therapy have shown to reduce rates of anxiety and depression in this population by 19% and 13%, respectively (Child, Sanders, Sigel, & Hunter, 2010). Psychosocial risk factors are closely linked to lifestyle modifications and compliance with treatment regimes. Addressing psychosocial concerns in cardiac rehabilitation increases the likelihood of participants making beneficial lifestyle changes and adhering to prescribed treatments and has been associated with an increased perception in quality of life (Pogosova et al., 2015). Psychologists have specialized education in psychological and mental health issues. Having a psychologist as part of the cardiac rehab team can increase the quality of the care delivered to cardiac rehab participants by providing evidence-based strategies to deal with the grieving process following a diagnosis with a chronic disease. They can also provide staff and participants with guidance on what resources are available in the community for participants with problems that cannot be adequately addressed in the cardiac rehab setting. Furthermore, thirty personal goals created by cardiac rehabilitation participants at the beginning of the program were reviewed for this project. Four themes emerged from the data, one being psychosocial-emotional support. A group of clinical experts and a former participant in cardiac rehab were surveyed to gain insight into what they felt were important education topics for this project. The data gathered from the consultations showed that psychosocial-emotional support was the third most prevalent category that emerged from the data.

Teaching aids/activities:

- Will be at the discretion of the presenter
- * Incorporating the principles of adult learning is encouraged
- * Resource for staff: Community Mental Health Referral Forms
- * Handout: Community Mental Health Services in PEI
- * Handout: Community Mental Health Walk-In Clinics in PEI

Objectives:

- By the end of the module participants will:
 - * Recognize grief as a process not just affiliated with death, but also with decline in health status
 - Identify what stage of the grieving process they are in at the moment
 - Be able to list 3 healthy ways to cope with psychological stress
 - * Be able to identify 3 community resources they can reach out to if they feel psychologically unwell

Key Messages for Participants:

- Grief is commonly associated with death but can also occur with illness
 - The stages of grief are denial, anger, bargaining, depression, and acceptance
- Relaxation techniques, meditation, guided imagery, walking, talking to someone you trust, and questioning your selftalk are some positive ways you can deal with psychological stress
- 💠 There are many mental health resources in the community that you can access if you feel you cannot cope on your own
- Some mental health resources include your primary health care provider, primary care mental health nurses, cardiac rehabilitation staff, community mental health centers like McGill Center, your local emergency department or walk in clinic, addiction treatment center, and suicide hotline
- Do not suffer in silence reach out: We want to help you!

Evaluation Activity:

A patient satisfaction survey is administered at the end of the 12 week program. This is an opportunity for participants to evaluate their satisfaction with all components of the cardiac rehabilitation program, including psychosocial education

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Application of King's Theory of Goal Attainment (King, 1991):

- The focus of nursing is human beings interacting with their environment: Life events and interacting with others in the environment can trigger emotional responses that can in turn affect mental health. In this module participants are given the opportunity to engage with a psychologist who will help them understand grief within the context of living with heart disease. The participants can also share their personal experiences with transitioning back and forth through the stages of grief and find comfort in the normalcy of experiencing a wide range of emotions at different times during the course of their diagnosis and recovery
- Health is the ability to function in social roles: Health includes mental and emotional wellbeing. Heart disease can cause distressing emotions such as fear, guilt, shame, hopelessness, and frustration. In order for participants to function to return back to equilibrium and return to their previous social role, it is important for them to understand the origins or their emotions and be able to express the emotions and find healthy coping mechanisms to deal with the emotional journey of heart disease. Participants will be provided with strategies to cope with mental and emotional distress and will be given information on where to seek help if mental and emotional problems become overwhelming
- Human beings are sentient and perceiving beings: In the acute care setting, the focus is on the biological aspects of the participant. This module acknowledges that the participants are far more than a physical body and acknowledges that heart disease also impacts many psychosocial aspects of their life because we are sentient beings who perceive and emotionally feel the world around us
- Nurse perceptions and client perceptions influence nurse-client interactions & health care professionals have a duty to collect information about the client's perceptions: It is very important for the facilitator of the session to put any biases or personal opinions aside and allow the participants to describe the emotional impact heart disease has had on their life. The facilitator's role is to provide the scientific evidence about the grieving process, depression, anxiety, psychological stress and the link with heart disease (and other topics the facilitator deems necessary) but at the same time recognizing that each participant is going to have a unique experience

Application of Knowles' Principles of Adult Learning (Bastable & Dart, 2008; Health PEI, 2012; Knowles, 1980):

- The role of the facilitator is to create and maintain a supportive climate that promotes learning: This module has been strategically placed closer to the end of the cardiac rehab education cycle because the participants are more likely to feel comfortable talking about mental health and emotional issues in a group setting. Talking about emotions and mental health concerns is a very personal and intimate activity and it requires the facilitator to be very respectful and non-judgmental of all ideas expressed by the participants. If a participant chooses not to share, it may still be comforting for participant to know that others have experienced similar issues and their silence should be respected
- Adults have a reservoir of life experiences that can be used as a resource for learning: This module provides some evidence-based material but the primary source of information is drawn from the participants themselves during the discussion questions and activities chosen by the facilitator
- Adults learn best when they are involved in diagnosing, planning, implementing, and evaluating their own learning needs: This module provides the participants with the opportunity to assess their own personality traits and how these characteristics influenced their response to the crisis of being diagnosed with heart disease. Participants will have the opportunity to identify what actions were helpful and what actions were not helpful in their recovery

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Presenter: Psychologist

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Resources

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	Health
	Mental
	PEI:
	Health

Mental health care is offered in hospitals and in community health facilities across the province. Bilingual services are available in some locations.

Where can I call to get help?

Mental Health Walk-in Clinics are also offered in Prince County to offer immediate support to help Call the Island Helpline at 1-800-218-2885 if you need emotional support, crisis intervention, or help with problem solving. Trained and caring staff are available to answer your call anytime of the day or night, seven days a week, 365 days a year. The Island Helpline is a free, 24-hour, bilingual, confidential, non-judgmental, and supportive telephone service. with anxiety, depression and other complex and high risk issues.

What is available for me at Community Mental Health Services?

The first step in service is screening. When you talk with an intake worker you will determine which programs and services are best suited to your treatment needs. Once your needs are screened, you may be linked to one of the following mental health services:

- A group treatment education program for some mental health conditions, such as severe stress, anxiety, or depression.
- psychologist or psychiatrist) who can work with you to assess your condition. Together you will identify the treatment plan, program, and services that will work best for you to meet your A community mental health specialist (nurse, social worker, occupational therapist, needs and reach your goal.
 - Services outside of Community Mental Health that would better meet your needs.

only), our Outreach Teams in each county, and several of our group treatment programs access these services. These include our Seniors Mental Health Resource Team (Queens County Some Community Mental Health Services are more specialized and have criteria in order to

What if I need to go to hospital?

- Experienced crisis intervention professionals respond promptly to mental health (psychiatric) emergency departments. emergencies at both the Queen Elizabeth Hospital (QEH) and Prince County Hospital (PCH)
- If you need to be hospitalized there are inpatient mental health units at both the QEH and PCH.
- Specialized acute, longer-term treatment and rehabilitation are offered at Hillsborough Hospital

How do I access Community Mental Health Services if I am an adult (over age 18)?

- You can contact Community Mental Health in your area
- Your doctor or other service provider can refer you to mental health services by submitting an Adult Services Referral form that is available on the Health PEI website

Are there mental health services specifically for seniors?

Health at (902) 368-4911 for information about the Seniors Mental Health Resource Team You can access adult mental health services or contact McGill Centre Community Mental (SMHRT). Currently these services are available in Prince and Queens Counties.

What if I need help with an addiction?

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Health professionals from Mental Health Services and Addiction Services work closely together so that you will receive the most appropriate care for your needs.

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Souris Souris Hospital 17 Knights Avenue Souris, PE C0A 2B0	Montague 1 26 Douses Road PO Box 3000 Montague, PE C0A 1R0	Summerside Prince County Hospital 65 Roy Boates Avenue Summerside, PE C1N 2A9	Alberton 347 Church Street Allan Shaw Building Alberton, PE C0B 1B0	[
Telephone: (902) 687-7110 Fax: (902) 687-7119	Telephone: (902) 838-0960 Fax: (902) 838-0961	Telephone: (902) 888-8180 Fax: (902) 888-8173	Telephone: (902) 853-8670 Fax: (902) 853-0420	
Charlottetown			O'Leary	
McGill Community Mental Hes 55 McGill Avenue Charlottetown, PE C1A 7N8	alth		O'Leary Health Centre 14 MacKinnon Drive O'Leary, PE C0B 1V0	0.000
Telephone : (902) 368-4911 Fax: (902) 368-6189			Telephone : (902) 853-8670 Fax: (902) 853-0420	
Richmond Centre 1 Rochford Street				
Charlottetown, PE CTA /N8 Telephone: (902) 368-4430				

How do I contact Community Mental Health?

Mental Health Walk-in Clinics

Share this page:

Feedback

Mental health walk-in clinics offer immediate mental health support to help with anxiety, depression and other more complex and high-risk issues.

Will I need an appointment?

No appointment or referral is required. You will be able to see a registered mental health therapist for **45-60 minutes**. There is **no cost** for this service.

The walk-in clinic therapist may also refer you to <u>Community Mental Health</u> or to specific programs such as the <u>Strongest Families Program</u> or <u>Behavioural Support Team</u> for more support.

Health PEI Mental Health Walk-in Clinic Services:

Where can I access a mental health walk-in clinic?

Mental health walk-in clinics are offered in Prince County at the following locations:

Summerside

Prince County Hospital Telephone: (902) 888-8180 65 Roy Boates Avenue

Monday: 10 a.m. – 6 p.m.

West Prince

O'Leary Health Centre Telephone: (902) 853-8670 14 MacKinnon Drive (adjacent to Community Hospital)

Wednesday: 10 a.m. – 6 p.m.

Westisle High School - for teens age 16 and older 39570 Western Road, Elmsdale

Thursday: 11:30 a.m. – 4 p.m.



Modules 18 & 19 – Physical activity I & II

Description: Modules 18 and 19 provide participants with evidence-based information about exercise and physical activity. In these two modules, an exercise physiologist and a physiotherapist educate participants on the basics of the Canadian Physical Activity Guidelines, the FITT (frequency, intensity, time, & type) principle of exercise progression, provide options for home exercise programs, and educate participants on economical resources for exercise in the community. Information on how to use heart rate and rate of perceived exertion scale will be reinforced in these modules as well.

Rationale for module: There are many health benefits to exercise components of cardiac rehabilitation including increased exercise tolerance, decreased anxiety, decreased depression, reduced cholesterol, reduced blood pressure, reduced smoking rates, increased quality of life, improved quality of sleep, and reduced sexual dysfunction (Anderson et al., 2016; Begot et al., 2016; Rubio-Arias, Marín-Cascales, Ramos-Campo, Hernandez, & Pérez-López, 2017). Exercise goals are common among cardiac rehabilitation participants (Fernandez, Rajaratnam, Evans, & Speizer, 2012; Grande & Romppel, 2011; Stamm-Balderjahn, Brünger, Michel, Bongarth, & Spyra, 2016). A review of thirty cardiac participant goals was performed for this project. The data was analyzed using content analysis. Four categories of goals emerged from the data: Exercise/physical ability, diet, psychosocial-emotional, and medical. The most prevalent goal cited was related to exercise and physical ability. Consultations with clinical experts in cardiac rehabilitation and a former cardiac rehabilitation participant were surveyed for their opinion on important education topics for cardiac rehab participants. Exercise and physical activity was the third most common topic cited in these consultations.

Teaching aids/activities:

- Activity: Pedometer Challenge The group will be given pedometers and they will collectively try to get enough steps to walk from one end of PEI to the other
- Handout: Canadian Physical Activity Guidelines
- Handout: FITT home activity guide
- Handout: PEI recreation resource
- * All other teaching aids and activities will be at the discretion of the physiotherapist and exercise physiologist

Objectives:

By the end of the two modules participants will:

- Be able to state that everyone should aim to get 150 minutes of moderate to vigorous aerobic activity per week and 2 days a week of strength building activities
- Be able to state that activities should be done in bouts of 10 minutes or more
- * Be able to list 3 examples of moderate to vigorous activity that they can incorporate into their daily lives
- ✤ Be able to list 2 benefits of exercise that they have experienced since starting the program
- Identify their target heart rate
- Identify their target rate of perceived exertion

Key Messages for Participants:

- Aim for a minimum of 150 minutes of aerobic activity a week
- Aim for a minimum of 2 days a week of strength exercises
- * Warm up, cool down, and stretch with any type of activity that you do
- Use your rate of perceived exertion to determine the intensity of your workout
- Listen to your body reduce or stop the activity if you feel very short of breath, have joint pain, or experience chest pain
- You should be able to talk while you are exercising

Evaluation Activity:

Participants will accurately and consistently use the rate of perceived exertion scale in the gym during exercise and be able to verbalize their target heart rate and stay within the safe range

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Participants will log their home activities and these activities will be within the Canadian Physical Activity Guidelines

Application of King's Theory of Goal Attainment (King, 1991):

- The focus of nursing is human beings interacting with their environment: Exercising in a group setting with health care professionals to guide and motivate participants builds a sense of community and camaraderie that makes the experience enjoyable (Lovell, Gordon, Mueller, Mulgrew, & Sharman, 2016; Malcolm et al., 2016)
- Human beings are social beings: Cardiac rehabilitation provides an opportunity for individuals with similar health issues to come together and share their experiences and exercise together in a group setting. This atmosphere fosters a sense of camaraderie and community among participants
- Clients have a right to knowledge about their health: This module provides participants with knowledge about how to effectively and safely exercise. The physiotherapist assists participants in advancing their exercise programs initially, but then educates the participants on how to safely increase their exercise prescriptions at home independently
- Clients have a right to accept or reject health care & health care professionals have a duty to provide information so clients can make informed decisions: Once the participants are educated about how to exercise safely and the benefits of exercise, it is their choice whether or not they want to engage in these behaviors. No judgment will be passed on individuals who decline to participate in supervised group or home exercise

Application of Knowles' Principles of Adult Learning (Bastable & Dart, 2008, Health PEI, 2012; Knowles, 1980):

- Adults are independent and self-directed learners: Initially the physiotherapist and other staff members assist participants in using the rate of perceived exertions scale, interpreting heart rates, exercise prescription, recording activities, and progressing exercise. With coaching, education and support from staff, the participants are encouraged to independently preform these tasks knowing that adults thrive when they have the opportunity to self-direct their learning
- Adults want to learn things that are relevant to their social roles and developmental tasks: The benefits of exercise for survivors of cardiac events are undisputed. Exercising can help participants prevent a future cardiac event and can help them restore their health so they can lead productive and satisfying lives
- Adults want information that has immediate application: This module provides participants with knowledge about safe exercise that can be applied on the same day in the exercise component of the program. The activity log books provided for participants contain their target heart rates, rate of perceived exertion scale, and an activity log system that is modeled on the FITT principles of exercise progression. The FITT principle home log allows participants to independently apply the FITT principles when exercising independently at home in between cardiac rehab sessions

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Handouts &

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Cardiac Rehab Pedometer Challenge

Which Step Category Are You In?

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Steps per day	Classification
Under 5,000	Sedentary
5,000-7,499	Low Active
7,500-9,999	Somewhat Active
Greater than or equal to 10,000	Active
Greater than 12,500	Highly Active

Step It Up For Your Health

Health Benefits	Number of Steps
For long term health and to reduce risk of developing chronic disease	10,000
For successful sustained weight loss	12,000-15,000
To build aerobic	3,000 or more of
fitness	your daily steps at a brisk pace

Step Log

	Your Number of Steps Achieved
Thursday	
Friday	
Saturday	
Sunday	
Monday	
Tuesday	
Wednesday	
Grand Total:	
Name:	

How to use a pedometer:

- 1. Press the button to reset the pedometer back to zero
- Clip the pedometer to your waist band at the level of your hip and in line with you knee cap.
- To ensure you have placed the pedometer in a good location, take 20 steps, if the pedometer reads between 18-22 then it is in a good position on your waist band.
- 4. Pedometers are NOT waterproof so remember to take them off at the end of the day and record your steps in the daily Step Log.
- 5. Have fun being active!

Canadian Physical Activity Guidelines

FOR OLDER ADULTS - 65 YEARS & OLDER

Guidelines

To achieve health benefits, and improve functional abilities, adults aged 65 years and older should accumulate at least 150 minutes of moderate- to vigorousintensity aerobic physical activity per week, in bouts of 10 minutes or more.



It is also beneficial to add muscle and bone strengthening activities using major muscle groups, at least 2 days per week.



Those with poor mobility should perform physical activities to enhance balance and prevent falls.

More physical activity provides greater health benefits.

Let's Talk Intensity!

Moderate-intensity physical activities will cause older adults to sweat a little and to breathe harder: Activities like:

- Brisk walking
- Bicycling

Vigorous-intensity physical activities will cause older adults to sweat and be 'out of breath'. Activities like:

- Cross-country skiing
- Swimming

Being active for at least 150 minutes per week can help reduce the risk of:

- Chronic disease (such as high blood pressure and heart disease) and,
- Premature death
- And also help to:
 - Maintain functional independence
- Maintain mobility
- Improve fitness
- Improve or maintain body weight
- Maintain bone health and,
- Maintain mental health and feel better

Pick a time. Pick a place. Make a plan and move more!

- ☑ Join a community urban poling or mall walking group.
- I Go for a brisk walk around the block after lunch.

Take a dance class in the afternoon.

- I Train for and participate in a run or walk for charity!
- I Take up a favourite sport again.
- Be active with the family! Plan to have "active reunions".
- Go for a nature hike on the weekend.
- Take the dog for a walk after dinner.

Now is the time. Walk, run, or wheel, and embrace life.




永白代电15-18-64 YEARS

To achieve health benefits, adults aged 18-64 years should accumulate at least 150 minutes of moderate- to vigorous-intensity aerobic physical activity per week, in bouts of 10 minutes or more.

It is also beneficial to add muscle and bone strengthening activities using major muscle groups, at least 2 days per week.

More physical activity provides greater health benefits.

Lody Julie Estemátod

Moderate-intensity physical activities will cause adults to sweat a little and to breathe harder. Activities like:

Brisk walking

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٠ Bike riding

Vigorous-intensity physical activities will cause adults to sweat and be 'out of breath'. Activities like:

- Jogging
- Cross-country skiing

Assignment will make the relation parthe fair and could be show show the set

- Premature death .
- Heart disease
- Stroke
- High blood pressure
- Certain types of cancer
- Type 2 diabetes
- Osteoporosis
- Overweight and obesity

And can lead to improved:

- Fitness
- Strength

 \checkmark

Mental health (morale and self-esteem)

Take up a favourite sport again or try a new sport.

Fich a fight fill to play a black a state as a spectrum

- I Join a weekday community running or walking group. I Rake the lawn, and then offer to do the same for a neighbour. Train for and participate in a run or walk for charity!
- Go for a brisk walk around the block after dinner:
- I Take a dance class after work.
- Bike or walk to work every day.

With the day in the second

the colorade and so show to him.



Be active with the family on the weekend!



Fitness Classes

CHARLOTTETOWN

Aqua Fitness

Jump right in – the water is great! This class is a moderate to high intensity workout designed to improve cardiovascular fitness, strength and endurance. A fun, go at your own pace for all fitness ages and levels.

Where: Spa Total Fitness Center Contact: (902) 566-1400

When: M/W/F 9:00am- 9:45am Fees: \$11.40 non-members, Free for members

Aqua Arthritis Specialty Class

Aqua Arthritis is a pool-based, recreational exercise class for people with arthritis. The classes are designed to help achieve: greater range of motion, restoration or maintenance of muscle strength, improved posture, and increased endurance. Classes are open to anyone with arthritis who can transfer and dress independently. Classes are suitable for individuals with mild to advanced joint involvement, regardless of their previous activity level.

Where: Delta Prince Edward Hotel, 2nd Floor Contact: Karen Naddy, 894-1226

When: Summer-- Monday & Wednesday, 5:30pm + Tuesday & Thursday, 10:00am

Winter-- Monday & Wednesday @ 6:15pm + Tuesday & Thursday @ 10:15am

Fees: Full pool senior membership (includes unlimited classes- both Arthritic and Aqua-Sise): \$284.00 + HST/yr

AQUA-SISE

When: Monday & Wednesday @ 5:30pm + Tuesday & Thursday @ 9:30am (mid-Septembermid June) Where, Fees, and Contact: same as Aqua Arthritis Specialty Class (above)

Senior Fitness Class

Offers mature adults the opportunity to improve and maintain their fitness level in a sociable and supportive atmosphere. The program and the exercise classes are designed especially for individuals 50 years or older. The program includes yoga (using a chair), light dancing and stretching. Participants must complete a PAR-Q Medical Questionnaire/Informed Consent form that can be obtained from Panther Central desk at the Sports Centre.

Where: UPEI's Chi-Wan Young Sports Centre (Fitness Center) Phone: (902) 566-0368

466

When: Contact Fitness Center for dates (6 week program)- not offered during the summer * no pre-registration required for these classes.

Small Group Senior Fitness Program also offered- runs through the summer!

HOOP DANCE

3

Adult Hoop Dance classes in Charlottetown held at The Spa Total Fitness Center. 1 hour class taught by a Hoopnotica Certified Instructor and will cover the FUNdamentals of hoop dance, how to move with your hoop, beginner tricks and how to connect it all to make flowing combinations. This is a go at your own pace, low impact class. Modifications are incorporated to fit your abilities. No experience necessary, hoops provided and are available for purchase. Space and hoops are limited, so email to save your spot. Classes are drop in at \$15 per class. Reconnect with your inner child and have a fun workout at the same time - hoop dance is exercise in disguisel Classes start up in Sept. 2016. Sundays 1pm.

For more information please email hooptality@gmail.com or call 902-218-2140

YOGADANCE

YogaDance is fun fitness for all ages and all abilities with great world music and a fusion of yoga warm-ups, breathing and rhythmic movement that includes some yoga poses and unstructured free dance. No yoga or dance experience is required and no partner is needed. Time: TBA (call or check our website). These sessions take place at the PATH, 344 University Ave or can be booked offsite and are led by certified Kripalu YogaDance instructor.

For more information please call 892-4658 or email <u>vogaforlife@eastlink.ca</u> or check yogapei.com.

Aqua Classes offered at: CARI Complex

UFIT AQUA

The CARI Complex and UFIT Inc. have joined forces to offer UFIT AQUA. Based on UFIT's philosophy of freedom and acceptance, twinned with the benefits of using water as resistance; at the surface it may look like any other aqua fitness class. But it isn't. You'll get an amazing workout and leave feeling energized, refreshed and motivated. No swimming skills necessary - participants can enjoy the class from the leisure pool being anchored on the floor or suspended in deep water using an aqua fitness belt. Stop by for a splashing good time!

When: Monday/ Wednesday/ Friday @ 11:45 a.m. - 12:30 p.m.

Cardio Craze

This is a variety classes! You will do a variety of moves and may or may not use equipment. Great for any fitness level as you go at your own pace.

When: Monday/ Wednesday/ Friday @ 8:45 a.m. - 9:30 a.m.

Aqua Jogging

A deep water class for people that want to run in the water! You do a combination of jogging/walking in the water to stay at your target heart rate. Great for people that don't want to worry about coordination and it offers a great core workout.

When: Monday/ Wednesday/ Friday @ 7:00 a.m. - 7:45 a.m.

Sunset Fitness

This is a variety class to get you active during the evenings! This class focuses on a holistic approach of giving your mind, body & spirit a workout!

When: Tuesday @ 7:30 p.m. - 8:15 p.m.

Sunrise Fitness

This is a variety class to get you moving bright and early! Jump in the pool and get your entire body moving in a variety of ways to start your day off well!

When: Tuesday/ Thursday @ 7:00 a.m. - 7:45 a.m.

Aqua Zumba®

Known as the Zumba[®] "pool party," the Aqua Zumba program gives new meaning to the idea of an invigorating workout. Splashing, stretching, twisting, even shouting, laughing, hooting and hollering are often heard during an Aqua Zumba class. Integrating the Zumba formula and philosophy with traditional aqua fitness disciplines, the Aqua Zumba class blends it all together into a safe, challenging, water-based workout that's cardio-conditioning, body-toning, and most of all, exhilarating beyond belief.

When: Monday/ Wednesday/ Friday @ 5:45 p.m. - 6:30 p.m.

SUMMERSIDE

Where: Credit Union Place, 511 Notre Dame St., Summerside Phone: (902) 432-1234

Aqua Arthritis Specialty Class

Aqua Arthritis is a pool-based, recreational exercise class for people with arthritis. The classes are designed to help achieve: greater range of motion, restoration or maintenance of muscle strength, improved posture, and increased endurance. Classes are open to anyone with arthritis who can transfer and dress independently. Classes are suitable for individuals with mild to advanced joint involvement, regardless of their previous activity level.

When: Monday, Wednesday & Friday 10:00-10:50AM

Fees: \$4.96/class, \$49.50/11 classes, \$99.01/22 classes, \$237.60/75 classes (55yrs+), \$264.00/75 classes

Water Spinning (Hydro Biking)

This is a specialty class done on a stationary bike. This program is for all ages (teens to seniors) and anybody that can fit on a bike can join the fun. Instructor lead classes.

When: Monday, Wednesday & Friday 8:00-8:50AM with instructor Kevin 'Boomer' Gallant

Fees: \$5.50/class, \$56.10/11 classes, \$101.94/22 classes

Aqua-Fit

This is a full body workout with variety of instructors. Great cardio music! Come join our fitness family.

When: Monday, Wednesday & Friday 9:00-9:50AM /Tuesday & Thursday 7:15-8:00PM

Fees: \$5.51/class, \$56.10/11 classes, \$112.20/22 classes, \$237.60/75 classes (55yrs+), \$264.00/75 classes

Aqua Zumba

Splash your way into shape with the invigorating low-impact Pool Party. Get Wet. Get Down. Get Fit.

When: Tuesday & Thursday 9:00AM - 9:45AM

Fees: \$5.50/class, \$56.10/11 classes, \$101.94/22 classes

KENSINGTON

Stronger Seniors Workout Program DVD

Chair exercises for seniors meet each Monday at 1:00 p.m. except on the second Monday of the month. Can accommodate 10-12 members- not necessarily club members. There is no fee for this program and Chair of this program is Jay McNair.

Seniors Chair and Balance Fitness Program

Join Michelle Gallant (Certified Sr Fitness Instructor) on Mondays and Wednesdays at 11:15 for our new Seniors Chair & Balance Fitness Program! Each session lasts approx. 45 minutes and includes a variety of exercises to assist with everyday activities. Sept-June

Fees: By donation To Register -- Contact crsrc@live.ca or call (902) 629-9481.

CORNWALL

Phone: (902) 628-6260 Ext 228, or drop in to the Town Hall.

Senior Tennis Hour

Instructors will lead you through a variety of activities to help you develop skills and enhance your game.

When: Wednesdays from June 6-August 26, 9am-10am

Where: Terry Fox Complex (TFC) Tennis Courts

Cost: \$2 drop in

Morning Yoga In The Park

Provides exercises that help to build your balance, strength, endurance, and flexibility.

When: Fridays from July 8-August 26 10am-11:15am

Location: Lowther Park

Cost: \$40/session

EASTERN PEI

ATLANTIC FITNESS EAST

Montague: 55 Wood Islands Hill, Montague PEI COA 1R0 (902) 838-3047 Email: info@fitnesseast.ca

Mt. Stewart: 10693 St. Peter's Road in Mt. Stewart inside the Irving gas station, in the basement

mtstewart@fitnesseast.ca

Seniors' Fitness-Montague AFE

This class focuses on strength, flexibility, and cardio for those with a wide range of capabilities. Classes are adjusted and catering to your abilities. When: Monday & Friday, 10:00am- 11:00am at Montague Atlantic Fitness East Cost: \$7.50 drop in OR \$31/month

Deep Water- Montague AFE

A fast pace, deep-end aqua class. When: M/W/F at 7:45am Cost: \$7.50 drop in or \$31/month

Aqua-Sise- Montague AFE

When: M/W/F 9:00am at Montague Atlantic Fitness East Cost: \$7.50 drop in or \$31/month

gol Seniors Fitness

GolSeniors active is a program that incorporates chair yoga, balance, coordination and resistance training for individuals over the age of 50 (although anyone is invited). This program is designed to encourage physical activity and health at any age. It lasts one hour, and takes place either once a week or twice a week for a full quarter.

Where: Mount Stewart Community Center When: Tuesday & Thursday 9:30am-10:30am Cost: \$2/session

go! Seniors Flexibility

Where: AFE Montague Mondays 11am OR AFE Mount Stewart Sundays & Mondays 6pm

Stronger Seniors

This class is designed for those with arthritis who are looking to improve their movement and strength.

Where: AFE Montague

When: Tuesdays 2pm

Intro to the Gym (All ages 50+)

Where: AFE Mount Stewart

When: Wednesdays 6pm

Return to Cycling

Where: Various locations throughout Kings County.

When: Thursdays 5:30pm

For more information about programs in the eastern region, contact ersrcinc@live.ca

WESTERN PEI

This is a great website to find up to date programs! www.peiregionalsportandrecreation.com

go!Walk Tignish

Walkers are welcome to join Anne Doucette on Tuesdays and Thursdays at 6:30 meeting at Home Hardward Parking Lot starting April 12. (Nordic Poles will be available for anyone wishing to use them)

Indoor Walk Club Westisle

During the winter months you can stay active by coming to Westisle Compostie High School on Tuesdays and Thursdays from 11:30-1pm for an indoor walk club. Free Program! Contact Alison at griffin.wsrc@gmail.com or 859-8856 for more information.

50+ Walking Group Ellerslie

The Ellerslie walking group meets at 9am every Monday, Wednesday and Friday for approximately 1 hour of physical activity. Anyone is welcome to join, but meeting location changes each week so please contact Mary McGuire for more information 831-2812.

go!Older Adults

Join Heidi Hudson for this 12-week introduction to physical activity and healthy living program aimed at older adults of all abilities. There will be a \$10 fee for the 12 weeks. Contact Alison at griffin.wsrc@gmail.com or 902-859-8856 for more information. Current programs:

St. Louis - Fall 2016 details TBD Tyne Valley - Fall 2016 details TBD Evangeline - Fall 2016 details TBD H2 Fitness - Fall 2016 details TBD

PEI POOLS

AREA	LOCATION	SCHEDULE	COST
Charlottetown	CARI Complex 550 University Avenue, Charlottetown (902) 569-4584 ext. 0	Community Swims: M/W 7:00pm-9:00pm T/TH 8:00pm-9:00pm Fun Swim: Friday 1:00pm-4:00pm *all subject to change, check weekly schedule online or call	-Swim pass (day): \$5.00-8.25 -All Access Pass: \$55.00/ month - Book of 10- Seniors: \$60.75 -Access 75: \$276.00 (provides access to 75 lanes Swims or Classes)
	Rodd Charlottetown 75 Kent St, Charlottetown (902) 894-7371	Open 6:00am- 10:00pm	-3 Month Membership: \$150 -6 Month Membership: \$200
	Rodd Royalty 14 Capital Dr, Charlottetown (902) 894-8566	Open 8:00am-10:00pm	-3 Month Membership: \$115 -6 Month Membership: \$210 -12 Month Membership: \$400 -Day Pass: \$10
	Victoria Park Pool 902-368-1025 (outdoor)	Open 11:00am-7:45pm	FREE
	Simmons Pool Charlottetown, PE C1A 7K4 902-368-1025 (outdoor)	<u>Open swim</u> : 1:00pm- 4:30pm <u>Lane Swim</u> : 4:45pm-6:15pm <u>Open Swim</u> : 6:30pm-7:45pm	Day pass: \$2
	The Spa Total Fitness 670 University Avenue, Charlottetown, PE	Open 5:30am-9:00pm	Senior yearly rate: \$399

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	(902) 566-1400		
	The Delta Prince Edward 18 Queen Street Charlottetown, PE (902) 566-2222	Open 5:30am-10:30pm	-4 Month Membership: \$210 -6 Month Membership: \$289 -12 Month Membership: \$368 -12 Month (Senior-65+): \$259.00
Summerside	Credit Union Place 511 Notre Dame St, Summerside (902) 432-1234	Adult Only Swims: Everyday 8:00pm-8:50pm <u>Public Swim:</u> M/W/F 6-8am, 11am-4pm, 7pm-8pm T/TH 9:45am-4:00pm Sat 2pm-8pm Sun 9am-11am, 2pm-8pm	Adult Day Pass: \$7.70 Senior Day Pass: \$6.32 All Access Adult Membership: \$53.34/month All Access Senior Membership: \$40.71/month Lane swim: \$49.50/11 sessions
Cornwall	Poolside Park PO Box 430 Cornwall, PE COA 1H0 (902) 628-6260 (outdoor)	Open mid June-September 12-8pm	Community Swim: \$3 or \$5/ day Season pass: \$65
Kensington	EVK Memorial Swimming Pool 25 School Street, Kensington (outdoor)	Open July 1. <u>Community Swim:</u> Times vary depending on swimming lesson schedule for that week.	FREE
Montague	Montague Atlantic Fitness East, 55 Wood Islands Hill, Montague	M-TH: 5:30am- 9pm F: 5:30am-7pm Sat: 8am-6pm Sun: 9am-5pm	Free with membership

*taxes not included in price

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PEI WALKING

LOCATION	TIME/ PLACE	DESCRIPTION
West Prince	ME Callaghan Junior High School Thursdays, 7:30- 8:30pm	Keep up your running or walking throughout the winter months in the comfort of a gymnasium. Great opportunity for runners and walkers at all different levels! Clean sneakers are required. *For more information contact griffin.wsrc@gmail.com or 807-9294.
	Alberton Elementary School	Monday-Friday 4-5pm
Charlottetown	UPEI Chi-Wan Young Sports Centre Monday to Friday 6:00 AM to 9:00 PM Saturday & Sunday 8:00 AM to 9:00 PM *hours are subject to change for special events	Indoor and outdoor walking tracks. Memberships: 1-month \$15 + HST 12-month \$40 + HST Memberships can be purchased at the main desk located at the Chin-Wan Young Sports Centre For more information please call 566-0368 or visit http://ar.upei.ca/hours-operation
	Holland College Centre for Community Engagement Indoor Walking Track September-May Monday-Friday: 6:00 AM - 10:00 PM Saturday: 8:00 AM - 10:00PM Sunday 12:00 PM - 10:00PM June-August Monday-Friday: 6:30 AM - 8:00 PM	Walking Track fees: • 1 month - \$10 +HST • 4 month - \$30 + HST • 8 month - \$60 + HST • 12 month - \$80 + HST

	Saturday: 8:00 AM - 6:00PM	
Summerside	Credit Union Place Walking Track+ Kllometer Club Monday-Friday: 6:00am- 9:00pm Saturday: 7:00am-9:00pm Sunday: 9:00am-9:00pm	The Kilometer Club is designed for all ages and was created as an incentive for the community to use the track and increase their health. Program cost is \$27.50 for a yearly membership. Participants record their daily kilometers in an attempt to reach 50km month. Those users that have walked 50km in the month are entered into a draw for a great monthly prize. Join today by calling 432-1234 or visiting the Credit Union Place Reception Desk.
Kensington	Kensington Fitplex	Monday-Friday 6am-9pm
Cornwall	Go! Cornwall Walking Club @ Terry Fox Complex Mondays and Wednesdays (summer)	Mondays and Wednesdays- 7pm-8pm. This is a chance for people to come together to walk or run with prizes every week!
	APM Center Walking Track Monday-Friday: 6:00am- 7:45pm Saturday: 8am-4:45pm	Track Membership: Includes the use of the track, gymnasium during open times, and the locker room area. Please check booking schedules on main bulletin board for weekly times. To confirm open times on our events line: 628-8513.
	Sunday: Closed	55 Plus 1 Month: \$12.00
	*hours increase during winter months +open on Sundays	55 Plus 1 Year: \$77.00 (3, 6, & 9 month memberships also available)
Montague	Cavendish Farms Wellness Center Walking Track	Free or by donation
	Monday: 8:00am-5:30pm	· · · · · · · · · · · · · · · · · · ·
	Tuesday: 8am-5:30pm	
	Wednesday& Thursday: 8am- 8:30pm	
	Friday: 8am-5:30pm	
	Saturday: 9:00am-5:30pm	
	Sunday: closed	

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Stratford	Stratford Town Centre	The Recreation Centre also includes a fitness area
	234 Shakespeare Drive	and walking/ running track are free to all residents
		15 years and older. Recreation staff can assist you
	Sunday-Thursday: 5:30am to	with a basic introduction to the Town Centre fitness
	9:45pm	equipment, free of charge. Sessions offered monthly
		depending on interest, please contact Rachel
	Friday –Saturday: 5:30 am to	Arsenault at 569-6924 or by email at
	8:45pm	rarsenault@townofstratford.ca if interested.

Senior's Active Living Center Information

The CARI Complex is the proud home of the Senior's Active Living Centre. A Non-Profit organization which provides seniors a place to meet new people, enjoy a plethora of fun activities and make the most of their Golden Years.

Anyone 50 years of age or older is eligible to join the over 400 members of Seniors Active Living which is governed by a board of 12 members, 6 executive and 6 directors.

Membership is an incredible value at \$25 per year which includes premium parking in the lot adjacent to Seniors Active Living Centre and also includes discounts at the CARI Complex and the University of Prince Edward Island's Chi-Wan Young Sports Centre.

A highlight of the activities and services offered by SALC include:

Bingo, Book Club, Cards, Choir, Education, Exercise Class (10am on Tuesdays), Foot Clinic, Games, Puzzles, Photography Club, Pool, Scrabble, Social Events (movies, potlucks, etc.), Special Classes (eg. Painting), and morel

So why wait? Drop by today, located inside the CARI Complex on the UPEI Campus, call [902] 628-8388 or email salc@pei.aibn.com

Exercise Prescription for Home: Aerobic Exercise

The **FITT** Principle

Frequency:

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Intensity:

Time:

Type:

Exercise Prescription for Home: Strength Exercise

The **FITT** Principle

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Fitness Classes

CHARLOTTETOWN

Aqua Fitness

Jump right in – the water is great! This class is a moderate to high intensity workout designed to improve cardiovascular fitness, strength and endurance. A fun, go at your own pace for all fitness ages and levels.

Where: Spa Total Fitness Center Contact: (902) 566-1400

When: M/W/F 9:00am- 9:45am

Aqua Arthritis Specialty Class

Fees: \$11.40 non-members, Free for members

Aqua Arthritis is a pool-based, recreational exercise class for people with arthritis. The classes are designed to help achieve: greater range of motion, restoration or maintenance of muscle strength, improved posture, and increased endurance. Classes are open to anyone with arthritis who can transfer and dress independently. Classes are suitable for individuals with mild to advanced joint involvement, regardless of their previous activity level.

Where: Delta Prince Edward Hotel, 2nd Floor Contact: Karen Naddy, 894-1226

When: Summer-- Monday & Wednesday, 5:30pm + Tuesday & Thursday, 10:00am

Winter-- Monday & Wednesday @ 6:15pm + Tuesday & Thursday @ 10:15am

Fees: Full pool senior membership (includes unlimited classes- both Arthritic and Aqua-Sise): \$284.00 + HST/yr

AQUA-SISE

When: Monday & Wednesday @ 5:30pm + Tuesday & Thursday @ 9:30am (mid-Septembermid June) Where, Fees, and Contact: same as Aqua Arthritis Specialty Class (above)

Senior Fitness Class

Offers mature adults the opportunity to improve and maintain their fitness level in a sociable and supportive atmosphere. The program and the exercise classes are designed especially for individuals 50 years or older. The program includes yoga (using a chair), light dancing and stretching. Participants must complete a PAR-Q Medical Questionnaire/Informed Consent form that can be obtained from Panther Central desk at the Sports Centre.

Where: UPEI's Chi-Wan Young Sports Centre (Fitness Center)

Phone: (902) 566-0368

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Where: Mount Stewart Community Center When: Tuesday & Thursday 9:30am-10:30am Cost: \$2/session

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Where: AFE Montague Mondays 11am OR AFE Mount Stewart Sundays & Mondays 6pm

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Intro to the Gym (All ages 50+)

When: Wednesdays 6pm

Where: AFE Mount Stewart

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Where: Various locations throughout Kings County.

When: Thursdays 5:30pm

For more information about programs in the eastern region, contact ersrcinc@live.ca

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PEI POOLS

AREA	LOCATION	SCHEDULE	COST
Charlottetown	CARI Complex 550 University Avenue, Charlottetown (902) 569-4584 ext. 0	Community Swims: M/W 7:00pm-9:00pm T/TH 8:00pm-9:00pm Fun Swim: Friday 1:00pm-4:00pm *all subject to change, check weekly schedule online or call	-Swim pass (day): \$5.00-8.25 -All Access Pass: \$55.00/ month - Book of 10- Seniors: \$60.75 -Access 75: \$276.00 (provides access to 75 lanes Swims or Classes)
	Rodd Charlottetown 75 Kent St, Charlottetown (902) 894-7371	Open 6:00am- 10:00pm	-3 Month Membership: \$150 -6 Month Membership: \$200
	Rodd Royalty 14 Capital Dr, Charlottetown (902) 894-8566	Open 8:00am-10:00pm	-3 Month Membership: \$115 -6 Month Membership: \$210 -12 Month Membership: \$400 -Day Pass: \$10
	Victoria Park Pool 902-368-1025 (outdoor)	Open 11:00am-7:45pm	FREE
	Simmons Pool Charlottetown, PE C1A 7K4 902-368-1025 (outdoor)	<u>Open swim:</u> 1:00pm- 4:30pm <u>Lane Swim:</u> 4:45pm-6:15pm <u>Open Swim:</u> 6:30pm-7:45pm	Day pass: \$2
	The Spa Total Fitness 670 University Avenue, Charlottetown, PE	Open 5:30am-9:00pm	Senior yearly rate: \$399

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	The Delta Prince Edward 18 Queen Street Charlottetown, PE (902) 566-2222	Open 5:30am-10:30pm	-4 Month Membership: \$210 -6 Month Membership: \$289 -12 Month Membership: \$368 -12 Month (Senior-65+): \$259.00
Summerside	Credit Union Place 511 Notre Dame St, Summerside (902) 432-1234	Adult Only Swims: Everyday 8:00pm-8:50pm <u>Public Swim:</u> M/W/F 6-8am, 11am-4pm, 7pm- 8pm T/TH 9:45am-4:00pm Sat 2pm-8pm Sun 9am-11am, 2pm-8pm	Adult Day Pass: \$7.70 Senior Day Pass: \$6.32 All Access Adult Membership: \$53.34/month All Access Senior Membership: \$40.71/month Lane swim: \$49.50/11 sessions
Cornwall	Poolside Park PO Box 430 Cornwall, PE COA 1H0 (902) 628-6260 (outdoor)	Open mid June-September 12-8pm	Community Swim: \$3 or \$5/ day Season pass: \$65
Kensington	EVK Memorial Swimming Pool 25 School Street, Kensington (outdoor)	Open July 1 <u>Community Swim:</u> Times vary depending on swimming lesson schedule for that week.	FREE
Montague	Montague Atlantic Fitness East, 55 Wood Islands Hill, Montague	M-TH: 5:30am-9pm F: 5:30am-7pm Sat: 8am-6pm Sun: 9am-5pm	Free with membership

*taxes not included in price

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PEI WALKING

LOCATION	TIME/ PLACE	DESCRIPTION
West Prince	ME Callaghan Junior High School Thursdays, 7:30- 8:30pm	Keep up your running or walking throughout the winter months in the comfort of a gymnasium. Great opportunity for runners and walkers at all different levels! Clean sneakers are required. *For more information contact griffin.wsrc@gmail.com or 807-9294.
	Alberton Elementary School	Monday-Friday 4-5pm
Charlottetown UPEI Chi-Wan Young Sports Centre Monday to Friday 6:00 AM to 9:00 PM Saturday & Sunday 8:00 AM to 9:00 PM *hours are subject to change for special events	Indoor and outdoor walking tracks. Memberships: 1-month \$15 + HST 12-month \$40 + HST Memberships can be purchased at the main desk located at the Chin-Wan Young Sports Centre For more information please call 566-0368 or visit <u>http://ar.upei.ca/hours-operation</u>	
	Holland College Centre for Community Engagement Indoor Walking Track September-May Monday-Friday: 6:00 AM - 10:00 PM Saturday: 8:00 AM - 10:00PM Sunday 12:00 PM - 10:00PM June-August Monday-Friday: 6:30 AM - 8:00 PM	Walking Track fees: 1 month - \$10 +HST 4 month - \$30 + HST 8 month - \$60 + HST 12 month - \$80 + HST

	Saturday: 8:00 AM - 6:00PM	
	Sunday: 12:00 PM - 5:00PM	
Summerside	Credit Union Place Walking Track+ Kilometer Club Monday-Friday: 6:00am- 0:00am	The Kilometer Club is designed for all ages and was created as an incentive for the community to use the track and increase their health.
	Saturday: 7:00am-9:00pm Sunday: 9:00am-9:00pm	Program cost is \$27.50 for a yearly membership. Participants record their daily kilometers in an attempt to reach 50km month. Those users that have walked 50km in the month are entered into a draw for a great monthly prize. Join today by calling 432-1234 or visiting the Credit Union Place Reception Desk.
Kensington	Kensington Fitplex	Monday-Friday 6am-9pm
Cornwall	Go! Cornwall Walking Club @ Terry Fox Complex	Mondays and Wednesdays- 7pm-8pm. This is a chance for people to come together to walk or run with prizes every week!
	Mondays and Wednesdays (summer)	
	APM Center Walking Track	Track Membership: Includes the use of the track, gymnasium during open times, and the locker room
	Monday-Friday: 6:00am- 7:45pm	area. Please check booking schedules on main bulletin board for weekly times. To confirm open times on our events line: 628-8513.
	Saturday: 8am-4:45pm	55 Plus Day Pass: \$1.97
	Sunday: Closed	55 Plus 1 Month: \$12.00
	*hours increase during winter months +open on Sundays	55 Plus 1 Year: \$77.00 (3, 6, & 9 month memberships also available)
Montague	Cavendish Farms Wellness Center Walking Track	Free or by donation
	Monday: 8:00am-5:30pm	4
	Tuesday: 8am-5:30pm	
	Wednesday& Thursday: 8am- 8:30pm	
	Friday: 8am-5:30pm	
	Saturday: 9:00am-5:30pm	
	Sunday: closed	

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Stratford	Stratford Town Centre 234 Shakespeare Drive	The Recreation Centre also includes a fitness area and walking/ running track are free to all residents
	Sunday-Thursday: 5:30am to 9:45pm	with a basic introduction to the Town Centre fitness equipment, free of charge. Sessions offered monthly
	Friday –Saturday: 5:30 am to 8:45pm	depending on interest, please contact Rachel Arsenault at 569-6924 or by email at <u>rarsenault@townofstratford.ca</u> if interested.

Senior's Active Living Center Information

The CARI Complex is the proud home of the Senior's Active Living Centre. A Non-Profit organization which provides seniors a place to meet new people, enjoy a plethora of fun activities and make the most of their Golden Years.

Anyone 50 years of age or older is eligible to join the over 400 members of Seniors Active Living which is governed by a board of 12 members, 6 executive and 6 directors.

Membership is an incredible value at \$25 per year which includes premium parking in the lot adjacent to Seniors Active Living Centre and also includes discounts at the CARI Complex and the University of Prince Edward Island's Chi-Wan Young Sports Centre.

A highlight of the activities and services offered by SALC include:

Bingo, Book Club, Cards, Choir, Education, Exercise Class (10am on Tuesdays), Foot Clinic, Games, Puzzles, Photography Club, Pool, Scrabble, Social Events (movies, potlucks, etc.), Special Classes (eg. Painting), and more!

So why wait? Drop by today, located inside the CARI Complex on the UPEI Campus, call [902] 628-8388 or email <u>salc@pei.aibn.com</u>

Canadian Physical Activity Guidelines

FOR OLDER ADULTS - 65 YEARS & OLDER

Guidelines



To achieve health benefits, and improve functional abilities, adults aged 65 years and older should accumulate at least 150 minutes of moderate- to vigorousintensity aerobic physical activity per week, in bouts of 10 minutes or more.



It is also beneficial to add muscle and bone strengthening activities using major muscle groups, at least 2 days per week.



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Those with poor mobility should perform physical activities to enhance balance and prevent falls.

More physical activity provides greater health benefits.

Let's Talk Intensity!

Moderate-intensity physical activities will cause older adults to sweat a little and to breathe harder: Activities like:

- Brisk walking
- Bicycling

Vigorous-intensity physical activities will cause older adults to sweat and be 'out of breath'. Activities like:

- Cross-country skiing
- Swimming

Being active for at least **150 minutes** per week can help reduce the risk of:

- Chronic disease (such as high blood pressure and heart disease) and,
- Premature death
- And also help to:
 - Maintain functional independence
 - Maintain mobility
- Improve fitness
- Improve or maintain body weight
- Maintain bone health and,
- Maintain mental health and feel better

Pick a time. Pick a place. Make a plan and move more!

- ☑ Join a community urban poling or mall walking group.
- ☑ Go for a brisk walk around the block after lunch.

Take a dance class in the afternoon.

Now is the time. Walk, run,

or wheel, and embrace life.

- ☑ Train for and participate in a run or walk for charity!
- Take up a favourite sport again.
- ☑ Be active with the family! Plan to have "active reunions".
- Go for a nature hike on the weekend.
- ☑ Take the dog for a walk after dinner.





Canadian Physical Activity Guidelin

To achieve health benefits, adults aged 18-64 years should accumulate at least 150 minutes of moderate- to vigorous-intensity aerobic physical activity per week, in bouts of 10 minutes or more.



It is also beneficial to add muscle and bone strengthening activities using major muscle groups, at least 2 days per week.

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More physical activity provides greater health benefits.

Lexit Luke Marshall 201

Moderate-intensity physical activities will cause adults to sweat a little and to breathe harder. Activities like:

Brisk walking

Bike riding

Vigorous-intensity physical activities will cause adults to sweat and be 'out of breath'. Activities like:

- Jogging
- Cross-country skiing

Asing archive for set leaves. If the malanesism pertravels can been the base shareful on:

- Premature death
- Heart disease
- Stroke
- High blood pressure ;
- Certain types of cancer
- Type 2 diabetes
- Osteoporosis
- Overweight and obesity
- And can lead to improved:
- Fitness
 - Strength
- Mental health (morale and self-esteem)

For a first of a place of the again was a special and

- Join a weekday community running or walking group.
- Go for a brisk walk around the block after dinner.
- Take a dance class after work.
- Bike or walk to work every day.
- ☑ Rake the lawn, and then offer to do the same for a neighbour.
- I Train for and participate in a run or walk for charity!
- I Take up a favourite sport again or try a new sport.
- Be active with the family on the weekend!

where is the more block, ever



Module 20– Navigating the health care system

Description: The health care system is a complex web of services that can be very confusing to navigate. This module provides basic information about some of the services applicable to cardiac rehabilitation participants and practical tips on how to improve their ability to navigate the system. This module educates participants about the role of the various health care professionals they encounter, tips to make the most out of appointments with health care providers, when to go to the emergency department, provincial drug plans, and introduces goals of care and health care directives.

Rationale for module: The health care system in Prince Edward Island is complex and offers a wide range of services that can be elusive and confusing to patients and providers alike. Patient navigators have been incorporated into the complex health care system to help link patients and families to appropriate services and help to identify and resolve patient barriers to care (Valaitis et al., 2017). One of the goals of cardiac rehabilitation is to increase participants' ability to self-manage their disease and be their own number one advocate (Mullens, Mains, & Velez, 1992; Oh et al., 2009; Servey & Stephens, 2016). In this module participants are provided with education, resources, and practical tips to ease their journey through the health care system when needed. A literature review on patient perceptions' of learning needs post cardiac event completed for this project indicated that knowing when to call a doctor and how to manage chest pain were two important self-management skills that patients felt were a priority learning need (Clark & Lan, 2004; Timmins, & Kaliszer, 2003). Consultations with cardiac rehab experts and a former cardiac rehab participant were completed for this project to determine what topics should be included in a cardiac rehab program. Seven categories of topics emerged from the data collected and self-management was the most frequently cited topic.

Teaching aids/activities:

- Discussion point: Sharing of recollections from hospitalization
- Discussion question: Advanced care planning
- * Discussion question: Challenges of health care appointments and trouble-shooting these problems
- Handout: Drug plan website and patient navigator contact information
- Handout: Goals of care
- Handout: Health care directive
- * Referral Forms: East Prince, West Prince, Queens East, Queens West, and Kings Primary Care Clinic Referral Forms

Objectives:

By the end of this module participants will:

- Be able to list 2 tactics they will use to make the most of their HCP appointments
- Know when to go to a clinic or primary care providers office and when to go to the emergency room as evidenced by correctly choosing the right multiple choice answer for a case study
- Identify 2 sources of information they can use to learn more about drug plans to help with the cost of medications
- State the patient navigator as a resource to turn to when they feel they are lost in the system

Key Messages for Participants:

- Go into your health care provider appointments prepared: Keep it concise and to the point Write down key points!
- If you have unrelieved chest pain, severe shortness of breath, fainting or near fainting, confusion, signs of stroke (FAST), an allergic reaction that involves your airway, unstoppable bleeding, or go directly to the emergency department via EMS
- If you notice any unusual side effects related to your medications that are not life threatening, issues with mood, problems with sexual dysfunction, questions about your cardiac recovery, concerns about return to work or driving, prescription refills, etc. go to your primary health care provider or clinic if needed
- There are a number of drug plans offered by Health PEI to assist with the cost of your medications. Visit the Health PEI website, connect with the cardiac rehab staff, or contact the patient navigator to see if any of these plans apply to you
- * When you are feeling confused about where to turn or what to do in relation to your health, you can always connect

with one of the cardiac rehab staff or reach out to the Health PEI patient navigator. We are here for you!

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Evaluation Activity:

Case studies: Multiple choice

Application of King's Theory of Goal Attainment (King, 1991):

- The focus of nursing is human beings interacting with their environment: This module gives participants the knowledge and tools they need to engage in meaningful conversations with trusted proxies and health care professionals in order to create an advanced care plan.
- Human beings are rational and action-orientated beings: Cardiac rehabilitation participants want practical information to help them make health care decisions such as what to do when having chest pain and knowing when to access the emergency department. This module applies this assumption of the theory by providing participants with practical tips on how to make health care decisions on their own behalf and by testing their ability to rationalize decisions during the multiple choice questions at the end of the module
- Health is the ability to function in social roles and have the right to participate in decisions that influence their health and wellbeing: If health is the ability to function in social roles, then becoming incapacitated and unable to speak for one's self during a health crisis is an example of the absence of health. This module assists participants in assigning a proxy who can honor their health care wishes when they are unable to function in social roles due to a health crisis
- Clients have a right to knowledge about their health and health care providers have a duty to provide information so clients can make informed decisions about their health: This module provides participants with knowledge about what resources are available to help them with the cost of medications and develop a health care directive. Money and end of life discussions are not always comfortable topics, but there is evidence to support the fact that cardiac rehabilitation participants need information about medications and are interested in having end of life discussions
- Health care professionals have a duty to collect information about client's perception of goals: The goals of care discussion and handout in this module provides cardiac rehabilitation participants with the information they need to determine what their end of life goals are. The cardiac rehabilitation team can help participants fully understand the terminology and help participants put their wishes on paper

Application of Knowles' Principles of Adult Learning (Bastable & Dart, 2008; Health PEI, 2012; Knowles, 1980):

- Adults have a reservoir of life experiences that can be used as a resource for learning: Due to the nature of their illness, all of the participants have experience with the health care system. The participants already have experience with cardiac medications and the emergency department. This module provides an opportunity for participants to reflect on their experiences with the health care system and uses this information to help participants understand when to seek treatment in the emergency department, when to seek their health care provider, and to identify financial and practical challenges related to medication administration.
- Adults are problem-centered learners who like to learn about things that have immediate application: This module provides information about drug plans, health care directives, how to make the most of health care appointments, and when to access medical services. All of these topics have immediate application for people living with heart disease
- Adults learn best when they are involved: There is minimal didactic education in this module. The participants are encouraged to share their experiences with the health care system, identify challenges they have encouraged, trouble shoot those challenges, and actively participate in determining their goals of care for their advanced care plan

References:

Bastable, S., & Dart, M. (2008). Developmental stages of the learner. In S. Bastable (Ed.), Nurse as educator: Principles of learning for nursing practice (pp. 147-198). Mississauga, Ontario: Jones and Bartlett Publishers Canada.

Health PEI (2012). Adult learning principles and mentoring practices. Retrieved from http://www.healthpei.ca/nursingeducation/index.php3?number=1044202&lang=E

King, I. (1991). King's theory of goal attainment. Nursing Science Quarterly, 5(1), 19-26. doi: https://doi.org/10.1177/089431849200500107

Knowles, M. S. (1980). The modern practice of adult education. Chicago, IL: Follett.

Mullen, P., Mains, D., & Velez, R. (1992). A meta-analysis of controlled trials of cardiac patient education. Patient Education





Navigating the Health Care System

Picture by Darolu - Own work, GFDL https://commons.wikimedia.org/w/index.php?curid=14906615

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+ By the end of this class you will...

- ✓Understand the role of the various health care professionals
- ✓Be able to make the most of your HCP appointments
- ✓Know when to go and when not go to the ER
- $\checkmark Understand$ health care directives and goals of care

Know what drug plans are available to help with the cost of your medications

+Multidisciplinary Teams



- Cardiologist
- Cardiac Surgeon
- Family physician
- Interventional Cardiologist

Internal Medicine

Licenced Nurse

Assistants (now LPNs)

Nurse Practitioner

Physiotherapist

Pharmacist

- Physiotherapist assistants
- Primary health care nurses
- Registered Dietician
- Respiratory Therapist
- Registered Nurse
- Residents

You may have encountered many of these health care professionals on your journey through the health care system. No one individual has ALL the answers. When we work in teams we can provide more thorough care and are better equipped to meet your needs.

Cardiologist - There is only one cardiologist in PEI (Dr. Alex MacLean). He is an internal medicine physician who has gone on to specialize in diseases of the heart. Interventional Cardiologist - You may have had an "Interventional Cardiologist when you went to Halifax or SJRH. These are cardiologists that specialize in the cardiac catheterization procedures

Internal medicine physicians are specialists that focus on the care of adults and have additional training to deal with a wide range of complex illnesses.

Cardiac Surgeon - Your cardiologist or interventional cardiologist may have referred you to a cardiovascular surgeon who specializes on operations related to the heart. These surgeons are trained to do CABG and valve replacements among other types of heart surgeries.

Family Physician - your cardiologist or internal medicine specialist may not follow you for life. If you are doing well, you can safely be managed by your family doctor. Your family doctor often knows you best and care for you and your family for a prolonged period of time.

ALL physicians have the ability to assess, diagnose, prescribe, refer, and order diagnostics.

Nurse practitioners are registered nurses who have received a masters level education (2-3 years) beyond the 4 year BScN program. They can diagnose, prescribe, order diagnostics, and refer like a physician but within a smaller scope. They act very much like a family physician. For example, I do not have a family doctor. I have a nurse practitioner.

Pharmacists – Doctors order meds. Nurses often administer medications. Pharmacists dispense meds. All of us need to understand the mediations, potential side effects, and drug interactions. No one knows these things better than a pharmacist. Nurses are very helpful in knowing the TYPICAL side effects because we interact so closely with the patients over a prolonged period of time.

Physiotherapists – specialize in body mechanics, the musculoskeletal system, They combine their in-depth knowledge of the body and how it works with specialized hands-on clinical skills to assess, diagnose and treat symptoms of illness, injury or disability. They are also experts in exercise prescription.

Registered Nurses – Registered nurses graduate as generalists but often become specially trained in different fields of practice. For example, I am certified in critical care nursing, other nurses specialize in community care or maternity...etc. Nurses have medical knowledge but they trained to view people from a holistic lens. We are trained in research, education, on top of basic nursing skills. Our fundamental role is that of patient advocate.

Nurses, physiotherapists, and physicians can have assistants (Physio assistant, LPN/LNA, physician assistant). These assistants have taken on some of the nurse, physio, doctor scope of practice to reduce the workload of these groups and can practice independently as well.

Primary Health Care Nurses are nurses who work in the community and specialize in the prevention of disease (where as nurses in hospitals focus on helping patients while they are ill) and helping people to safely manage their chronic diseases.

Registered Dieticians – Not to be underestimated. They are the experts in the science of food. There is a lot of eroneous messages out there related to food. When in doubt, ask a dietician. They can be accessed for free at grocery stores or you can be referred through your primary health care network.

Respiratory Therapist – Katelyn is the first RT to work in the primary health care setting. RTs have a broad knowledge base but specialize in disorders of the lungs and are an intergral part of the acute care and now community team. They work with all age groups in a variety of settings and are often called upon in time of crisis.

Residents – These are doctors in training and may care for you under the supervision of another physician

You may also encounter nursing students, physio students, kinesiology students, paramedic students, respiratory students etc. During your journey through the health care system. Education is part of our role as health care professionals and we oversee the students so there is no need to feel unsafe when udner the care of a student or resident.



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Tell me about your hospitalization experience. What stands out? Even though I'm a health care professional, do not worry about sharing the unpleasant moments. I have worked in the system for years and I am all too familiar with the flaws in the system.

What do you remember as being helpful or special? What do you remember as being stressful or confusing? Did the language we use as health care professionals confuse you? Did you know who was who? Was everyone just a person iin scrubs?



- The average survival rate of out of hospital cardiac arrest is **10.6%** and survival with good neurologic function is **8.3%**. (Mozaffarian et al., 2015)
- Only 1/10 people who receive CPR outside of the hospital will survive (Heart and Stroke Foundation, 2017)
- Any of you who had a cardiac arrest are VERY VERY lucky to be here with us today
- Some patients do experience near death experiences. We do not have the science to explain this phenomenon but it does happen. If this has happened to you, you are not alone
- A health care directive is a form that you and a trusted proxy complete together to let your proxy and others know your wishes in the event that you are not able to speak for yourself
- To complete a health care directive, you and a health care professional will review your goals of care
- Goals of care, formerly referred to by health care professionals, as "code status" let your loved ones and the health care team know how much treatment you would want to receive during a health crisis
- Everyone, with or without known disease, should have a health care directive
- We will spend an entire session on health care directives and goals of care
- The purpose of this session is to introduce you to the terminology and get you thinking about what interventions you would want in an emergency situation when you can't speak for yourself
- A physician, nurse, or nurse practitioner can sign your goals of care

Goals of Care (Government of PEI, 2016):

C = COMFORT MEASURES – You would be willing to accept interventions that provide comfort and ease suffering but would exclude resuscitation

R = **RESUSCITATION** – You would be willing to accept all medical care and interventions, including full resuscitation in order to extend and preserve life

M = MEDICAL INTERVENTIONS – You would be willing to accept all medical care and intervention except full resuscitation

- Your health care directive can be very specific as to what medical interventions you
 are willing to accept
- Your proxy speaks on your behalf but can override your previously established health care directive depending on the circumstances

Discussion Question: + What is the difference between a living will and health care directive and advanced care plan? More to come on this topic!

- The term "living will" is a term that originated in the US and actually has no legal meaning in Canada
- Advanced care planning refers to making decisions about your health care and making your personal wishes known while you are still able to. A health care directive is part of an advanced care plan. It specifies what your wished would be in the event you could not speak for yourself and includes your goals of care
- · You can find health care directive forms on the health pei website
- Handout: Health Care Directive Form
- In a health care directive you can assign a proxy to make decisions on your behalf, document whether or not you would like to be an organ donor, and specify your goals of care. A lawyer is not required to complete your health care directive
- Lawyers are required for legal wills that determine what to do with your assets when you die



When should I go to the Emergency Room?

- New chest pain or atypical chest pain
- Feeling weak, dizzy, or fainting spells
- Blood pressure too high or too low and you can feel it
- Heart rate too high or low and you can feel it
- Bleeding concerns
- Unusual shortness of breath
- Confusion or signs of stroke
- Residual pain immediately after a heart attack, CABG, valve replacement or stent can occur. It is a constant pain rated as a 1 or 2/10 that eventually goes away as your heart heals
- In most cases, you should not have any episodes of chest pain after your procedure
- If you have chest pain once you go home, you should be seen by a doctor right away. If the pain does not go away with rest you need to call 911 and come to the ER
- If you have episodes of near fainting, it may be related to your medications, heart rate or blood pressure. Your heart rate or blood pressure may be too low and you may need the doses of your medications adjusted
- Check your blood pressure occasionally at the pharmacy and write these numbers down. Ideally your blood pressure should be 100-130/ 60-80
- Check your pulse if you have any strange symptoms. Your meds could be causing your heart rate to go too low and making you feel unwell
- Aspirin and plavix can cause bleeding. If you have dark stools, coffee ground emesis, or signs of stroke you need to go to the ER right away
- Shortness of breath could be related to heart failure, a leaky valve, or a dysrhythmia
- Confusion or not being able to focus or periods of amnesia could be related to your heart and you need to go to the ER
- If your mood is so low you feel like harming yourself, you should go to your ER

Examples of concerns that can be addressed in a walk in clinic or family practitioners office:

- Benign side effects of medications (cough, diarrhea, nausea, low mood without suicidal ideation)
- Infections
- Prescription refills
- Education needs (return to work, driving, insurance coverage, etc.0
- Pain management
- Referrals to various resources such as community mental health or cardiac rehabilitation

Share your experience:

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What do you find challenging about + your health care appointments?

What tactics do you use to make the most of your appointments?



We have all had those appointments with health care professionals where we walk out and realize that we did not get the answers we went in to find out. Here are some tips to ensure you have a satisfying appointment:

- Ask questions! If you don't understand what the HCP is talking about, then clarify. As HCPs we sometimes don't realize we are using medical jargon
- Write down your questions before you arrive. Write down the answers to your questions
- Learn the lingo. Empower yourself by learning about your disease, the terminology, and your medications
- · Always bring a medication list and don't forget to mention your allergies
- Be concise! Time is limited. Think about what you want to get out of the appointment. If you have been experiencing symptoms, list them and write down the exact dates and time frames before hand. Essential details only. It is easy to get off track so you need to make sure your priority concerns get addressed in the small amount of time you have
- Buddy up. Sometimes a second pair of ears helps to recall the messages given to you during the visit



- Generic drug program
- ■High cost drug program
- Quit smoking drug program
- Seniors drug program

Webstite: http://www.healthpei.ca/drugprograms

Catastrophic drug plan – caps the amount of money you pay for your subscriptions in a year based on your household income.

Up to \$20,000 3% Greater than \$20,000 to \$50,000 5% Greater than \$50,000 to \$100,000 8% Greater than \$100,000 12% Information obtained from the Health PEI website: http://www.healthpei.ca/drugprograms

Diabetes drug program – covers the cost of some insulin, oral medications, and test strips. It reduces the cost of insulin to

- \$10.00/10 mL vial or \$20.00/5 x 3 mL cartridges of insulin;
- \$11.00 per oral medication prescription;
- \$11.00 per prescription for 100 test strips monthly (if you have taken insulin within the past 5 months).

In order for the meds to be covered...they need to be part of the PEI pharmacy formulary.

Finacial Assistance Drug Program – If you are on social assistance all of your perscription and non-perscription drugs are covered as long as the meds are listed in PEI pharmacy formulary

Generic Drug Plan – Caps the cost of perscription medications at 20 for anyone under the age of 65

High cost drug program – If you have a disease that often is affiliated with expensive medications such as cancer, rheumatoid arthritis, etc. you are eligible for this program. The coverage is based on your household income

Quit smoking drug program – If you are participating in a smoking cessation program through addiction services you are eligible to have the cost of nicotine replacement covered for up to \$75 per year

Senior drug program – If you are 65 or over you are eligible. For each eligible prescription you fill, you will pay \$8.25 plus \$7.69 of the pharmacy professional fee. Any remaining cost will be covered by the program.

If you are wondering if these drug plans apply to you and you need more information you can:

- Speak to a pharmacist
- · Check out the health pei website
- Talk to your cardiac rehab team
- Talk to your doctor
- Talk to a social worker
- Contact the patient navigator

+ Navigating the health care system is difficult...when in doubt...



Patient Navigator 16 Garfield Street

PO Box 2000, Charlottetown, PE C1A 7N8 **Toll free:** 1-844-8823141 **Telephone:** (902) 620-3418 **Fax:** (902) 368-6136 **Email:** <u>patientnavigator@gov.</u>

pe.ca



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+ Case Study: Chester Payne

Chester had chest pain four days ago. When he went to the emergency department they diagnosed him with a heart attack and gave him the clot buster drug which relieved his pain. He was immediately transferred to Halifax where he had an angiogram the same day and had a stent placed to his left anterior descending artery. He was sent back to PEI the next day. He spent 1 day in PCU at QEH before he was discharged home. He got home at noon and spent the afternoon unpacking, catching up with family and friends, and resting. When he went to brush his teeth before bed he started to get a crushing chest pain similar to the pain he experienced 4 days ago. Chester should:

A. Sleep it off and reassess the situation in the morning

B. Call EMS to be escorted to the emergency department

C. Go immediately to a walk in clinic



+ References

- Mozaffarian, D., Benjamin, E. J., Go, A. S., Arnett, D. K., Blaha, M. J., Cushman, M., ... Després, J. P. (2015). Heart disease and stroke statistics--2015 update: A report from the American Heart Association. *Circulation.*, 131(4), E29.
- Government of Canada (2016). Advanced care planning. Retrieved from https://www.princeedwardisland.ca/en/information/healthpei/advance-care-planning
- Heart and Stroke Foundation (2017). What is a cardiac arrest? Retrieved from http://www.heartandstroke.ca/heart/conditions/cardiac-arrest



Health PEI Patient Navigator Information:

How can I contact the patient navigator?

Patient Navigator 16 Garfield Street PO Box 2000, Charlottetown, PE C1A 7N8

Toll free: 1-844-882-3141 Telephone: (902) 620-3418 Fax: (902) 368-6136 Email: patientnavigator@gov.pe.ca

Information on Provincial Drug Plans:

Website:

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http://healthpei.ca/drugprograms

Health PEI One Island Health System				Santé IPÉ.	
		East Prince P REFE	rimary Care RRAL FOR	Network M	
	Place Client I	abel Here	Date: Phone: Family J	Physician/NP:	
Refer to Pr	imary Care Registe	red Nurse for:			
Ankle- COPD	Brachial Index Education vith Spirometry es Education * for Diabetes Education Co	Healthy Hyperter Mental Mini M enter, please use the	lifestyle nsion Health Support tental/MOCA appropriate provinc	Smoking C Weight los 24 h ABP Other: ial form for that pro	Cessation ss M gram
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Health PEI

Santé Î.-P.-É.

Health PEI COPD Clinic

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Referral Form

Fax this form to: Karen Brown, Four Neighbourhoods Health Centre: 368-6936 or Queens East Health Network, 507 - 5

Client label or complete:	Name of Referring Health Care Provider:
Patient Name:	Phone number of the Referring Health Care Provider:
Health Number:	Referee Type: (RT, Nurse, Other):
Date of Birth:	Does the Patient have a family doctor: Yes No
Phone (home):	If yes, is the family doctor aware of the referral to COPD Clinic? Yes No
Phone (work):	Name of Family Doctor (if applicable):
Phone (cell):	Address of Family Doctor (if applicable):
Gender:	Family Doctor Phone:

Reason for Referral:

Is Patient aware of Referral? Yes 🗋 No 🗔

Related Medical/Surgical Problems:

Medications:

0

Relevant Laboratory Data:

Salbutamol (Ventolin) may be given during spirometry testing? Yes 🗆 No 🗔

Date:

Referee (Health Care Provider or Physician) Signature:

COPD Clinic - Referral Form Queens West Network Phone: 569-7565 Fax: 368-6936		
Client Label:	Referring Physician/NP:	
Patient Name:	Address:	
Health Number:	Phone:	
Date of Birth:	Fax:	
Gender;		
Phone (home):		
Phone (work):	- · ·	
Is Patient aware of refer Related Medical/Surgics	ral? Yes No	
Is Patient aware of refer Related Medical/Surgics Medications:	ral? Yes No 1 Problems:	
Is Patient aware of refer Related Medical/Surgics Medications: Relevant Laboratory Da	ral? Yes No	
Is Patient aware of refer Related Medical/Surgica Medications: Relevant Laboratory Da Salbutamol (Ventolin) m	ral? Yes No hl Problems: ta: ta: ay be given during spirometry testing? Yes No	
Is Patient aware of refer Related Medical/Surgics Medications: Relevant Laboratory Da Salbutamol (Ventolin) m	ral? Yes No	
Is Patient aware of refer Related Medical/Surgica Medications: Relevant Laboratory Da Salbutamol (Ventolin) m	ral? YesNo	
Is Patient aware of refer Related Medical/Surgica Medications: Relevant Laboratory Da Salbutamol (Ventolin) m	ral? YesNo	

Health PEI

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Primary Care Referral Form

O'Leary Health Center 15 MacKinnon Drive P.O. Box 550 O'Leary PE C0B 1V0 Phone: 902-859-3929 Fax: 902-859-3922

Alberton Health Services 148 Poplar Street PO Box 10 Alberton PE C0B 1B0 Phone: 902-853-0403 Fax: 902-853-0414

Tyne Valley Health Center PO Box 145 Tyne Valley C0B 2C0 Phone: 902-831-5800 Fax: 902-831-5825

Date of Referral:

Name:	
MRN:	
DOB:	
Phone Number:	
Address:	

Reason for referral:

CC

□ Dressing change	Anticoagulation management	□ Suture/staple removal	□ Injection
Mini mental exam	 Ambulatory blood pressure monitor 	Blood pressure checks	□ Cryotherapy
Spirometry testing for COPD	□ PAP test	□ Other:	

□ Chronic Disease management for:

□ COPD Dyslipidemia □ Mental health

□ CHF Cardiac Eduation Diabetes

□ Hypertension

□ General Healthy Lifestyle □ Smoking cessation

□ Other:

Orders:

Physician/NP:

Phone #:

Health PEI

One Island Health System

GOALS OF CARE

Is there an existing Health Care Directive on file? No Yes (If yes, it shall guide further discussions as an indication of the Patient/Client/Resident's wishes at time of writing)

GOALS OF CARE I	aitials of Health Care Provider
R Medical Care and Interventions, including Resuscitation	Goals of care and interventions are for care and control of the Patient/Resident/Client condition. The Patient/Resident/Client may benefit from, and is accepting of, any appropriate investigations/interventions that can be offered including resuscitation.
M Medical Care and Interventions, excluding Resuscitation	Goals of care and interventions are for care and control of the Patient/Resident/Client condition. The Patient/Resident/Client may benefit from, and is accepting of, any appropriate investigations/interventions that can be offered excluding resuscitation.
C Care and Interventions focused on comfort, excluding Resuscitation	Goals of care and interventions are directed at maximal comfort, symptom control and maintenance of quality of life, <i>excluding resuscitation</i> .

If the Goals of Care indicated above include resuscitation, indicate below which interventions the Patient/Resident/Client is accepting of:

(a) defibrillation □ (b) chest compressions □ (c) intubation □ (d) ICU/CCU care □ (e) ICU/CCU care for noninvasive ventilation and treatment □

Indicate all individuals who participated in Goals of Care discussion(s) by checking appropriate box(es).

Patient/Resident/Client	Print Name:	
Family Member(s)	Print Name:	
Substitute Decision Maker	Print Name:	
Health Care Provider(s)	Print Name:	

Document details of the Patient/Resident/Client specific instructions or wishes and/or details of discussions with the individuals indicated above on back of page.

I confirm that I have discussed my Goals of Care with a Health Care Team member and that this form accurately reflects the choice(s) that I have made respecting the type of care I want to receive. I understand that this document is a record of my conversation with the Health Care Team and not a health care directive as defined under the *Consent to Treatment and Health Care Directives Act*.

Signature of patient/resident/client/substitute decision mak	er	yyyy/mm/dd	
Name and Designation of RN, NP or MD	Signature of RN, NP or MD	yyyy/mm/dd	
The Goals of Care were reviewed with the Patient/Resider	t/Client and/or Substitute Decision Maker and no cha	nge to the form is required.	
Name and Designation of RN, NP or MD	Signature of RN, NP or MD	yyyy/mm/dd	

If review results in any changes to the Patient/Resident/Client Goals of Care, a new form must be completed.



Refer to date/time of Progress Note entry if more space is required.

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Health Care Directive / Directive relative aux soins de santé

For assistance in providing a Health Care Directive, please see the notes section.

Si vous avez besoin d'aide pour donner une directive relative aux soins de santé, consultez la section des Notes.

1. This is the health care directive of: • Le présent document est la directive relative aux soins de santé de :

Name • Nom		Date of Birth • Date de naissance	
Address • Adresse			
City • Ville	Province	Postal Code • Code postal	
Telephone • Téléph	one	Personal Health Number • Numéro de la carte-santé	

 I understand that this Health Care Directive and the authority of a proxy become effective if I am not capable of making or communicating a decision about treatment.

Je comprends que la présente directive relative aux soins de santé et l'autorité du mandataire entrent en vigueur si je suis incapable de prendre une décision ou de la communiquer à propos de mon traitement.

 Proxy – See Notes – You may name one or more persons who will have the authority to make decisions concerning your health care when you do not have the ability to make those decisions yourself. Appointing proxies is optional.

Procuration – Voir les Notes – Vous pouvez nommer **une ou plusieurs personnes** qui auront l'autorité de prendre des décisions à propos de vos soins de santé si vous êtes incapable de décider vous-même. **La nomination d'un ou de plusieurs mandataires est facultative**.

I revoke any previous health care directive made by me and appoint the following person(s) to be my proxy(ies):

Je révoque toute directive antérieure relative aux soins de santé et je nomme la (ou les) personne(s) suivante(s) pour être mon (mes) mandataire(s) :

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Page 1
Name of proxy 1 • Nom a	lu 1ª mandataire	Telephone • <i>Téléphone</i>
Address •Adresse	an an Nurith	A SALES CONTRACTOR
City • Ville	Provinc	ce Postal Code • Code postal

Name of proxy 2 • Nom	du 2º mandataire	Telephone • Téléphone
Address •Adresse		
City • Ville	Province	e Postal Code • Code postal

- 4. My proxies shall act Mes mandataires agiront :
 - Successively (second proxy decides if first proxy not available) Successivement (le second mandataire décide si le premier n'est pas disponible)
 - Jointly (make decisions together) Conjointement (prendront les décisions ensemble)
- 5. If the person(s) I have appointed is (are) unable to act, I appoint the following person to act as my proxy Si la (les) personne(s) que j'ai nommée(s) est (sont) incapable(s) d'agir, je nomme la personne suivante pour agir comme mon mandataire :

Name of alternate proxy • <i>Nom du manda-</i> <i>taire suppléant</i>		Telephone • Téléphone	
Address •Adresse	a da se		
City • Ville	Province	e Postal Code • Code postal	

6. I give my proxy(ies) the authority to make any health care decisions for me that I am not capable of making for myself, subject to the instructions contained in this document. • Je donne à mon (mes) mandataire(s) l'autorité de prendre toute décision au sujet de mes soins de santé que je suis incapable de prendre pour moi-même, sous réserve des instructions contenues dans le présent document.

7-A. My Directions for Health Care

(See notes for examples of health conditions and treatment options.) This section is where you consider potential health conditions and treatment options. You may indicate wishes either to request or to refuse a treatment; you may want to state that you are unsure about a treatment preference and that you would like a certain treatment for a period of time but discontinued if no improvement results.

Mes instructions relatives aux soins de santé

(Voir dans les Notes les exemples d'états de santé et d'options de traitement.) Dans la présente section, vous étudiez les états de santé possibles et les options de traitement. Vous pouvez indiquer que vous souhaitez soit demander un traitement, soit le refuser. Ou encore, vous pouvez vouloir dire que vous n'êtes pas certain à propos d'une préférence de traitement, et que vous aimeriez qu'on essaie un certain traitement pour une période de temps, mais qu'on l'arrête s'il n'y a pas d'amélioration.

7-B. My Personal Value Statement

(See Notes for examples of value statements)

Because all potential situations cannot be covered by this form, you may choose to make a general statement(s) about your values regarding health care treatment. This will assist your proxy(ies) or other substitute decision-maker in making decisions on your behalf.

La déclaration de mes valeurs personnelles

(Voir dans les Notes les exemples de déclarations de valeurs.) Parce qu'il est impossible de traiter de toutes les situations possibles dans ce formulaire, nous vous offrons le choix de faire une ou plusieurs déclarations au sujet des valeurs auxquelles vous croyez dans les soins à vous donner. Cela aidera votre/ vos mandataire(s), ou les autres personnes ayant à décider au nom d'autrui, à prendre des décisions en votre nom.

- Organ and Tissue Donation Donation is optional. I wish to donate
 - □ My body □ any needed organs or tissues
 - □ The following organs or tissues: for the following purpose(s): □ therapeutic □ transplantation □ medical education □ scientific research OR □ any purpose authorized by law

Don d'organe et de tissu (facultatif)

Je souhaite donner

- □ mon corps □ tout organe ou tissu dont on a besoin
- □ les organes ou les tissus suivants : ______
 pour les fins suivantes : □ thérapeutiques □ transplantation □ formation médicale
 □ recherche scientifique OU □ toute autre fin autorisée par la loi
- 9. I want the wishes and directions expressed in this health care directive and the spirit of this document carried out to the fullest extent possible. No person who carries out this health care directive, whether a health practitioner, proxy, hospital administrator, friend, family member or any other person, shall be held responsible in any way legally, morally, professionally for any consequences arising from the implementation of my wishes.

Je veux que mes souhaits et instructions exprimés dans la présente directive relative aux soins de santé et que l'esprit du présent document soient respectés en entier. Aucune personne qui exécute cette directive relative aux soins de santé, qu'il s'agisse d'un(e) professionnel(le) de la santé, d'un mandataire, d'un administrateur d'hôpital, d'un(e) ami(e), d'un membre de la famille ou de toute autre personne, ne peut être tenu(e) responsable d'aucune façon – légalement, moralement ou professionnellement – d'une conséquence émanant de l'application de mes souhaits.

 I sign this document while capable. • Je signe le présent document alors que je suis capable de le faire.

Date_____ My signature • Ma signature _

OR if you are capable but for some reason unable to sign, this document must be signed by another person and witnessed. The person signing and the witness **CANNOT** be the proxy or spouse of the proxy. • **OU** si vous êtes incapable de signer pour quelque raison que ce soit, ce document doit être signé par une autre personne en présence d'un témoin. La personne qui signe et celle qui est témoin **ne peuvent pas** être votre mandataire ni son conjoint(e).

Date	Signature		
Date	Witness • Témoin		

 I agree to be proxy for the maker of this health care directive. Proxy appointment is not valid unless signed by the proxy(ies) or another person at the direction of the proxy. • Je consens à être mandataire pour la personne qui donne la présente directive relative aux soins de santé. La nomination d'un(e) mandataire n'est pas valide à moins qu'il/elle signe ou qu'une autre personne signe à la demande du mandataire.

Date	Proxy 1 • 1 ^{er} mandataire
Date	Proxy 2 • 2 ^e mandataire
Date	Alternate Proxy •
Page 4	Mandataire suppléant

Notes for Completing a Health Care Directive

Proxy

The role of a proxy is to consider your expressed wishes and best interests when treatment decisions need to be made on your behalf. It is a good idea to appoint a substitute proxy who would act if the first proxy predeceases you or is unable to act. The *Consent to Treatment and Health Care Directives Act* says a proxy must have knowledge of your circumstances, and have been in recent contact with you. When the decision of a proxy is required and the directive does not give specific instructions, the proxy shall make a decision based on your best interests. If you name more than one proxy, you can indicate how you wish them to act: SUCCESSIVELY (second proxy decides if the first proxy is not available) or JOINTLY (make decisions together). If how you wish them to act is not indicated, proxies shall act successively.

Examples of Health Conditions

- · Terminal illness-there is no known cure, such as some types of cancer.
- Irreversible condition there is no possibility of a complete recovery. Examples of conditions
 include AIDS, certain cancers, stroke, Parkinson's disease, or Alzheimer's disease.
- Reversible condition a condition that may be cured without any remaining disability, such as
 pneumonia, bleeding ulcers.
- Permanent coma a permanent state of unconscious.
- Stroke damage to the brain causing weakness, partial paralysis, difficulty with speech, etc. Symptoms may or may not improve.
- Dementia a progressive and irreversible deterioration in brain function causing trouble with thinking clearly, recognizing people and communicating. Dementia gradually worsens.

Examples of Treatment Options

- Cardiopulmonary resuscitation chest compressions, drugs, electric shock and artificial breathing to restore heartbeat.
- · Mechanical breathing respiration by machine, through a tube in the throat.
- Artificial nutrition and hydration giving nutrition and fluid through a tube in the veins, nose or stomach.
- · Major surgery such as gall bladder removal.
- · Kidney dialysis cleaning the blood by machine or by fluid passed through the abdomen.
- Chemotherapy using drugs to fight cancer.
- · Minor surgery such as wisdom teeth removal.
- Invasive diagnostic tests such as using flexible tube to look into the stomach.
- Simple diagnostic tests such as blood tests or x-rays.
- · Blood or blood products such as giving transfusions.
- · Antibiotics drugs to fight infection.
- Pain medications drugs to ease pain and suffering but which may dull consciousness and indirectly shorten life. Consider that you may have more than one serious health condition. For example, you had a severe stroke and later developed pneumonia requiring treatment with antibiotics to live. If you had not experienced a stroke, would your wishes for antibiotic treatment be different?

Examples of Value Statements

- Do everything possible to maintain life.
- I would prefer to receive treatment at home if this does not cause undue stress on my caregivers.
- · I only want measures that enhance comfort and minimize pain.
- · I do not want invasive procedures (surgery).
- My religious beliefs will not allow me to consent to the following treatments or procedures....

Organ/Tissue Donation

The *Human Tissue Donation Act* provides for a person to consent to the donation of their body or body parts for purposes indicated on the form.

Agreement of Proxy

The appointment of a proxy is valid **only** if the proxy or another person at the direction of the proxy agrees to the appointment in writing prior to your incapacity. A proxy shall be at least 16 years of age and capable of making health care decisions.

Health Care Directive Background Information

What is a health care directive?

A health care directive is a legal document describing the amount and type of health care you want, should you become incapable of making decisions on your own. Anyone who is 16 years of age or older and capable of making health care decisions can make a directive. A health care directive needs to be in writing, dated and signed in order to be valid. <u>This form is a sample, since a special form or format is not required</u>. A health care directive never takes priority over a capable person's consent.

What does a health care directive include?

In your health care directive you can appoint a proxy – a person whom you trust – to make health care decisions on your behalf. Your directive can be specific, outlining treatment, procedures or medication that you may or may not wish to have. Or your directive can be general, simply stating your beliefs and directions should decisions need to be made for you by others. For example, you may state that if you are in a coma you do not wish to have life support beyond a certain period of time.

Will my wishes be followed?

A health care practitioner must decide if you are capable of making health care decisions. If you are not capable, the wishes expressed in your directive must be followed, provided they are realistically possible and are consistent with the ethical standards of the health care practitioner.

It helps to let others know that you have prepared a health care directive – your family, friends, clergy, lawyer or doctor. You may want to discuss your decisions with them, provide them with copies of your health care directive, and have a copy placed in your medical records file at your local hospital.

What does capable mean?

Capable means that you are able to understand the information relevant to making a decision about treatment and to appreciate the consequences of that decision. Capacity can fluctuate – you may be incapable at one time and capable at another; or incapable of some treatment decisions yet capable of other treatment decisions.

Can I change my mind about my health care directive?

A health care directive is a record of your current wishes. You may change your health care directive or your proxy at any time. It is important to destroy all copies of your previous health care directive(s) to ensure that your most recent wishes are followed.

For more information:

Visit the Health PEI website at: www.healthpei.ca/advancecareplanning

For copies of the Consent to Treatment and Health Care Directives Act, you may contact:

Island Information Service (902) 368-4000 11 Kent Street, PO Box 2000, Charlottetown, PE C1A 7N8 Or visit our website at: *www.gov.pe.ca/law/statutes*

Notes supplémentaires à la directive relative aux soins de santé

Mandataire

Le rôle du mandataire consiste à réfléchir à vos préférences et au mieux de vos intérêts quand il faut prendre des décisions de traitement en votre nom. Ce n'est pas une mauvaise idée de nommer un mandataire suppléant qui agira si le premier mandataire décède avant vous ou s'il est incapable d'agir. La Consent to Treatment and Health Care Directives Act (loi sur le consentement au traitement et les directives relatives aux soins de santé) affirme qu'un mandataire doit connaître votre situation et avoir été en contact récemment avec vous. Lorsque la décision d'un mandataire est requise et que la directive ne fournit pas d'instructions précises, le mandataire doit prendre une décision au mieux de vos intérêts. Si vous désignez plus d'un mandataire, vous pouvez indiquer comment vous désirez qu'ils agissent: SUCCESSIVEMENT (le second mandataire décide si le premier n'est pas disponible) ou CONJOINTEMENT (qu'ils prennent des décisions ensemble). **Si vous n'indiquez pas comment vous désirez qu'ils agissent, ils agiront successivement.**

Exemples d'états de santé

- Maladie terminale pour laquelle on ne connaît pas de cure, telle que certains types de cancer.
- Maladie irréversible sans possibilité de rétablissement complet. Au nombre des maladies irréversibles, mentionnons le SIDA, certains cancers, l'accident vasculaire cérébral (AVC), la maladie de Parkinson et la maladie d'Alzheimer.
- Maladie réversible maladie qui peut être guérie sans laisser de trace, telle que la pneumonie, les saignements gastriques.
- · Coma permanent état d'inconscience permanent.
- Accident vasculaire cérébral dommage au cerveau causant une faiblesse, une paralysie partielle, des difficultés à parler, etc. Les symptômes peuvent s'améliorer ou non.
- Démence détérioration progressive et irréversible de la fonction cérébrale, laquelle empêche de parler clairement, de reconnaître les gens et de communiquer. La démence s'aggrave progressivement.

Exemples d'options de traitement

- Réanimation cardio-respiratoire compressions thoraciques, médicaments, chocs électriques et respiration artificielle pour rétablir le rythme cardiaque.
- Ventilation mécanique machine qui permet de respirer au moyen d'un tube dans la gorge.
- Alimentation et hydratation artificielles donner de la nourriture solide et liquide au moyen d'un tube dans les veines, le nez ou l'estomac.
- Chirurgie importante telle que l'ablation de la vésicule biliaire.
- Dialyse rénale nettoyage du sang au moyen d'une machine ou en faisant passer des fluides par l'abdomen.
- Chimiothérapie utilisation de médicaments pour combattre le cancer.
- Chirurgie mineure telle que l'ablation d'une dent de sagesse.
- Techniques diagnostiques envahissantes telles que l'utilisation d'un tube flexible pour voir dans l'estomac.
- Tests de diagnostic simples tels que les analyses sanguines ou les rayons X.
- Sang ou produits sanguins tels que donner des transfusions.
- Antibiotiques médicaments pour combattre l'infection.
- Médicaments contre la douleur médicaments pour soulager la douleur et les souffrances mais qui peuvent endormir la conscience et indirectement raccourcir la vie. Pensez que vous pourriez avoir plus d'une maladie sérieuse. Par exemple, avoir souffert d'un accident vasculaire cérébral et développer une pneumonie par la suite exigeant un traitement avec des antibiotiques pour survivre. Si vous n'aviez pas eu d'accident vasculaire cérébral, souhaiteriez-vous que le traitement aux antibiotiques soit différent?

Exemples de déclarations de valeurs

- Faites tout votre possible pour me garder en vie.
- Je préférerais être soigné(e) à la maison si cela n'est pas trop difficile pour les personnes qui me soignent.
- Je ne veux rien d'autre qu'un traitement qui me donne plus de confort ou minimise mes douleurs.
- Je ne veux pas de procédure envahissante (chirurgie).
- Mes croyances religieuses ne me permettent pas de consentir aux traitements ou aux procédures suivantes....

Don d'organes ou de tissus

La Human Tissue Donation Act (loi sur le don de tissus humains) prévoit qu'une personne peut consentir à donner son corps ou des parties de son corps aux fins mentionnées sur le formulaire.

Accord du mandataire

La nomination d'un mandataire **n'est** valide **que** si le mandataire, ou une autre personne à sa demande, consent à la nomination par écrit avant votre incapacité. Le/la mandataire doit être âgé(e) d'au moins 16 ans et être capable de prendre des décisions relatives aux soins de santé.

Renseignements généraux sur la directive relative aux soins de santé Ou'est-ce qu'une directive relative aux soins de santé?

Une directive relative aux soins de santé est un document juridique décrivant la quantité et le type de soins que vous voulez si vous devenez incapable de prendre vos propres décisions. Toute personne âgée de 16 ans ou plus, et capable de prendre des décisions relatives aux soins de santé, peut donner une directive. Une directive relative aux soins de santé doit être faite par écrit, datée et signée. <u>Le</u> <u>présent formulaire n'en est qu'un exemple, car on n'exige pas de formulaire ou de forme particulière</u>. Le consentement d'une personne capable a toujours préséance sur la directive relative aux soins de santé.

Que comprend une directive relative aux soins de santé?

Dans votre directive relative aux soins de santé, vous devez nommer un mandataire – une personne en qui vous avez confiance – pour prendre des décisions relatives aux soins de santé en votre nom. Votre directive peut être particulière et décrire le traitement, les procédures ou les médicaments que vous désirez avoir ou non. Ou bien, votre directive peut être générale et énoncer simplement vos croyances et vos instructions si d'autres personnes devaient prendre des décisions pour vous. Par exemple, vous pouvez déclarer que, si jamais vous tombez dans le coma, vous ne souhaitez pas que l'on maintienne vos fonctions vitales au-delà d'une certaine période.

Mes souhaits seront-ils suivis?

Un(e) professionnel(le) de la santé doit décider si vous êtes capable de prendre des décisions relatives aux soins de santé. Si vous en êtes incapable, les souhaits exprimés dans votre directive doivent être suivis, à condition qu'ils soient réalistes et conformes aux normes éthiques du/ de la professionnel(le) de la santé.

Il est utile de laisser savoir aux autres – votre famille, vos amis, le clergé, un avocat ou un médecin – que vous avez préparé une directive relative aux soins de santé. Vous pouvez discuter de vos décisions avec ces personnes, leur donner une copie de votre directive relative aux soins de santé et en faire placer une copie dans le dossier de votre hôpital local.

Être capable, qu'est-ce que cela signifie?

Être capable, cela signifie que vous êtes capable de comprendre les renseignements appropriés pour prendre une décision au sujet d'un traitement et de saisir les conséquences d'une telle décision. La capacité peut changer – vous pouvez être incapable à un certain moment et capable à un autre; ou encore incapable de prendre certaines décisions en matière de traitement, tout en étant encore capable d'en prendre d'autres dans le même domaine.

Puis-je changer d'idée à propos de ma directive relative aux soins de santé?

Une directive relative aux soins de santé est un dossier de vos souhaits actuels. En tout temps, vous pouvez la modifier ou changer votre mandataire. Il est important de détruire toutes les copies de vos directives antérieures relatives aux soins de santé pour garantir que vos souhaits les plus récents soient suivis.

Pour obtenir plus de renseignements :

Rendez-vous sur le site de Santé Î.-P.-É. : www.healthpei.ca/planificationprealabledessoins

Pour obtenir un exemplaire de la Consent to Treatment and Health Care Directives Act, vous pouvez communiquer avec :

Service de renseignements de l'Île 902-368-4000 11, rue Kent, C.P. 2000, Charlottetown (Î.-P.-É.) C1A 7N8

Ou visitez notre site Web, à l'adresse : www.gov.pe.ca/law/statutes

Module 21– Advanced Care Planning & Provincial Drug Plans

Description: This module utilizes the expertise of a social worker to expand on the information about health care directives, goals of care, and provincial drug plans.

Rationale for module: In a survey of 1013 cardiac rehab directors, only 9% reported providing participants with information on health care directives (Heffner & Barbieri, 1996). Furthermore, a study was conducted to assess if cardiac rehabilitation participants were open to end of life discussions and the results showed 72% of patients wanted to direct their own end-oflife care, 86% wanted more information on advance care directives, 62% wanted to learn about life-sustaining measures, and 96% were receptive to having advanced care planning discussions. A study published in the Journal of Internal Medicine in 2008 found that only 50% of patients were taking their cardiac medications as prescribed at the two-year mark (Laba et al., 2013). Patients who adhere to a statin after myocardial infarction have a relative risk of recurrent event that is 81% lower than that of non-adherent patients (Wei et al., 2002). Patients who discontinue their prescribed aspirin, statin, or beta-blocker are more than three times more likely to die than patients who remain adherent (Ho, Spertus, Masoudi, & Reid, 2006). There are many reasons why patients stop taking their medications including the prescriber failing to prescribe, unpleasant side effects, feeling better therefore not feeling the need, and the act of taking the meds viewed as a nuisance (Bowry, Shrank, Lee, Stedman, & Choudhry, 2011; Molloy et al., 2014). Health care directives, goals of care, and provincial drug plans are important topics that have practical implications for participants but they can be confusing to someone who has never been exposed to these concepts. These concepts were introduced in Module 20 and can now be discussed and expanded on further in this module by a social worker. This module also provides the participants with an opportunity to understand the role of a social worker and work with the social worker to solve problems.

Teaching aids/activities:

- Handout: Health care directives
- Handout: Goals of care
- Handout: Patient navigator and provincial drug plan website
- Question and answer period
- All other teaching aids and activities will be at the social workers' discretion
- Applying Knowles' (1980) principles of adult learning is encouraged

Objectives:

By the end of the this module participants will:

- Identify a potential proxy for their health care directive
- Assign or at the least have a discussion with their proxy about choosing C, R or M as their goals of care
- Identify a provincial drug plan that applies to their situation that could help negate the cost of medications
- Be able to state the difference between a health care directive and a living will
- * Identify two people or resources they can seek out for more information on drug plans

Key Messages for Participants:

- Medication compliance is important in preventing a future cardiac event- if you feel like stopping your medications, let
 your health care providers know why so an informed decision can be made
- Cost is one reason why cardiac patients stop taking their medications there are many drug plans the province offers that may help you with this burden
- Everyone should have a health care directive
- A proxy is a substitute decision maker that will collaborate with a health care team and act on your behalf if you are unable to speak for yourself
- Discuss your goals of care with your proxy and put this plan on paper
- Carry your health care directive wallet card with you at all times

Evaluation Activity:

The number of participants with health care directives will be greater at the end of the program than at the beginning of the program

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Application of King's Theory of Goal Attainment (King, 1991):

- The focus of nursing is human beings interacting with their environment: This module gives participants the knowledge and tools they need to engage in meaningful conversations with trusted proxies and health care professionals in order to create an advanced care plan. This module also provides participants with the opportunity to engage with a social worker and learn more about the role of social workers within the health care system
- Health is the ability to function in social roles and have the right to participate in decisions that influence their health and wellbeing: If health is the ability to function in social roles, then becoming incapacitated and unable to speak for one's self during a health crisis is an example of the absence of health. This module assists participants in assigning a proxy who can honor their health care wishes when they are unable to function in social roles due to a health crisis
- Clients have a right to knowledge about their health and health care providers have a duty to provide information so clients can make informed decisions about their health. This module provides participants with knowledge about what resources are available to help them with the cost of medications and develop a health care directive. Money and end of life discussions are not always comfortable topics, but there is evidence to support the fact that cardiac rehabilitation participants need information about medications and are interested in having end of life discussions
- Health care professionals have a duty to collect information about client's perception of goals: The goals of care discussion and handout in this module provides cardiac rehabilitation participants with the information they need to determine what their end of life goals are. The cardiac rehabilitation team can help participants fully understand the terminology and help participants put their wishes on paper

Application of Knowles' Principles of Adult Learning (Bastable & Dart, 2008; Health PEI, 2012; Knowles, 1980):

- Adults are independent and self-directed learners: In this module participants are given the resources, knowledge, and tools required to create their own advanced care plans. It is the responsibility of the participants to define their goals of care, assign a proxy, and seek further consultation if needed. Participants may choose not to create an advanced care plan. It is the responsibility of the cardiac rehabilitation team to understand why the participant opted out, but this decision is to fully respected and supported as long as an informed decision has been made
- Adults have a reservoir of life experiences that can be used as a resource for learning: All of the participants were faced with their mortality when they received their diagnosis. This experience gives them a unique perspective on the importance of advanced care planning and this experience can be used to guide discussions around end-of-life care
- Adults are problem-centered learners: The burden of the cost of medications, adapting to the routine of take medications on a daily basis, and medication side effects are all common issues among this population. This module provides practical information on how to reduce the cost of medications by accessing provincial drug plans
- Adults learn best when they are involved in the learning: This module includes a question and answer period with a social worker to provide an opportunity for participants to engage in conversations that are meaningful to them

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Presenter: Social Worker





Health PEI Patient Navigator Information:

How can I contact the patient navigator?

Patient Navigator 16 Garfield Street PO Box 2000, Charlottetown, PE C1A 7N8 Toll free: 1-844-882-3141 Telephone: (902) 620-3418 Fax: (902) 368-6136 Email: patientnavigator@gov.pe.ca

Information on Provincial Drug Plans:

Website:

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http://healthpei.ca/drugprograms

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Health PEI

One Island Health System

GOALS OF CARE

Is there an existing Health Care Directive on file? No Yes (If yes, it shall guide further discussions as an indication of the Patient/Client/Resident's wishes at time of writing)

GOALS OF CARE	iitials of Health are Provider	
R Medical Care and Interventions, including Resuscitation	Goals of care and interventions are for care and cont of the Patient/Resident/Client condition. The Patient/Resident/Client may benefit from, and is accepting of, any appropriate investigations/interventions that can be offered including resuscitation.	rol
M Medical Care and Interventions, excluding Resuscitation	Goals of care and interventions are for care and cont of the Patient/Resident/Client condition. The Patient/Resident/Client may benefit from, and is accepting of, any appropriate investigations/interventions that can be offered excluding resuscitation.	rol
C Care and Interventions focused on comfort, excluding Resuscitation	Goals of care and interventions are directed at maxin comfort, symptom control and maintenance of qualit life, <i>excluding resuscitation</i> .	nal ty of

If the Goals of Care indicated above include resuscitation, indicate below which interventions the Patient/Resident/Client is accepting of:

(a) defibrillation □ (b) chest compressions □ (c) intubation □ (d) ICU/CCU care □ (e) ICU/CCU care for noninvasive ventilation and treatment □

Indicate all individuals who participated in Goals of Care discussion(s) by checking appropriate box(es).

Patient/Resident/Client	Print Name:	
Family Member(s)	Print Name:	
Substitute Decision Maker	Print Name:	
Health Care Provider(s)	Print Name:	

Document details of the Patient/Resident/Client specific instructions or wishes and/or details of discussions with the individuals indicated above on back of page.

I confirm that I have discussed my Goals of Care with a Health Care Team member and that this form accurately reflects the choice(s) that I have made respecting the type of care I want to receive. I understand that this document is a record of my conversation with the Health Care Team and not a health care directive as defined under the *Consent to Treatment and Health Care Directives Act*.

Signature of patient/resident/client/substitute decision mal	ker	yyyy/mm/dd
Name and Designation of RN, NP or MD	Signature of RN, NP or MD	yyyy/mm/dd
The Goals of Care were reviewed with the Patient/Resider	nt/Client and/or Substitute Decision Maker and no cha	ange to the form is required.
Name and Designation of RN, NP or MD	Signature of RN, NP or MD	yyyy/mm/dd

If review results in any changes to the Patient/Resident/Client Goals of Care, a new form must be completed.



One Island Health System

Refer to date/time of Progress Note entry if more space is required.



Health Care Directive / Directive relative aux soins de santé

For assistance in providing a Health Care Directive, please see the notes section.

Si vous avez besoin d'aide pour donner une directive relative aux soins de santé, consultez la section des Notes.

1. This is the health care directive of: • Le présent document est la directive relative aux soins de santé de :

Name • Nom		Date of Birth • Date de naissance
Address • Adresse	e de la companya de la compa	
City • Ville	Province	Postal Code • Code postal
Telephone • Téléph	none	Personal Health Number • Numéro de la carte-santé

2. I understand that this Health Care Directive and the authority of a proxy become effective if I am not capable of making or communicating a decision about treatment.

Je comprends que la présente directive relative aux soins de santé et l'autorité du mandataire entrent en vigueur si je suis incapable de prendre une décision ou de la communiquer à propos de mon traitement.

 Proxy – See Notes – You may name one or more persons who will have the authority to make decisions concerning your health care when you do not have the ability to make those decisions yourself. Appointing proxies is optional.

Procuration – Voir les Notes – Vous pouvez nommer **une ou plusieurs personnes** qui auront l'autorité de prendre des décisions à propos de vos soins de santé si vous êtes incapable de décider vous-même. **La nomination d'un ou de plusieurs mandataires est facultative**.

I revoke any previous health care directive made by me and appoint the following person(s) to be my proxy(ies):

Je révoque toute directive antérieure relative aux soins de santé et je nomme la (ou les) personne(s) suivante(s) pour être mon (mes) mandataire(s) :

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Name of proxy 1 • Nom	du 1ª mandataire	Telephone • Téléphone
Address •Adresse	Souther Plug of	And an and the shift
City • Ville	Province	e Postal Code • Code postal

lame of proxy 2 • Nom du 2º mandataire		Telephone • Téléphone	
Address •Adresse	<u> </u>		
City • Ville	Provinc	e Postal Code • Code postal	

- 4. My proxies shall act Mes mandataires agiront :
 - Successively (second proxy decides if first proxy not available) Successivement (le second mandataire décide si le premier n'est pas disponible)
 - Jointly (make decisions together) Conjointement (prendront les décisions ensemble)
- 5. If the person(s) I have appointed is (are) unable to act, I appoint the following person to act as my proxy Si la (les) personne(s) que j'ai nommée(s) est (sont) incapable(s) d'agir, je nomme la personne suivante pour agir comme mon mandataire :

Name of alternate proxy • <i>Nom du manda-</i> taire suppléant		Telephone • Téléphone	
Address •Adresse	1		i.
City • Ville	Provinc	e Postal Code • Code po	ostal
		the local data statistics	8

6. I give my proxy(ies) the authority to make any health care decisions for me that I am not capable of making for myself, subject to the instructions contained in this document. • Je donne à mon (mes) mandataire(s) l'autorité de prendre toute décision au sujet de mes soins de santé que je suis incapable de prendre pour moi-même, sous réserve des instructions contenues dans le présent document.

7-A. My Directions for Health Care

(See notes for examples of health conditions and treatment options.) This section is where you consider potential health conditions and treatment options. You may indicate wishes either to request or to refuse a treatment; you may want to state that you are unsure about a treatment preference and that you would like a certain treatment for a period of time but discontinued if no improvement results.

Mes instructions relatives aux soins de santé

(Voir dans les Notes les exemples d'états de santé et d'options de traitement.) Dans la présente section, vous étudiez les états de santé possibles et les options de traitement. Vous pouvez indiquer que vous souhaitez soit demander un traitement, soit le refuser. Ou encore, vous pouvez vouloir dire que vous n'êtes pas certain à propos d'une préférence de traitement, et que vous aimeriez qu'on essaie un certain traitement pour une période de temps, mais qu'on l'arrête s'il n'y a pas d'amélioration.

7-B. My Personal Value Statement

(See Notes for examples of value statements)

Because all potential situations cannot be covered by this form, you may choose to make a general statement(s) about your values regarding health care treatment. This will assist your proxy(ies) or other substitute decision-maker in making decisions on your behalf.

La déclaration de mes valeurs personnelles

(Voir dans les Notes les exemples de déclarations de valeurs.) Parce qu'il est impossible de traiter de toutes les situations possibles dans ce formulaire, nous vous offrons le choix de faire une ou plusieurs déclarations au sujet des valeurs auxquelles vous croyez dans les soins à vous donner. Cela aidera votre/ vos mandataire(s), ou les autres personnes ayant à décider au nom d'autrui, à prendre des décisions en votre nom.

8. Organ and Tissue Donation – Donation is optional.

I wish to donate

□ My body □ any needed organs or tissues

□ The following organs or tissues: for the following purpose(s): □ therapeutic □ transplantation □ medical education □ scientific research OR □ any purpose authorized by law

Don d'organe et de tissu (facultatif)

Je souhaite donner

Page

- \square mon corps \square tout organe ou tissu dont on a besoin
- □ les organes ou les tissus suivants : ______
 pour les fins suivantes : □ thérapeutiques □ transplantation □ formation médicale
 □ recherche scientifique OU □ toute autre fin autorisée par la loi
- 9. I want the wishes and directions expressed in this health care directive and the spirit of this document carried out to the fullest extent possible. No person who carries out this health care directive, whether a health practitioner, proxy, hospital administrator, friend, family member or any other person, shall be held responsible in any way legally, morally, professionally for any consequences arising from the implementation of my wishes.

Je veux que mes souhaits et instructions exprimés dans la présente directive relative aux soins de santé et que l'esprit du présent document soient respectés en entier. Aucune personne qui exécute cette directive relative aux soins de santé, qu'il s'agisse d'un(e) professionnel(le) de la santé, d'un mandataire, d'un administrateur d'hôpital, d'un(e) ami(e), d'un membre de la famille ou de toute autre personne, ne peut être tenu(e) responsable d'aucune façon – légalement, moralement ou professionnellement – d'une conséquence émanant de l'application de mes souhaits.

 I sign this document while capable. • Je signe le présent document alors que je suis capable de le faire.

Date_____ My signature • Ma signature _

OR if you are capable but for some reason unable to sign, this document must be signed by another person and witnessed. The person signing and the witness **CANNOT** be the proxy or spouse of the proxy. • **OU** si vous êtes incapable de signer pour quelque raison que ce soit, ce document doit être signé par une autre personne en présence d'un témoin. La personne qui signe et celle qui est témoin **ne peuvent pas** être votre mandataire ni son conjoint(e).

Date	Signature	
Date	Witness • Témoin	

11. I agree to be proxy for the maker of this health care directive. Proxy appointment is not valid unless signed by the proxy(ies) or another person at the direction of the proxy. • Je consens à être mandataire pour la personne qui donne la présente directive relative aux soins de santé. La nomination d'un(e) mandataire n'est pas valide à moins qu'il/elle signe ou qu'une autre personne signe à la demande du mandataire.

Date	Proxy 1 • 1 ^{er} mandataire
Date	Proxy 2 • 2 ^e mandataire
Date	Alternate Proxy • Mandataire suppléant
4	

Notes for Completing a Health Care Directive

Proxy

The role of a proxy is to consider your expressed wishes and best interests when treatment decisions need to be made on your behalf. It is a good idea to appoint a substitute proxy who would act if the first proxy predeceases you or is unable to act. The *Consent to Treatment and Health Care Directives Act* says a proxy must have knowledge of your circumstances, and have been in recent contact with you. When the decision of a proxy is required and the directive does not give specific instructions, the proxy shall make a decision based on your best interests. If you name more than one proxy, you can indicate how you wish them to act: SUCCESSIVELY (second proxy decides if the first proxy is not available) or JOINTLY (make decisions together). If how you wish them to act is not indicated, proxies shall act successively.

Examples of Health Conditions

- Terminal illness-there is no known cure, such as some types of cancer.
- Irreversible condition there is no possibility of a complete recovery. Examples of conditions
 include AIDS, certain cancers, stroke, Parkinson's disease, or Alzheimer's disease.
- Reversible condition a condition that may be cured without any remaining disability, such as
 pneumonia, bleeding ulcers.
- Permanent coma a permanent state of unconscious.
- Stroke damage to the brain causing weakness, partial paralysis, difficulty with speech, etc. Symptoms may or may not improve.
- Dementia a progressive and irreversible deterioration in brain function causing trouble with thinking clearly, recognizing people and communicating. Dementia gradually worsens.

Examples of Treatment Options

- Cardiopulmonary resuscitation chest compressions, drugs, electric shock and artificial breathing to restore heartbeat.
- Mechanical breathing respiration by machine, through a tube in the throat.
- Artificial nutrition and hydration giving nutrition and fluid through a tube in the veins, nose or stomach.
- Major surgery such as gall bladder removal.
- · Kidney dialysis cleaning the blood by machine or by fluid passed through the abdomen.
- Chemotherapy using drugs to fight cancer.
- · Minor surgery such as wisdom teeth removal.
- · Invasive diagnostic tests such as using flexible tube to look into the stomach.
- Simple diagnostic tests such as blood tests or x-rays.
- · Blood or blood products such as giving transfusions.
- · Antibiotics drugs to fight infection.
- Pain medications drugs to ease pain and suffering but which may dull consciousness and
 indirectly shorten life. Consider that you may have more than one serious health condition.
 For example, you had a severe stroke and later developed pneumonia requiring treatment
 with antibiotics to live. If you had not experienced a stroke, would your wishes for antibiotic
 treatment be different?

Examples of Value Statements

- · Do everything possible to maintain life.
- I would prefer to receive treatment at home if this does not cause undue stress on my caregivers.
- · I only want measures that enhance comfort and minimize pain.
- I do not want invasive procedures (surgery).
- My religious beliefs will not allow me to consent to the following treatments or procedures....

Organ/Tissue Donation

The *Human Tissue Donation Act* provides for a person to consent to the donation of their body or body parts for purposes indicated on the form.

Agreement of Proxy

The appointment of a proxy is valid **only** if the proxy or another person at the direction of the proxy agrees to the appointment in writing prior to your incapacity. A proxy shall be at least 16 years of age and capable of making health care decisions.

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Health Care Directive Background Information

What is a health care directive?

A health care directive is a legal document describing the amount and type of health care you want, should you become incapable of making decisions on your own. Anyone who is 16 years of age or older and capable of making health care decisions can make a directive. A health care directive needs to be in writing, dated and signed in order to be valid. This form is a sample, since a special form or format is not required. A health care directive never takes priority over a capable person's consent.

What does a health care directive include?

In your health care directive you can appoint a proxy – a person whom you trust – to make health care decisions on your behalf. Your directive can be specific, outlining treatment, procedures or medication that you may or may not wish to have. Or your directive can be general, simply stating your beliefs and directions should decisions need to be made for you by others. For example, you may state that if you are in a coma you do not wish to have life support beyond a certain period of time.

Will my wishes be followed?

A health care practitioner must decide if you are capable of making health care decisions. If you are not capable, the wishes expressed in your directive must be followed, provided they are realistically possible and are consistent with the ethical standards of the health care practitioner.

It helps to let others know that you have prepared a health care directive – your family, friends, clergy, lawyer or doctor. You may want to discuss your decisions with them, provide them with copies of your health care directive, and have a copy placed in your medical records file at your local hospital.

What does capable mean?

Capable means that you are able to understand the information relevant to making a decision about treatment and to appreciate the consequences of that decision. Capacity can fluctuate – you may be incapable at one time and capable at another; or incapable of some treatment decisions yet capable of other treatment decisions.

Can I change my mind about my health care directive?

A health care directive is a record of your current wishes. You may change your health care directive or your proxy at any time. It is important to destroy all copies of your previous health care directive(s) to ensure that your most recent wishes are followed.

For more information:

Visit the Health PEI website at: www.healthpei.ca/advancecareplanning

For copies of the Consent to Treatment and Health Care Directives Act, you may contact:

Island Information Service (902) 368-4000 11 Kent Street, PO Box 2000, Charlottetown, PE C1A 7N8 Or visit our website at: **www.gov.pe.ca/law/statutes**

Notes supplémentaires à la directive relative aux soins de santé

Mandataire

Le rôle du mandataire consiste à réfléchir à vos préférences et au mieux de vos intérêts quand il faut prendre des décisions de traitement en votre nom. Ce n'est pas une mauvaise idée de nommer un mandataire suppléant qui agira si le premier mandataire décède avant vous ou s'il est incapable d'agir. La Consent to Treatment and Health Care Directives Act (loi sur le consentement au traitement et les directives relatives aux soins de santé) affirme qu'un mandataire doit connaître votre situation et avoir été en contact récemment avec vous. Lorsque la décision d'un mandataire est requise et que la directive ne fournit pas d'instructions précises, le mandataire doit prendre une décision au mieux de vos intérêts. Si vous désignez plus d'un mandataire, vous pouvez indiquer comment vous désirez qu'ils agissent: SUCCESSIVEMENT (le second mandataire décide si le premier n'est pas disponible) ou CONJOINTEMENT (qu'ils prennent des décisions ensemble). Si vous n'indiquez pas comment vous désirez qu'ils agissent, ils agisont successivement.

Exemples d'états de santé

- Maladie terminale pour laquelle on ne connaît pas de cure, telle que certains types de cancer.
- Maladie irréversible sans possibilité de rétablissement complet. Au nombre des maladies irréversibles, mentionnons le SIDA, certains cancers, l'accident vasculaire cérébral (AVC), la maladie de Parkinson et la maladie d'Alzheimer.
- Maladie réversible maladie qui peut être guérie sans laisser de trace, telle que la pneumonie, les saignements gastriques.
- · Coma permanent état d'inconscience permanent.
- Accident vasculaire cérébral dommage au cerveau causant une faiblesse, une paralysie partielle, des difficultés à parler, etc. Les symptômes peuvent s'améliorer ou non.
- Démence détérioration progressive et irréversible de la fonction cérébrale, laquelle empêche de parler clairement, de reconnaître les gens et de communiquer. La démence s'aggrave progressivement.

Exemples d'options de traitement

- Réanimation cardio-respiratoire compressions thoraciques, médicaments, chocs électriques et respiration artificielle pour rétablir le rythme cardiaque.
- Ventilation mécanique machine qui permet de respirer au moyen d'un tube dans la gorge.
- Alimentation et hydratation artificielles donner de la nourriture solide et liquide au moyen d'un tube dans les veines, le nez ou l'estomac.
- · Chirurgie importante telle que l'ablation de la vésicule biliaire.
- Dialyse rénale nettoyage du sang au moyen d'une machine ou en faisant passer des fluides par l'abdomen.
- Chimiothérapie utilisation de médicaments pour combattre le cancer.
- Chirurgie mineure telle que l'ablation d'une dent de sagesse.
- Techniques diagnostiques envahissantes telles que l'utilisation d'un tube flexible pour voir dans l'estomac.
- Tests de diagnostic simples tels que les analyses sanguines ou les rayons X.
- Sang ou produits sanguins tels que donner des transfusions.
- Antibiotiques médicaments pour combattre l'infection.
- Médicaments contre la douleur médicaments pour soulager la douleur et les souffrances mais qui peuvent endormir la conscience et indirectement raccourcir la vie. Pensez que vous pourriez avoir plus d'une maladie sérieuse. Par exemple, avoir souffert d'un accident vasculaire cérébral et développer une pneumonie par la suite exigeant un traitement avec des antibiotiques pour survivre. Si vous n'aviez pas eu d'accident vasculaire cérébral, souhaiteriez-vous que le traitement aux antibiotiques soit différent?

Exemples de déclarations de valeurs

- Faites tout votre possible pour me garder en vie.
- Je préférerais être soignéle) à la maison si cela n'est pas trop difficile pour les personnes qui me soignent.
- · Je ne veux rien d'autre qu'un traitement qui me donne plus de confort ou minimise mes douleurs.
- Je ne veux pas de procédure envahissante (chirurgie).
- Mes croyances religieuses ne me permettent pas de consentir aux traitements ou aux procédures suivantes....

Don d'organes ou de tissus

La Human Tissue Donation Act (loi sur le don de tissus humains) prévoit qu'une personne peut consentir à donner son corps ou des parties de son corps aux fins mentionnées sur le formulaire.

Accord du mandataire

La nomination d'un mandataire **n'est** valide **que** si le mandataire, ou une autre personne à sa demande, consent à la nomination par écrit avant votre incapacité. Le/la mandataire doit être âgé(e) d'au moins 16 ans et être capable de prendre des décisions relatives aux soins de santé.

Renseignements généraux sur la directive relative aux soins de santé Ou'est-ce qu'une directive relative aux soins de santé?

Une directive relative aux soins de santé est un document juridique décrivant la quantité et le type de soins que vous voulez si vous devenez incapable de prendre vos propres décisions. Toute personne âgée de 16 ans ou plus, et capable de prendre des décisions relatives aux soins de santé, peut donner une directive. Une directive relative aux soins de santé doit être faite par écrit, datée et signée. <u>Le</u> <u>présent formulaire n'en est qu'un exemple, car on n'exige pas de formulaire ou de forme particulière</u>. Le consentement d'une personne capable a toujours préséance sur la directive relative aux soins de santé.

Que comprend une directive relative aux soins de santé?

Dans votre directive relative aux soins de santé, vous devez nommer un mandataire – une personne en qui vous avez conflance – pour prendre des décisions relatives aux soins de santé en votre nom. Votre directive peut être particulière et décrire le traitement, les procédures ou les médicaments que vous désirez avoir ou non. Ou bien, votre directive peut être générale et énoncer simplement vos croyances et vos instructions si d'autres personnes devaient prendre des décisions pour vous. Par exemple, vous pouvez déclarer que, si jamais vous tombez dans le coma, vous ne souhaitez pas que l'on maintienne vos fonctions vitales au-delà d'une certaine période.

Mes souhaits seront-ils suivis?

Un(e) professionnel(le) de la santé doit décider si vous êtes capable de prendre des décisions relatives aux soins de santé. Si vous en êtes incapable, les souhaits exprimés dans votre directive doivent être suivis, à condition qu'ils soient réalistes et conformes aux normes éthiques du/ de la professionnel(le) de la santé.

Il est utile de laisser savoir aux autres – votre famille, vos amis, le clergé, un avocat ou un médecin – que vous avez préparé une directive relative aux soins de santé. Vous pouvez discuter de vos décisions avec ces personnes, leur donner une copie de votre directive relative aux soins de santé et en faire placer une copie dans le dossier de votre hôpital local.

Être capable, qu'est-ce que cela signifie?

Être capable, cela signifie que vous êtes capable de comprendre les renseignements appropriés pour prendre une décision au sujet d'un traitement et de saisir les conséquences d'une telle décision. La capacité peut changer – vous pouvez être incapable à un certain moment et capable à un autre; ou encore incapable de prendre certaines décisions en matière de traitement, tout en étant encore capable d'en prendre d'autres dans le même domaine.

Puis-je changer d'idée à propos de ma directive relative aux soins de santé?

Une directive relative aux soins de santé est un dossier de vos souhaits actuels. En tout temps, vous pouvez la modifier ou changer votre mandataire. Il est important de détruire toutes les copies de vos directives antérieures relatives aux soins de santé pour garantir que vos souhaits les plus récents soient suivis.

Pour obtenir plus de renseignements :

Rendez-vous sur le site de Santé Î.-P.-É. : www.healthpei.ca/planificationprealabledessoins

Pour obtenir un exemplaire de la Consent to Treatment and Health Care Directives Act, *vous pouvez communiquer avec :*

Service de renseignements de l'Île 902-368-4000 11, rue Kent, C.P. 2000, Charlottetown (Î.-P.-É.) C1A 7N8

Ou visitez notre site Web, à l'adresse : www.gov.pe.ca/law/statutes

Module 22- Physician and Nurse: Q&A

Description: This module provides the participants with access to an internal medicine physician and a registered nurse specialized in critical care to answer any questions participants may still have about their heart disease. Participants will be encouraged to write down their questions prior to the session. The participants can drop their questions in an anonymous drop box or feel free to ask their questions orally.

Rationale for module: In our resource-thin health care system, appointments with health care providers are time-limited; therefore, all patient concerns may not be addressed during a single appointment. This module provides the participants with a full hour of access to the program's medical lead who is specialized in cardiac care. According to Knowles' (1980) principles of adult learning, adults learn best when they are involved in the planning, implementation, and evaluation of learning activities. Unlike other modules, this module is entirely driven by the participants' questions and concerns and provides an opportunity to address any individual issues that may not have been addressed during cardiac rehabilitation thus far or during medical appointments up until now

Teaching aids/activities:

- Participant charts to reference if needed
- Whiteboard and marker
- Handout: Physician and Nurse Questions (give out prior to the session)
- · Plant questions can be used if the group is not forthcoming, such as:
 - A question I am often asked is can I have sex after my heart attack ...
 - A lot of patients ask me about when they can drive again ...
 - A frequent question I am asked in my office is when can'I go back to work ...
 - A lot of patients fear activity and hurting their heart after their procedure ...
 - I get a lot of questions about medications. Does anyone in the group have any questions about any of the medications you may be on?

Objectives:

By the end of this module participants will:

- Develop questions and present these questions to the guest speakers in order to help understand and self-manage their heart disease
- Collaborate with an internal medicine physician and critical care nurse to obtain answers to their health related questions
- * Recognize physicians and nurses as their equal partners in the management of their heart disease

Key Messages for Participants:

- Do not be scared to ask a silly question. The only silly question is the one that was never asked
- This is your opportunity to ask questions in a non-hurried setting. All questions are welcomed
- You have a right to ask questions about your health. Tip: Before your appointments, write down your top 3 concerns and keep them as concise as possible in order to maximize your appointment times

Evaluation Activity:

 The participants will have an opportunity to comment on the session when they complete the participant satisfaction survey

Application of King's Theory of Goal Attainment (King, 1991):

The focus of nursing is human being interacting with their environment: In this module participants are introduced to an internal medicine physician to engage with during a question and answer period. The interaction between the participants and the physician is an opportunity to develop a trust and rapport with a physician in an atypical setting



1

Adults want to learn things relevant to their situation and that can be immediately applied. The participants are given an opportunity to ask general questions about heart disease or questions that pertain to their specific circumstances and therefore, the information provided will be readily applied in their day to day lives

References:

Bastable, S., & Dart, M. (2008). Developmental stages of the learner. In S. Bastable (Ed.), Nurse as educator: Principles of teaching and learning for nursing practice (pp. 147-198). Mississauga, Ontario: Jones and Bartlett Publishers Canada.

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Presenter: Registered Nurse and Internal Medicine Physician Lead



Physician and Nurse Question and Answer Period

Question 1:

Question 2:

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Question 3:

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Module 23 – Self-Reflection: Keeping a Healthy Lifestyle

Description: This module provides an opportunity for participants to look back on their accomplishments to date and self-reflect on previously established health care goals. The basic components of keeping a healthy lifestyle are reviewed. This module can also be used as a platform to address any topics or concerns that not have been addressed thus far in the program. Time will be allotted in this module for participants to complete post-surveys and the patient satisfaction evaluation form

Rationale for module: Involving participants in the creation and monitoring of health care goals is more effective than clinician-directed goal setting (MacGregor et al., 2006). The principles of adult learning indicate that adults learn best when they are engaged in the planning, implementation, and evaluation of learning activities (Knowles, 1980). This module provides participants with the opportunity to assess and evaluate their progress with lifestyle changes to date and also gives participants a chance to evaluate the cardiac program by completing a patient satisfaction survey. Feedback from the evaluation forms will be used to continuously evolve the cardiac rehabilitation program and ensure it continues to utilize a participant-centered approach.

Teaching aids/activities:

- Handout: Healthy lifestyle tips check list
- Handout: Accomplishments and future goals reflection exercise
- Discussion: Reflecting on physical, mental, and lifestyle changes since joining the program
- Patient satisfaction survey
- PowerPoint Presentation to use as a guide

Objectives:

- By the end of the module the participants will:
 - * Be able to list 2 health related accomplishments
 - Be able to list 2 future goals or activities to implement after the program is complete
 - Complete a participant satisfaction survey

Key Messages for Participants:

- Take pride in the changes you have made so far!
- + Health is more than just your heart health, it includes many aspects of your physical and mental health
- Don't' stop now! Keep setting goals and aspire to reach them
- Keep it simple. Living well doesn't have to be complex. Follow a few simple rules to make a big difference
- Cardiac rehab participants like you are the reason this program exists. Please share your feedback so we can make this program better for others like you @

Evaluation Activity:

- Participant satisfaction survey
- Self-assessment of progress

Application of King's Theory of Goal Attainment (King, 1991):

- Human beings are purposeful, action, and time-orientated: This module reinforces this assumption of King's theory by revisiting time bound goals set by the participants at the beginning of the program, assessing if the goals were attained, and adjusting or making new goals for the future
- Nurse perceptions and client perceptions influence nurse client interactions: In this module the Registered Nurse facilitates the discussion and self-reflection activities with the participants to provide space for participants to recall their positive accomplishments and feel the joy and pride of success. The nurse also moves the participants forward by

2 identify work that could still be done by encouraging future health goals and aspirations. Although the nurse is facilitating the session, the clients, not the nurse, create future goals based on their perceptions of what is required Clients have a right to accept or reject health care: At this stage in the program, the material being presented is mainly ---review. Participants will most likely have decided what aspects of healthy living they are going to adjust and what aspects they are not interested in changing. The nurse, knowing that the decisions made by the participants are informed decisions, respects this choice Health care professionals have a duty to collect information about the client's goals in order to attain such goals: In this - ... module the nurse will discuss future goals with the participants. The nurse's role is to asking probing questions to ensure the goals are SMART goals Application of Knowles' Principles of Adult Learning (Bastable & Dart, 2008; Health PEI, 2012; Knowles 1980): Adults are independent and self-directed learners & adults want to be involved in the planning, implementation, and evaluation of learning activities: This module is the epitome of this principle of adult learning in practice. Throughout the cardiac rehab program the participants have been striving to achieve goals that they created and now have the opportunity to self-evaluate if they have met their goals. Having the participants complete a satisfaction survey also supports this principle by giving them an opportunity to alter the program for the betterment of future participants The role of the facilitator is to create and maintain a supportive learning environment: At no point during this session does the nurse place judgment or criticism on chosen goals, unattained goals, or lifestyle choices. The nurse acts as a medium to stimulate self-assessment and evaluation among participants 1. Adults learners learn best when the content has immediate application: The healthy lifestyle tips checklist is a tool that provides participants with a visual of what aspects of their lifestyle require more work and what parts they are doing really well in. The tips can be immediately applied in anyone's life, not just people with heart disease References: Bastable, S., & Dart, M. (2008). Developmental stages of the learner. In S. Bastable (Ed.), Nurse as educator: Principles of teaching and learning for nursing practice (pp. 147-198). Mississauga, Ontario: Jones and Bartlett Publishers Canada. Health PEI (2012). Adult learning principles and mentoring practices. Retrieved from http://www.healthpei.ca/nursingeducation/index.php3?number=1044202&lang=E King, I. (1991). King's theory of goal attainment. Nursing Science Quarterly, 5(1), 19-26. doi: https://doi.org/10.1177/089431849200500107 Knowles, M. S. (1980). The modern practice of adult education. Chicago, IL: Follett. MacGregor, K., Handley, M., Wong, S., Sharifi, C., Gjeltema, K., Schillinger, D., ...Bodenheimer, T. (2006). Behavior-change action plans in primary care: A feasibility study of clinicians. The Journal of the American Board of Family Medicine, 19(3), 215-223. doi: 10.3122/jabfm.19.3.215

Presenter: Registered Nurse



Keeping a Healthy Lifestyle: Self-reflecting on how far you have come and where you need to go



Handout: Tips for healthy living Handout: Accomplishments/Future Goals

Review of the components of a healthy lifestyle:

Medication compliance:

- What have you learned about medication compliance?
- How have you adapted to taking medications on a regular basis?
- Do you feel you have a better understanding of what your medications are doing for your heart?
- Do you have a better appreciation for why you should not just take yourself off of your medications if you have an issue with them?

Regular exercise:

There are a large number of health benefits to exercising regularly but it can also improve your mental health as well as your physical health.

- Studies have shown that exercise can treat mild to moderate depression as effectively as antidepressant medications without the side effects.
 Severe depression may require medication but when paired with exercise, can reduce the dose required
- Exercise causes the release of endorphins in the brain and this produces a feeling of happiness and calmness. A recent study (Batallgia et al., 2015) of

64 prisoners was completed. Participants were randomly assigned to either a cardiovascular plus resistance training, just high intensity weight training, or no exercise. The participants completed a mental health survey before and after a 9 month period. Both exercise groups had lower levels of depression and anxiety, and the no exercise group actually had increased rating of depression and anxiety

- Studies have shown that patients who suffer a cardiac event experience more anxiety than their healthy counterparts. One study by Lidell, Segestend, & Fridlund (1998) also showed a link between anxiety and a lower sense of self esteem. Exercise helps to reduce these feelings
- Remember, it only takes 150 minutes of aerobic exercise a week and two days of strength exercises to reap the rewards
- Question: Can you see a difference in your exercise capacity? Have you noticed a difference in the way you feel, your sleep pattern, your mood, or physical ability?
- Sadly, only 15 percent of Canadians are actually meeting the physical activity recommendations (Statistics Canada, 2015)

What is categorized as physical activity (WHO, 2017)?

- Leisure physical activity time (dancing, gardening)
- Transportation (walking, cycling)
- Occupational (work)
- Household chores
- Play, games, and or sports
- Planned exercise

Question: How do you know if you are "over doing it" when exercising?

Balanced diet:

- Has anyone achieved dietary goals?
- How have you incorporated some of the dietician's messages into your daily life?
- Does anyone remember the healthy plate rule?
- Does anyone remember the 80/20 rule?
- Are you following these rules?
- Was anyone inspired to start eating a new type of food?

Sleep:

- Sleep is an important part of physical and mental wellbeing
- Is anyone sleeping better since joining the program?
- What are some tips you can use to promote sleep?

Factors that Influence Sleep:

1. Internal Clock: Your internal clock controls when you feel tired and your sleep pattern. Our internal clock is influenced by internal and external cues. Two substances influence your internal clock, adenosine and melatonin.

2. Adenosine: A chemical in your body that influences sleep. While your awake adenosine levels in the brain gradually increase. This causes the body to want to sleep. While your sleeping the body breaks down adenosine.

3. Melatonin: Your internal clock and the environmental factor of the dark encourages your body to releases a hormone called melatonin. Melatonin tells the body to prepare for sleep and makes you feel tired.

4. Cortisol: As it gets brighter your body releases cortisol and prepares the body to wake up.

Sleep Strategies:

 Go to bed and wake up at the same time every day. Maintain the same routine on weekdays and weekends.

Use the hour before bed for quiet time.

Don't lie in bed awake

 Avoid heavy meals, nicotine, caffeine and alcohol within a couple of hours before bed. Nicotine and caffeine are stimulants, and can interfere with sleep. The effects of caffeine can last as long as 8 hours. Physical activity Keep your bedroom quiet, cool, and dark.

- Utilize relaxation techniques.

Sexual health:

- A common question after a heart attack, heart surgery, or cardiac event is whether or not sexual activity is safe. Keep in mind that sexual activity (full intercourse) only uses the same amount of energy as climbing two flights of stairs (15 steps). The effects on the heart of masturbation or manual/oral stimulation are similar to that of intercourse (Heart and Stroke Foundation, 2017)
- Sexual dysfunction may occur due to atherosclerosis or secondary to medications. Exercise can help improve this symptom. Impotence is an irreversible reality for some. Sexual dysfunction drugs may assist with this but also remember there are other ways to be intimate outside of sex. Remember that sexual dysfunction drugs are contraindicated with Nitro and should not be taken within 24 - 48hrs of one another

Smoking:

- Quitting smoking is a process
- Even if you are still smoking but are considering guitting now, that is considered progress
- Remember that we have more tools in our toolbox to help you with easing the symptoms of withdrawal that make quitting smoking difficult
- Nicotine replacement therapy in combination with medications and counseling are more effective than quitting cold turkey in most cases

Alcohol intake:

If you drink alcohol, limit yourself to no more than two drinks a day most days, to a weekly maximum of 10 for women and three drinks a day most days, to a weekly maximum of 15 for men (Heart and Stroke Foundation, 2017)



Handout: Patient Satisfaction Survey

- Your feedback is very important to us
- We will use your feedback to adjust the content and delivery of the education sessions
- We want to know how we can improve the exercise portion of the program as well
- · What sessions did you find most valuable?
- · Is there any information you would have liked to know more about?
- · What would you like to see added or removed from the program?
- What were your favorite sessions? Least favorite?
- · Please do not put your name on the survey
- · The data from the survey may be aggregated for use in reports or presentations
- Put the surveys in the brown envelope





+ References

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SATISFACTION Survey Cardiac Rehab Program

Dear Participant:

Health PEI is committed to providing the highest possible quality of care to our clients. In order to help us do that, we are asking for your feedback on your experience with the Cardiac Rehab Program. We are interested in what worked well and where we can make improvements.

We value your input. Please be assured your responses will be held in the strictest of confidence. Answers will be grouped so that no one individual can be identified.

For each item, check the box that most closely reflects your experience. You can skip any question you don't want to answer.



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Confident				Confident			
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eflection Exercise: Accomplishments & Future Goals	x #1 write down 2 or 3 things you feel you have achieved so far in cardiac bilitation)x #2 write down 2 future goals or activities you plan on implementing once you completed cardiac rehabilitation	ccomplishments	uture Goals
Self-Reflect	1) In Box #1 wr rehabilitatio	2) In Box #2 wr have comple	BOX #1: Accompl	BOX #2: Future G

	Some Tips for Keeping a Healthy Lifestyle: Check List
Exercise	 Get a minimum of 150 minutes of aerobic exercise a week Get a minimum of 2 days of strength exercises a week Exercise can be done in bouts of 10 minutes Listen to your body: You should be able to talk but not sing during exercise
Diet	 Half of your plate should be vegetables Avoid adding salt to your meals Avoid trans fats Use the 80/20 rule: Eat well 80% of the time and 20% of the time treat yourself Eat foods from each food group every day (fruits & vegetables, oils & fats, meat and meat alternatives, grains, milk products) Control your portions Eat regularly
Smoking	 Quitting smoking is the single most important thing you can do for your health A combination of medication, nicotine replacement therapy, and counseling is the most effective way to quit smoking Reach out to a health care provider if you are thinking about quitting - we can help you!

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Medications	daaro	Sexual Health	Alcohol
 Take your medications as prescribed Report any unwanted side effects to your doctor or nurse practitioner Do not self-adjust doses Do not put yourself on or take yourself off medications without discussing this with your doctor or nurse practitioner 	 Steep is an important part of your neart's recovery Exercise, eat well and remain active Maintain a routine Relax before going to bed Avoid heavy meals before bedtime Do not drink coffee, tea or sodas before going to bed Avoid talking about stressful things or watching upsetting television programs Keep your room dark and quiet Move the TV out of your room Do not go and lay in your bed until you are tired and ready to sleep 	 Many people fear hurting their heart during sex after their heart attack Having sexual intercourse is the equivalent of walking up two flights of stairs If you can walk up two flights of stairs without getting short of breath or having chest pain, you are safe to have sex Using Nitroglycerine and erectile dysfunction drugs together is very dangerous: Do not use within 24 -48 hours of each other 	 Drinking excessively can damage your heart and many other organs in the body If you drink alcohol, limit your intake Women: 2 drinks per day to a maximum of 10 drinks per week Men: 3 drinks per day to a maximum of 15 drinks per week

Module 24– Moving Forward

Description: This module is a wrap up session that introduces the participants to their personalized summary reports, allots time for participants to complete post-program surveys, and celebrates their success.

Rationale for module: Feedback is a key component of any education program and cardiac rehabilitation is no different. The Ontario Cardiac Care Network has created standards of care for the provision of cardiac rehabilitation programs in Ontario. One of the standards of care includes providing participants with a written copy of their pre- and post- risk profiles and disseminating these report to the primary care providers in order to close the loop of communication (Cardiac Care Network, 2014). The participants are provided with their pre- and post- data and the entire health care team is present to educate the participants about what the data means and help answer any questions. The summary report can then be used as positive reinforcement when interacting with their primary care provider and promotes the benefits of cardiac rehabilitation.

Teaching aids/activities:

- PowerPoint Presentation to use as a guide
- Discussion: One thing learned during cardiac rehabilitation
- Handout: Summary report review
- Handout: Certificate
- Handout: Copy of activity log
- * Post-surveys (Handouts: Self-efficacy scale, PHQ-4, beck depression scale, health literacy scale)

Objectives:

The end of this module participants will:

- State feeling a sense of accomplishment, confidence, and success
- Complete the post-surveys to include in their summary report
- Be able to identify if their post blood pressure is within normal range or has improved
- Be able to identify if their total cholesterol level is normal
- Be able to identify if their LDL level is normal
- Be able to identify if their six minute walk test has improved

Key Messages for Participants:

- Revel in your accomplishments and keep moving forward towards your new goals
- Not all benefits of the program are measured
- * Your positive changes can influence others in a positive way
- * You are a survivor! Take advantage of your chance to be your best self

Evaluation Activity:

Review of pre- and post-summary report data

Application of King's Theory of Goal Attainment (King, 1991):

Clients have a right to knowledge about their health & health care professionals have a duty to provide information so clients can make informed decisions about their health: The summary report data collected pre- and post-program completion is shared with the participants so that they have a complete understanding of their personal cardiac risk profile. It can be used as a tool to reinforce positive behaviors or to motivate participants to continue to progress - A

Application of Knowles' Principles of Adult Learning (Bastable & Dart, 2008; Health PEI, 2012; Knowles, 1980):

Adults are self-directed learners: The summary reports provided in this module will give the participants the information they need to determine where they need to make improvements in their health. The assumption is that they now have the knowledge and capability to determine what risk factors to focus on

	Adults have a reservoir of life experiences that can be used as a resource for learning: Completing the cardiac rehabilitation program is an experience the participants can utilize to self-manage their heart disease with confidence
*	and competence Adults are problem-centered learners: Some of the summary report data provided may not be positive or neutral. Unfavorable results can be used as a guide to determine what health related goals should be focused on in the future. It is assumed that participants, being self-directed and problem-centered learners, will self-identify these issues and make a plan to alleviate these risk factors now that they have the background knowledge they need to make informed decisions
*	Adult learners have an immediacy of application of knowledge: The participants are asked to complete post-program surveys related to health literacy, mental health status, and self-efficacy in managing their disease. Immediately after completing these surveys, the participants will receive a full explanation of these surveys and their purpose. Furthermore, three weeks later the participants will receive their pre- and post- scores in the mail. The mail out will also contain a legend to remind them of what the test is and what the score represents
fere	nces:
stabl	e, S., & Dart, M. (2008). Developmental stages of the learner. In S. Bastable (Ed.), Nurse as educator: Principles of teaching and learning for nursing practice (pp. 147- 198). Mississauga, Ontario: Jones and Bartlett Publishers Canada.
rdiad	Care Network (2014). Standards for the provision of cardiac rehabilitation in Ontario. Retrieved from http://www.ccn.on.ca/ccn_public/uploadfiles/files/CCN_Cardiovascular_Rehab_Standards_2014.pdf
alth	PEI (2012). Adult learning principles and mentoring practices. Retrieved from http://www.healthpei.ca/nursingeducation/index.php3?number=1044202⟨=E
ealth ng. I.	PEI (2012). Adult learning principles and mentoring practices. Retrieved from http://www.healthpei.ca/nursingeducation/index.php3?number=1044202⟨=E (1991). King's theory of goal attainment. <i>Nursing Science Quarterly, 5</i> (1), 19-26. doi: https://doi.org/10.1177/089431849200500107

Presenter: Cardiac Rehabilitation Team



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- Inside each of your folders is a copy of your graduation certificate, activity logs, and a summary report. Once this summary report is completed, we will mail a completed copy to you and your physician/nurse practitioner
- Review the summary report data (legend provided). Compare your pre- program and post-program data

Resting heart rate - Should be lower than the pre-Blood pressure - Normal is between 100-130/ 60-80 Waist size - < 35 for women and < 40 for men Weight - Was weight loss a goal for you? Did you ahieve your goal? Maintenance is a win too! CACR Score - See legend Six Minute Walk Test Hgb A1c - pre-diabetes = 6.1 - 6.4Diabetes > 6.4 The lower the better. Is your better or the same? Cholesterol - Total cholesterol < 4.0 LDL < 2.0 or 50% below baseline Triglycerides < 1.8 HDL > 1.0 (higher the better) PHQ 4 - Assesses your level of anxiety and depression Beck Depression Scale - The lower the score the better (see legend) Self-Efficacy Scale - The higher the better (see legend) Health Literacy Scale - The higher the better (see legend)

Look at your activity log. Look at the very first day. What were your vitals? How much activity could you do? Now scroll to the last day. Can you see a difference? More importantly, can you feel a difference?

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+ Moving Forward



- You are a survivor
- You are a source of inspiration for others
- Attitude is everything
- Pay it forward: Share you experience and knowledge with others
- Get involved
- Get out of your comfort zone
- Be proud



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Health PEI Santé Î.-P.-É.

One Island Health System

Un système de santé unique

Provincial Cardiac and Pulmonary Rehabilitation

Four Neighborhoods Health Centre **Phone:** (902) 388-1405 Fax: (902) 368-6936

To:

Fax:

Cardiac Rehabilitation Patient Summary Report

Patient: MRN:

Patients participating in the Provincial Cardiac Rehabilitation Program had the opportunity to attend education and supervised exercise classes 2 days per week for 12 weeks. Assessment data was collected pre and post participation. The following is a summary report specific to the patient identified above.

Assessment Data	Pre	Post
Blood Pressure		
Resting HR		
Height (cm)		
Weight (kg)		
BMI		
Waist Circumference (inches)		
CACR Score	Contract Magnetic Street Street Street	
6MWT	Predicted distance	
	Total distance/RPE	1 B.1
	Percent predicted	
Hgb a1C		
Fasting Lipid Profile	Total	Total
	HDL	HDL
	LDL	LDL
	Non HDL Ratio	Non HDL Ratio
	Triglycerides	Triglycerides
Surveys	Health Literacy Score	Health Literacy Score
	Beck Depression Score	Beck Depression Score
	Self-Efficacy Scale	Self-Efficacy Scale
Attendance		

Additional Summary Notes:

Appendix F

Patient Satisfaction Survey



1 2 3 4 5 Not at all Confident Confident Confident 7. Please comment on what education topics you found to be the most helpful? 8. Are there any changes you would recommend to the education classes? 9. Would you recommend this program to someone else? O Yes O No 10. What did you find the most valuable? 11. What changes would you recommend? 12. Additional Comments:							
Not at all extremely Confident Confident 7. Please comment on what education topics you found to be the most helpful? 8. Are there any changes you would recommend to the education classes? 9. Would you recommend this program to someone else? O Yes 9. Would you find the most valuable? 11. What changes would you recommend? 12. Additional Comments:	1	2	3	4	5		
Confident Confident 7. Please comment on what education topics you found to be the most helpful? 8. Are there any changes you would recommend to the education classes? 9. Would you recommend this program to someone else? O Yes O No 10. What did you find the most valuable? 11. What changes would you recommend? 12. Additional Comments:	Not at all				extremely		
7. Please comment on what education topics you found to be the most helpful? 8. Are there any changes you would recommend to the education classes? 9. Would you recommend this program to someone else? O Yes O No 10. What did you find the most valuable? 11. What changes would you recommend? 12. Additional Comments:	Confident				Confident		
8. Are there any changes you would recommend to the education classes? 9. Would you recommend this program to someone else? O Yes O No 10. What did you find the most valuable? 11. What changes would you recommend? 12. Additional Comments:	7. Please commer	it on what	t educatior	ı topics y	ou found to be	the most h	elpful?
8. Are there any changes you would recommend to the education classes? 9. Would you recommend this program to someone else? O Yes O No 10. What did you find the most valuable? 11. What changes would you recommend? 12. Additional Comments:	1						
8. Are there any changes you would recommend to the education classes? 9. Would you recommend this program to someone else? O Yes O No 10. What did you find the most valuable? 11. What changes would you recommend? 12. Additional Comments:							
9. Would you recommend this program to someone else? O Yes O No 10. What did you find the most valuable? 11. What changes would you recommend? 12. Additional Comments:	3. Are there any c	hanges ye	ou would r	recommen	nd to the educa	ation classes	s?
9. Would you recommend this program to someone else? O Yes O No 10. What did you find the most valuable? 11. What changes would you recommend? 12. Additional Comments:			1.1				
9. Would you recommend this program to someone else? O Yes O No 10. What did you find the most valuable? 11. What changes would you recommend? 12. Additional Comments:							
9. Would you recommend this program to someone else? O Yes O No 10. What did you find the most valuable? 11. What changes would you recommend? 12. Additional Comments:							
10. What did you find the most valuable? 11. What changes would you recommend? 12. Additional Comments:	9. Would you rec	ommend	this progra	m to som	eone else?	O Yes	O No
10. What did you find the most valuable? 11. What changes would you recommend? 12. Additional Comments:			1 0				
11. What changes would you recommend? 12. Additional Comments:	What did you	find the r	nost valua	ble?			
11. What changes would you recommend? 12. Additional Comments:						- 1	
11. What changes would you recommend? 12. Additional Comments:							
11. What changes would you recommend? 12. Additional Comments:							
 11. What changes would you recommend? 12. Additional Comments: 							
12. Additional Comments:							
12. Additional Comments:	11. What changes	would yo	ou recomm	nend?			
2. Additional Comments:	1. What changes	would ye	ou recomm	nend?		·	
12. Additional Comments:	1. What changes	would ye	ou recomm	nend?		к - 7	
2. Additional Comments:	1. What changes	would yo	ou recomm	nend?		. , -	
	11. What changes	would yo	ou recomm	nend?			
	11. What changes	s would yo	ou recomm	nend?			
	 What changes Additional Comparison 	s would yo	ou recomm	nend?			
	11. What changes	s would yo	ou recomm	nend?			
	11. What changes	s would yo	ou recomm	end?			

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Appendix G

Pyschosocial-emotional Measures

Self-Efficacy for Managing Chronic Disease 6-Item Scale

We would like to know how confident you are in doing certain activities. For each of the following questions, please choose the number that corresponds to your confidence that you can do the tasks regularly at the present time.

- How confident are you that you can keep the fatigue caused by your disease from interfering with the things you want to do?
- 2. How confident are you that you can keep the physical discomfort or pain of your disease from interfering with the things you want to do?
- How confident are you that you can keep the emotional distress caused by your disease from interfering with the things you want to do?
- How confident are you that you can keep any other symptoms or health problems you have from interfering with the things you want to do?
- 5. How confident are you that you can do the different tasks and activities needed to manage your health condition so as to reduce you need to see a doctor?
- 6. How confident are you that you can do things other than just taking medication to reduce how much you illness affects your everyday life?

not at all											totally
confident	1	2	3	4	5	6	7	8	9	10	confident
not at all confident	 1	 2	 3	 4	 5	 6	 7	8	9	 10	totally confident
not at all											totally
confident	1	2	3	4	5	6	7	8	9	10	confident
not at all									9		totally
confident	1	2	3	4	5	6	7	8		10	confident
not at all											totally
confident	1	2	3	4	5	6	7	8	9	10	confident
not at all											totally
confident	1	2	3	4	5	6	7	8	9	10	confident

Scoring

The score for each item is the number circled. If two consecutive numbers are circled, code the lower number (less self-efficacy). If the numbers are not consecutive, do not score the item. The score for the scale is the mean of the six items. If more than two items are missing, do not score the scale. Higher number indicates higher self-efficacy.

Characteristics

Tested on 605 subjects with chronic disease

	No. of items	Observed Range	Mean	Standard Deviation	Internal Consistency Reliability	Test-Retest Reliability
Γ	6	1-10	5.17	2.22	.91	NA

Source of Psychometric Data

Stanford/Garfield Kaiser Chronic Disease Dissemination Study. Psychometrics reported in: Lorig KR, Sobel, DS, Ritter PL, Laurent, D, Hobbs, M. Effect of a self-management program for patients with chronic disease. *Effective Clinical Practice*, 4, 2001, pp. 256-262.

PHQ-4: THE FOUR-ITEM PATIENT HEALTH QUESTIONNAIRE FOR ANXIETY AND DEPRESSION

Over the last two weeks, how often have you been bothered by the following problems?	Not at all	Several days	More than half the days	Nearly every day
Feeling nervous, anxious or on edge	0	1	2	3
Not being able to stop or control worrying	0	1	2	3
Feeling down, depressed or hopeless	0	1	2	3
Little interest or pleasure in doing things	0	1	2	3
TOTALS				

Total score is determined by adding together the scores of each of the 4 items. Scores are rated as normal (0-2), mild (3-5), moderate (6-8), and severe (9-12). Total score \geq 3 for first 2 questions suggests anxiety. Total score \geq 3 for last 2 questions suggests depression.

Reprinted with permission from Kroenke K, Spitzer RL, Williams JB, Löwe B. An ultra-brief screening scale for anxiety and depression: the PHQ-4. Psychosomatics. 2009;50(6):613-21. From Principles of Neuropathic Pain Assessment and Management, November 2011.

Roch	Beck Dep Inventory	ression			Basenne
0477	CRTN:	CRF number:		Page 14	patient inits:
BD	-11				
Name:		1	_ Marital St	abas.	
Occupation.			Education	- J.	
hen pick out the weeks, including seem to apply eq statement for any	one statement in eac g today. Circle the nu ually well, circle the hi y group, including Iter	the of 21 groups of s h group that best de mber beside the stat ghest number for th n 16 (Changes in Sle	scribes the v ement you h at group. Be seping Patter	rease read each vay you have b ave picked. If s sure that you o n) or Item 18 (een feeling during the past two everal statements in the group do not choose more than one (Changes in Appetite).
1. Sadness			6. Punis	hment Feeling	15
1 do no	ot feel sad.		01	don't feel I an	being punished.
1 I feel s	ad much of the time.		1 1	feel I may be p	punished.
2 I am si	ad all the time.		2 1	expect to be p	anished.
3 I am so	o sad or unhappy that	l can't stand it.	3 I	feel I am being	g punished.
2. Pessimism	1		7. Self.(Dislike	
0 I am not	discouraged about m	ry future.	0 1	feel the same :	about myself as ever.
1) I feel n	nore discouraged abou	t my future than I	01	have lost conf	idence in myself.
used to	o be.		2 1	am disappoint	ed in myself.
2 I do n	ot expect things to wor	k out for me.	3 I	dislike myself	
3 I feel f	my future is hopeless a	nd will only get	R. Self	Criticalness	
			0 1	don't criticize	or blame myself more than usua
3. Past Failu	re		1 1	am more critic	al of myself than I used to be.
0 Idon	ot teel like a tailure.		(2) 1	criticize mysel	f for all of my faults.
2 Acth	taked more than I sho	failures	3 1	blame myself i	for everything bad that happens.
3 L feel	arm a total failure as a	DEPSOD.	Q Quicie	al Thoughts o	e Wishes
		1	0.1	don't have an	thoughts of killing movel(
4. Loss of Pl	easure		Di	have thoughts	of killing myself, but I would
0 I get as t	nuch pleasure as 1 ev 1 enjoy.	er did from the	-	ot carry them o	wit.
D Idon	t enjoy things as much	as I used to.	2 1	would like to	kill myself.
2 I get v	very little pleasure from	a the things I used	3 1	would kill mys	self if I had the chance.
to enj	oy.	de dine land	10. Cryin	9	
3 I can	t get any pleasure from ov.	the unings I used	0 1	don't cry anyn	nore than I used to.
			1 1	cry more than	I used to.
5. Guilty Fee	slings	1000	2 1	cry over every	little thing.
O Idon	t sees particularly guil	n I have done or	01	feel like crying	g, but I can't.
shoul	d have done.	a r mare come or			
2 I feel	quite guilty most of th	e time.			
	guilty all of the time.		a series and the		
3 I feel	and the second				

Ch* Inventory 77 CRTN:CRF number	1 Page 15 patient inits:
Agitation Agitation an no more restless or wound up than usual. I feel more restless or wound up than usual. I an so restless or agitated that it's hard to stay still. I am so restless or agitated that I have to keep moving or doing something. Loss of Interest I have not lost interest in other people or activities. I am less interested in other people or things than before. I have lost most of my interest in other people or things.	 17, Initability 1 am no more irritable than usual. 1 am more irritable than usual. 2 I am much more irritable than usual. 3 I am irritable all the time. 18, Changes in Appetite 19 thave not experienced any change in my appetite. 19 The My appetite is somewhat less than usual. 19 My appetite is somewhat greater than usual. 20 My appetite is much less than before. 20 My appetite is much greater than usual. 3a I have no appetite at all.
 3 It's hard to get interested in anything. 13. Indecisiveness Imake decisions about as well as ever. Ifind it more difficult to make decisions than usual. I have much greater difficulty in making decisions than I used to. I have trouble making any decisions. 14. Worthlessness I do not feel I am worthless. I don't consider myself as worthwhile and useful as I used to. I feel more worthless as compared to other people. I feel more worthlest 	 3b I crave food all the time. 19. Concentration Difficulty I can concentrate as well as ever. I can't concentrate as well as usual. 2 It's hard to keep my mind on anything for very long. 3 I find I can't concentrate on anything. 20. Tiredness or Fatigue am no more tired or fatigued than usual. I get more tired or fatigued more easily than usual. 21 am too tired or fatigued to do a lot of the things I used to do. 3 I am too tired or fatigued to do most of the things I used to do.
 15. Loss of Energy 01 have as much energy as ever. 1 have less energy than 1 used to have. 21 don't have enough energy to do very much. 3 I don't have enough energy to do anything. 15. Changes in Sleeping Pattern. 01 have not experienced any change in my sleeping pattern. 1a I sleep somewhat more than usual. 15. I sleep a lot more than usual. 2b I sleep a lot less than usual. 2b I sleep most of the day. 3b I wake up 1.2 hours early and can't get back to sleep. 	 21. Loss of Interest in Sex 01 have not noticed any recent change in my interest in sex. 1 am less interested in sex than I used to be. 21 am much less interested in sex now. 3 Thave lost interest in sex completely.

Appendix H

Patient Summary Report

Health PEI Santé Î.-P.-É.

One Island Health System

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Provincial Cardiac and Pulmonary Rehabilitation Four Neighborhoods Health Centre Phone: (902) 388-1405 Fax: (902) 368-6936

To:

Fax:

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6MWT	Predicted distance	
	Total distance/RPE	- 18
	Percent predicted	
Hgb a1C		
Fasting Lipid Profile	Total	Total
	HDL	HDL
	LDL	LDL
	Non HDL Ratio	Non HDL Ratio
	Triglycerides	Triglycerides
Surveys	Health Literacy Score	Health Literacy Score
	Beck Depression Score	Beck Depression Score
	Self-Efficacy Scale	Self-Efficacy Scale
Attendance		

Additional Summary Notes: