- Toolkit -

Guidelines for Implementing Promising Practices in Diabetes Prevention
This toolkit was developed to support advancing the priorities of the Ministry of Health and Long-Term Care (MOHLTC) and the Diabetes Prevention Projects (DPP) within the Health Promotion Division.

The toolkit is a collaborative effort of the Nutrition Resource Centre (NRC) and the Physical Activity Resource Centre (PARC), and includes a series of evidence-based recommendations or promising practices relevant to diabetes prevention. This Toolkit may be used to inform an existing program or the development of a new diabetes prevention program.

Contributors

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-Report-

Guidelines for Implementing Promising Practices in Diabetes Prevention
Introduction

Guiding Framework

Guiding Principles

Key Concepts

Promising Practices for Diabetes Prevention
1. Uses a systematic approach to education and program planning
2. Designed for primary prevention to modify risk for type 2 diabetes
3. Applies a mix of behaviour change interventions and techniques that target healthy eating AND physical activity behaviours
4. Applies a mix of multiple health promotion strategies
5. Includes social support as a key component of an effective behaviour modification program
6. Delivered in multiple community-based settings
7. Uses program staff with relevant expertise to develop a quality-assured program AND provides appropriate and sufficient training to staff
8. Reports program evaluation results in the form of a report or peer-reviewed journal article AND provides evidence of effectiveness in eliciting desired behaviour changes

Snapshot

Appendices
A. Best Practice Diabetes Prevention Programs
B. Promising Practice Diabetes Prevention Programs
How should this report be used?

This report was developed to inform a range of diabetes prevention projects/programs by highlighting promising practices that can be implemented to achieve an effective diabetes prevention project/program. The document provides a guiding framework and principles as the foundation for planning diabetes prevention activities, as well as a reference to an evidence base to support the development of health promotion programming. The report should be used to embed evidence-informed practices in diabetes prevention projects/programs and to provide assistance to develop projects into a best or promising practice program.

Each promising practice has the following series of information that provide context:

- **What**: a definition and description of the promising practice
- **Why**: evidence-informed content indicating why it is considered a promising practice
- **How**: evidence-informed recommendations of how the promising practice can be implemented into current diabetes prevention programs/projects
- **Practical Examples**: examples of how the promising practice has been implemented in existing best or promising practice diabetes prevention programs

The report concludes with the following sections to further support your diabetes prevention programming:

- **Snapshot** - a summary of the guidelines for implementing each of the promising practices
- **Appendix A** - Best Practice Diabetes Prevention Program information
- **Appendix B** - Promising Practice Diabetes Prevention Program information

What is this report?

This report provides a series of promising practices for diabetes prevention that are consistent among evidence-based and effective best or promising practice diabetes prevention programs. The promising practices include:

1. Uses a systematic approach to education and program planning
2. Designed for primary prevention to modify risk for type 2 diabetes
3. Applies a mix of behaviour change interventions and techniques that target healthy eating AND physical activity behaviours
4. Applies a mix of multiple health promotion strategies
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Introduction

**What is diabetes?**

Diabetes is a chronic disease which can lead to poor health outcomes and diminished quality of live if not managed properly.\(^1\) Diabetes occurs when the body is unable to produce insulin or when the body is unable to use insulin properly.\(^2\) Insulin is a hormone produced by the pancreas that helps regulate the amount of glucose in the blood and helps your body use glucose as energy.\(^1\) With diabetes, glucose builds up in the blood and can damage blood vessels, nerves and organs over time.\(^2\) These are known as diabetes complications.\(^1,3\)

For information about the types of diabetes, the risk factors for type 2 diabetes, diabetes-related complications and the prevention of diabetes, click here to visit the Canadian Diabetes Association’s website.

**Growing Prevalence of Diabetes**

In 2012, the Auditor General of Ontario reported that the leading cause of death and disability in Ontario is chronic disease, with diabetes ranked as one of the most common chronic diseases in Ontario and Canada.\(^4,5\) The number of people with diabetes in Ontario is expected to quadruple within two decades - from 546,000 in 2000, reaching 1.17 million in 2010 and climbing to an estimated 1.9 million by 2020.\(^4,6\) In one decade alone (1999-2009), the prevalence of diabetes in Canada has increased by 70% with the economic burden on the health care system nearly doubling to a staggering 12.2 billion annually.\(^5,7\)

**Growing Economic Burden of Diabetes**

Diabetes is a complex chronic condition requiring the health knowledge and skills to perform the daily self-management behaviours that are necessary to control diabetes and prevent serious health complications.\(^1,5,7\) In Ontario, diabetes complications account for 69% of limb amputations, 53% of kidney dialysis/transplants, 39% of heart attacks and 35% of strokes.\(^4\) With medical costs twice as high for individuals with diabetes than those without, the growing prevalence of diabetes is increasingly consuming health care resources.\(^4\) It is estimated that a patient with diabetes costs the Ontario healthcare system a minimum $3000 to more than $5000 year.\(^4\)
Having an unhealthy weight/obesity is the major preventable risk factor for type 2 diabetes.\textsuperscript{5,8}

- Overweight/obesity in adults increases risk for type 2 diabetes by two to four times.\textsuperscript{5}
- Obesity has been found in 80-90\% of adults with type 2 diabetes.\textsuperscript{8-9}
- Having a higher Body Mass Index is positively associated with increased overall mortality.\textsuperscript{9}

Regular physical activity and healthy eating are critical components in preventing obesity and type 2 diabetes.\textsuperscript{5,8}

**Diabetes Prevention**

Type 2 diabetes has become a major public health issue in Ontario.\textsuperscript{6} With growing rates of diabetes, data suggests that 20\% of diabetes remains undiagnosed; further increasing the risk of poor health outcomes for Ontarians.\textsuperscript{5} It has been estimated that more than 50\% of type 2 diabetes may be prevented or delayed through primary prevention.\textsuperscript{10}

The modification of lifestyle factors that reduce risk for diabetes (specifically, healthy eating, physical activity and moderate weight loss) has proven to be highly effective in reducing incidence of diabetes and improving overall health.\textsuperscript{9,11-12} At the population level though, it is not easy to change behaviours.\textsuperscript{8} It requires multiple strategies to:

- raise awareness about the profound impact that our daily behaviours have on health in the short and long-term;
- teach the benefits of a healthy lifestyle;
- build the necessary skills that empower individuals to make healthier choices;
- provide the conditions and opportunities that increase healthy behaviours; and
- make the healthy choice the easy choice.\textsuperscript{8-9,12-16}

The ideal approach to diabetes prevention at the population level is comprehensive in scope.

**Diabetes prevention requires:**

- a targeted high-risk approach; AND
- a group/population-based approach with education and prevention strategies.\textsuperscript{9,12,14-16}
Lifestyle interventions are critical to modify risk factors and prevent diabetes.\textsuperscript{9,15-18} However, the primary targets for such programs are the individual-level factors that influence health behaviours, such as level of knowledge, personal skills and motivation to perform health behaviours.\textsuperscript{9,17-18} Without considering the broader determinants that influence health and health behaviours - including the social, economic, and physical environments - the behaviour modification approach may not produce desired outcomes because behaviour change may be beyond the individual’s control.\textsuperscript{17}

To increase the effectiveness of health promotion programming and to promote health equity, this report uses the Population Health Promotion Model as the guiding framework for the primary prevention of diabetes.\textsuperscript{17,19} The model provides a framework for a range of multi-faceted and interrelated health promotion actions that can be taken at various levels to better address the broad determinants of health and ultimately have a greater impact on diabetes prevention.\textsuperscript{17,19}

The Population Health Promotion Model for Diabetes Prevention

Population health approach - ‘Population health’ is an approach to health that aims to improve the health of the entire population and to reduce health inequities among population groups. In order to reach these objectives... population health focuses on the interrelated conditions and factors that influence the health of populations over the life course, identifies systematic variations in their patterns of occurrence, and applies the resulting knowledge to develop and implement policies and actions to improve the health and well-being of those populations.\textsuperscript{20(p1)}

The model provides the following three components to guide your actions to improve population health through the Diabetes Prevention Program.\textsuperscript{19}

1. **Determinants of health** (WHAT should we take action on)
2. **Comprehensive action strategies** (HOW should we take action)
3. **Levels of action** (With WHOM should we act)

1. **Determinants of health** are the broad and ‘complex set of factors or conditions that determine the level of health of every Canadian’.\textsuperscript{21(p1)} While there are non-modifiable factors, such as biology and genetic endowment, several determinants of health are social, environmental and lifestyle factors that can be modified to improve the health of the population.\textsuperscript{21-22}

2. **Comprehensive action strategies** are methods to bring about the changes that improve health.\textsuperscript{19} There are a variety of health promotion strategies that could be implemented by program staff and administrators in collaboration with community stakeholders.\textsuperscript{19} As identified in the Ottawa Charter for Health Promotion, the **comprehensive action strategies** include\textsuperscript{19, 23}:

   - Strengthen community action
   - Build healthy public policy
   - Create supportive environments
   - Develop personal skills
   - Reorient health services

3. **Levels of action** for targeted health promotion include\textsuperscript{19}:

   - Individual
   - Family
   - Community
   - Sector/system
   - Society

The population health model also identifies the need for **evidence-based decision making** to underpin health promotion program development and activities.\textsuperscript{19} Evidence-informed public health is defined as ‘the process of distilling and disseminating the best available evidence from research, context and experience, and using that evidence to inform and improve public health practice and policy.’\textsuperscript{24(p1)}
The Social Determinants of Diabetes

Within Canada, there is an unequal distribution of type 2 diabetes throughout various socio-economic and ethnic groups.\textsuperscript{5,17,25} For example:

- In Canada, the prevalence of diabetes steadily decreases with increasing income.\textsuperscript{25}
- In Ontario, low-income adults with diabetes have more physician visits and higher rates of amputations than adults with diabetes and higher incomes - suggesting poorer health outcomes for low-income individuals despite access to health care providers.\textsuperscript{17,26}
- In Ontario, prevalence of diabetes has been reported to be twice as high among South Asian, African, Hispanic and Aboriginal adults than Caucasian/European adults.\textsuperscript{17,26}

The Population Health Promotion Model for Diabetes Prevention and Health Equity

The Population Health Promotion Model\textsuperscript{19-20,27} is grounded in the understanding that there are broader social, economic, and environmental factors that interplay to influence health behaviours, health status and, ultimately, the inequitable distribution of diabetes in the population.\textsuperscript{19-20,27} Understanding health in terms of these broad determinants provides program planners insights into the entry points to health and helps to inform program decisions to ensure those at-risk for diabetes and/or those who are disproportionately affected by diabetes will be reached through targeted prevention programming.\textsuperscript{28} The population health approach in diabetes prevention programming specifically aims to reduce health inequities, or the differences in health which are unnecessary, unfair or unjust, but ultimately avoidable.\textsuperscript{27,29}

To reduce disparities in diabetes rates and to increase effectiveness of diabetes prevention programming, it is important to build strategies which address the determinants of health into the program design.\textsuperscript{17} The complexity of diabetes prevention requires multiple strategies, settings and cross-sector partnerships to act on the broad range of interrelated health factors.\textsuperscript{27}

Resources & Tools

- Implementing the population health approach
- The population health template - key elements and actions that define a population health approach
- The population health template working tool
- The population health template handout
- Social Determinants of Health: The Canadian Facts
- How programs affect population health determinants: A workbook for better planning and accountability
- Reducing health disparities related to diabetes: Lessons learned through the Canadian Diabetes Strategy
- Evidence-informed decision making: Information and tools
There are a number of assumptions and values which underlie the population health promotion model. These are reflected in the following principles of practice, which aim to guide health promotion activities such that efforts may be more effective and have a greater impact on population health.

1. Evidence-Informed Decision Making
Evidence-informed decision making is ‘the purposeful and systematic use of the best available evidence to inform the assessment of various options and related decision making in practice, program development, and policy making. This process involves searching for, accessing and assessing the relevance and quality of evidence; interpreting this evidence and identifying associated implications for practice, program and policy decisions; adapting this evidence in light of the local context; implementing this evidence; and evaluating its impact’. 

2. Diversity
Diversity is the difference between and across groups of people. This may include biological diversity or differences in physical abilities, behaviours, values and beliefs. Diversity in the context of health promotion has also been defined as ‘the differences that make a difference, usually with respect to unequal access to social, political, and economic power, as well as privilege and prestige’. A key distinction here is that diversity does not simply mean difference but difference from the majority population that contributes to positive or negative health outcomes. While health promoters should be principled with respect to diversity, they must also be cognisant of differences which contribute to health inequalities.

3. Health Equity
Healthy inequality ‘refers to the differences, variations, and disparities in the health achievements of individuals and groups’. When health inequalities are deemed to be unfair, stemming from some form of social injustice or the system, these are considered to be health inequities. The principle of health equity in public health asserts that all people have a right to health and that health promoters must act upon the social determinants of health to ensure a fair, just and equitably healthy society.

4. Cultural Competency
Cultural competency includes a number of concepts relevant to health promotion programming, including cultural awareness, sensitivity, respect, knowledge and skills, with the ability to use these competencies in cross-cultural interactions and situations. Culturally competent program planners integrate cultural knowledge, skills and sensitivity and employ culturally appropriate strategies, approaches and materials with cross-cultural populations. The following are considered critical elements of cultural competency:

- valuing diversity (cultural sensitivity);
- capacity for cultural self-assessment;
- awareness of cross-cultural interaction “dynamics”; 
- acquiring institutionalized cultural knowledge; and
- adaptations to service delivery that reflect an understanding of cultural diversity.

As a guiding principle, cultural competency should steer the health promoter at all phases of the program cycle - including program planning, development, implementation and evaluation.

5. Partnership and Collaboration
The population health approach calls for collaboration across multiple sectors and levels for a shared responsibility and accountability for population health outcomes. In order to implement a range of comprehensive health promotion strategies at various levels of action, from the individual to the community or societal level, community stakeholders must be engaged in collaborative community efforts. Community partnerships and collaborations are critical in building capacity to address common health concerns and empowering communities to make a positive impact on population health.

As a key element of the population health approach, the community partnership building process includes:

- engaging partners early on to establish shared values and alignment of purpose;
- establishing concrete objectives and focus on visible results;
- identifying and supporting a champion;
- investing in the alliance building process;
- generating political support and building on positive factors in the policy environment; and
- sharing leadership, accountability and rewards among partners.
**Key Concepts**

**What is a best practice?**
‘Best practices are interventions, programs/services, strategies, or policies which have demonstrated desired changes through the use of appropriate well documented research or evaluation methodologies. They have demonstrated, through multiple implementations, the ability to be replicated and the potential to be adapted and transferred. A best practice is one that is most suitable given the available evidence and particular situation or context. In the context of population health/health promotion, such practices are used to demonstrate what works for enhancing the health status and health-related outcomes of individuals and communities, and to accumulate and apply knowledge about how and why they work in different situations and contexts.’

**What is a promising practice?**
Promising practices are ‘programs and strategies that have some scientific research or data showing positive outcomes in delaying an untoward outcome, but do not have enough evidence to support generalizable conclusions.’ A promising practice may be an intervention, program/service, strategy or policy that shows potential (or “promise”) for developing into a best practice.

**What does evidenced-based mean?**
Evidence-based means ‘strategies, activities, or approaches which have been shown through scientific research and evaluation to be effective at preventing and/or delaying an untoward outcome.’

**What is best available research evidence?**
Best available research evidence ‘is information derived from scientific inquiry that assists in determining whether or not a prevention program, practice, or policy is actually achieving its intended outcomes. Meaning, did it do what it was supposed to do? The more rigorous the evaluation in its research design, (e.g., randomized control trials, quasi-experimental designs with matched comparison groups), its implementation (e.g., fidelity), and the extent to which it has been replicated in different settings and with different populations, the more compelling the research evidence, indicating whether or not a program, practice, or policy is [effective]. Best available research evidence can also help to determine whether or not a prevention strategy is harmful.’

**What does evidence-informed decision making mean?**
Evidence-informed decision making is ‘the purposeful and systematic use of the best available evidence to inform the assessment of various options and related decision making in practice, program development, and policy making. This process involves searching for, accessing, assessing the relevance and quality of evidence; interpreting this evidence and identifying associated implications for practice, program and policy decisions; adapting this evidence in light of the local context; implementing this evidence; and evaluating its impact.’

**What is an effective diabetes prevention program?**
An effective diabetes prevention program:‘
- Provides evidence for eliciting desired changes related to primary prevention of diabetes including:
  - increased awareness about diabetes risk;
  - increased healthy eating; and
  - increased physical activity.
- Verifies that the observed changes are a result of the program’s activities.
- Conducts process and outcome evaluations for continuous improvement.
- Documents accountability for program spending.'
1. Uses a systematic approach to education and program planning

What?

A systematic or systems approach to health education and program planning is grounded in systems theory, which assumes that the elements of a program - or “system”- work differently than the program as a whole and that the system is greater than the sum of its parts. Systems theory implies that all elements of the program are interconnected and, therefore, the outcomes of a program may be influenced by individual program elements or factors external to the system/program. The systems approach ‘provides a [logical] approach to designing programs and units of instruction...[and] a process for considering the essential parts of the planning, implementation and evaluation of [a] single unit of instruction, a program or an entire curriculum.’

Why?

A systems approach to planning a health promotion activity or program ensures that all of the elements and their interconnections, the functions and purpose of the program/activity, as well as the feedback from the evaluation are considered and used to improve the system to determine the most efficient and effective program.

<table>
<thead>
<tr>
<th>A systems/systematic approach to program planning includes:</th>
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<tbody>
<tr>
<td>• engaging the learners/program participants and the community;</td>
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<td>• conducting a needs assessment and baseline research;</td>
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<td>• developing goals, standards and objectives;</td>
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<td>• identifying constraints and barriers;</td>
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<tr>
<td>• selecting theory-driven and evidence-based strategies, methods, and techniques;</td>
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<tr>
<td>• developing tailored program/project materials (concept test, develop, review, pilot test, revise);</td>
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<tr>
<td>• implementing the program;</td>
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<tr>
<td>• conducting formative and summative evaluations; and</td>
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<td>• using evaluation data for continuous program improvement.</td>
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How?

- Use Jones & Bartlett Learning’s Systems Approach Workbook for Health Education and Program Planning as a guide to learn about the systems approach and to work through each step in the program planning process.
- Use Public Health Ontario’s resources to systematically plan, develop, implement and evaluate health promotion programs: Skills for Health Promotion Toolkit and Priority Setting Process Checklist.
- Use Public Health Ontario’s Online Health Program Planner to complete interactive worksheets that will help you to systematically plan and make evidence-informed program decisions.
- Use Ontario Public Health Association’s Towards Evidence-Informed Practice (TEIP) tools: program assessment, evidence and evaluation tools to build capacity for evidence-informed practice.
- Use University of Kansas’ toolkit for Developing an Intervention.
- Visit University of Wisconsin’s free online course or Community Toolbox website to learn about logic models.
- Use Innovation Network’s Logic Model Workbook to help develop a logic model for your project/program.
- Explore Public Health Ontario’s Webinar slides for an Introduction to Models and Theories.
- Use Riverside Community Health Foundation’s document entitled Theories and Models Frequently Used in Health Promotion to help select the appropriate theory(s)/model(s) to guide the design of project/program activities.
- Use the National Collaboration Centre for Methods and Tools’ Evidence-Informed Decision Making in Public Health model as a framework for programmatic decision-making.
2. Designed for primary prevention to modify risk for type 2 diabetes

What?

Primary prevention means to prevent a condition (such as diabetes) that does not yet exist. As obesity is the major risk factor for type 2 diabetes, obesity is also the main target for primary prevention. At the population level, primary prevention of both obesity and diabetes can be achieved by structured lifestyle interventions which lead to healthier eating and increased physical activity.

A risk prediction tool for type 2 diabetes includes a number of risk scores for characteristics that have been developed to help identify individuals at risk for developing diabetes, having undiagnosed diabetes or having prediabetes. Individuals who are identified at risk would benefit from a primary prevention intervention to reduce the risk of developing diabetes by adopting healthy eating and physical activity behaviours.

*Note: Risk assessment tools cannot diagnose diabetes. Diabetes can go undetected for many years, so it is important to refer identified at-risk individuals to a primary care physician for diabetes testing.

Why?

Individuals living with diabetes may experience a range of health and lifestyle challenges including: strict health and structured lifestyle regimes; varying degrees of mental and/or physical illness; and the potential for diabetes complications which may lead to disability or premature death. At the societal level, the economic burden of diabetes on our health care system is immense and steadily increasing. However, it has been estimated that more than 50% of type 2 diabetes could be prevented through primary prevention interventions which target healthy eating and physical activity behaviours. The evidence also has shown that, for individuals with prediabetes, every kilogram of weight lost from physical activity and healthy eating is associated with a 16% diabetes risk reduction.

Lifestyle modification interventions promote overall health and well-being and reduce risk for diabetes and other chronic conditions, such as obesity, cardiovascular disease and cancer. When all costs associated with diabetes are considered - including economic or social costs and quality of life - risk prediction tools, population screening for high-risk individuals and early lifestyle intervention to prevent diabetes are considered highly cost-effective.
**Practical Examples of Best or Promising Practice Programs**

<table>
<thead>
<tr>
<th>Program</th>
<th>Primary Prevention</th>
<th>Lifestyle Intervention</th>
<th>Risk Assessment</th>
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</thead>
<tbody>
<tr>
<td><strong>Vitality-Healthy Lifestyles Program</strong></td>
<td>Yes - Recruits individuals with risk factors for diabetes; program participants identified as overweight/obese and having poor mental health and/or depression</td>
<td>Yes - Program is focused on behaviour modification and weight management</td>
<td>Yes - Risk assessed using the Canadian Guidelines for Body Weight Classification in Adults</td>
</tr>
<tr>
<td><strong>Diabetes Prevention Program</strong></td>
<td>Yes -Recruits individuals with prediabetes or considered high-risk for developing diabetes</td>
<td>Yes - Provides intensive training in healthy eating/diet, physical activity and behaviour modification</td>
<td>Yes - Risk assessed and participants also recruited based on positive screen test for prediabetes*</td>
</tr>
</tbody>
</table>

*Many diabetes prevention programs target both primary and secondary prevention as intensive lifestyle modification interventions have proven to be highly effective in reducing the incidence of diabetes among individuals with prediabetes.*

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**How?**

- **Recommend that all individuals be assessed for type 2 diabetes risk** as per the Canadian Diabetes Association’s Clinical Practice Guidelines.9

- **Publicize and use the Canadian Diabetes Risk Assessment Questionnaire (CANRISK) as a statistically valid tool suitable for diabetes risk assessment in the Canadian population** (free of charge on the internet) and provide information needed to complete and interpret the results.9,16,46

- **Use the Canadian Guidelines for Body Weight Classification in Adults and Quick Reference Tool for Professionals**, as a weight classification system to measure health risk associated with overweight and abdominal obesity.45

- **Refer all individuals identified at risk to a primary care physician for diabetes testing and to discuss how to manage their risk.9,16**

- **Target and encourage at-risk individuals to participate in diabetes prevention program activities to modify risk factors associated with diabetes to help prevent or delay the onset of diabetes and diabetes complications.**10,46

- **Implement a structured lifestyle intervention that focuses on healthy eating, increased physical activity, and achieving or maintaining a healthy weight.**9-10,15

- **Use the following healthy eating and physical activity targets to be effective in achieving moderate weight loss (~ 5%) to reduce risk for developing diabetes among individuals having excess weight, obesity or prediabetes:**
  - a low-calorie, low-fat, high-fibre diet; and
  - a moderate-to-vigorous intensity physical activity regime (at least 150 minutes per week).9,15
3. Applies a mix of behaviour change interventions and techniques that target healthy eating AND physical activity behaviours

What?

A behaviour change intervention is a set of coordinated activities designed to change patterns of behaviour and promote a healthy lifestyle. To prevent type 2 diabetes, as well as other chronic diseases, the main behavioural risk factors to modify are unhealthy eating and physical inactivity.

A behaviour change technique is a specific method or systematic procedure implemented as a component of an intervention designed to change behaviour. There are well-defined and established behaviour change techniques that have demonstrated an increase in the effectiveness of physical activity and healthy eating interventions. Some of these include:

- **Goal-setting and goal review** - involves prompting participants to set achievable and relevant goals for targeted behaviours and evaluating the achievement of the behavioural goals.
- **Self-monitoring** - involves a system for the individual to track the targeted behaviour(s) and, in some cases, record the internal/external cues that influence performance of the behaviour.
- **Performance review** - involves providing feedback on performance of behaviours.
- **Relapse prevention** - involves prompting participants to identify barriers to making permanent changes and developing a plan tailored to maintaining a new behaviour(s); includes problem solving components, coping plans and emotional support.
- **Individual tailoring** - involves the personalization of messages, information and/or counselling to stages of change, participants’ resources, context and/or culture.
- **Motivational interviewing** - involves a combination of decisional balance and relapse prevention techniques delivered using a patient-centered, empathy building technique (e.g., reflective listening and affirmation).

Why?

Interventions that target both physical activity and healthy eating, rather than one or the other, have proven to be more effective in promoting moderate weight loss and healthy weights. Additionally, change in weight was greater among interventions targeting physical activity and healthy eating behaviours when well established and theory-based behaviour change techniques and tools were used.
**How?**

- Plan coordinated health promotion activities to increase both healthy eating and physical activity behaviours.\(^{44,53-54}\)
- Implement behavioural strategies that focus on achievable and modest changes across multiple behaviour goals to be most effective in preventing diabetes.\(^{53-54,56}\)
- Increase intervention impact by maximizing the number of education and counseling sessions provided to the participant.\(^{16}\)
- Use Health Canada’s guidelines for *healthy eating*, *physical activity* and *healthy weights* as benchmarks for healthy eating and physical activity behaviour change, and assessing healthy weights among participants.\(^{45,57-58}\)

**Both dietary and physical activity behaviour change are best supported by:**

- Self-monitoring (recording behaviour, e.g., a food or physical activity diary, the use of pedometers)\(^{53,56}\)
- Relapse prevention (e.g., problem solving, identifying coping strategies, decisional balance)\(^{53-54,56}\)
- Goal setting and review; small attainable goals (e.g., steps monitored with pedometer, servings of fruits/vegetables/day)\(^{53-54,56}\)
- Individual tailoring (e.g., tailor information or counselling content, tailor to stages of change, resources and context)\(^{53,56}\)

**Dietary behaviour change is best supported by:**

- Instruction provision (teaching the behaviour)\(^{53,56}\)
- Vicarious and observational learning (e.g., cooking demonstrations and shopping trips)\(^{54}\)
- Increasing confidence to change (self-efficacy)\(^{54}\)

**Physical activity behaviour change is best supported by:**

- Prompting (to stimulate behaviour, e.g., telephone reminder)\(^{53,56}\)
- Prescriptive approach with progressive increases in physical activity\(^{54}\)
- Structured programs with observational learning and modeling behaviour\(^{54}\)
- Direct supervision of exercise and performance review\(^{54}\)
- Time management techniques to support behaviour maintenance\(^{54}\)

**Practical Examples of Best or Promising Practice Programs**

<table>
<thead>
<tr>
<th>Program</th>
<th>Healthy Eating</th>
<th>Physical Activity</th>
<th>Behavioural Strategies</th>
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<tbody>
<tr>
<td><strong>Diabetes Prevention Program - Lifestyle Balance (Best Practice)</strong></td>
<td><strong>Education sessions</strong> on healthy eating, energy intake/balance and weight loss</td>
<td><strong>Education sessions</strong> on physical activity and energy output/balance</td>
<td>• Self-monitoring</td>
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<tr>
<td></td>
<td>Team-based challenges to increase healthy eating</td>
<td>Team-based challenges to increase physical activity</td>
<td>• Goal setting</td>
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<td></td>
<td>Cooking classes, recipes, and menus for calorie controlled diets</td>
<td>Supervised physical activity sessions</td>
<td>• Individual tailoring</td>
</tr>
<tr>
<td><strong>National Diabetes Prevention Program (Best Practice)</strong></td>
<td><strong>Education sessions</strong> on healthy eating and energy balance with food/activity tracker and fat/calorie counter tools</td>
<td><strong>Education sessions</strong> on physical activity and energy balance with food / activity tracker</td>
<td>• Relapse prevention</td>
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<tr>
<td></td>
<td>Educational sessions on healthy eating - Eating Well with Canada’s Food Guide, nutrition, portion sizes</td>
<td>Educational sessions on physical activity - Canadian Society for Exercise Physiology’s physical activity guidelines, cardiovascular exercise, strength training and stretching</td>
<td>• Goal setting</td>
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<tr>
<td><strong>Diabetes Fit (Promising Practice)</strong></td>
<td>Educational sessions on healthy eating</td>
<td><strong>Education sessions</strong> on physical activity</td>
<td>• Relapse prevention</td>
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<tr>
<td></td>
<td>- Eating Well with Canada’s Food Guide</td>
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4. Applies a mix of multiple health promotion strategies

**What?**

The distribution of type 2 diabetes in Canada and the risk for type 2 diabetes are dependent upon a range of lifestyle, social, economic, and environmental risk factors. As represented in the Population Health Promotion Model, a comprehensive mix of health promotion strategies are required to address the determinants of health in order to positively influence the health of a population. Implementing a variety of health promotion strategies - such as increasing community awareness, providing education/skill building activities, or creating supportive environments and healthy public policy - ensures that primary prevention intervention efforts address the critical factors at the individual and community/societal levels to have a greater impact on the prevention of type 2 diabetes and other chronic diseases at the population level. Health promotion activities should include the following strategies:

- **Increase community awareness** of risks associated with diabetes and unhealthy behaviours, how to adopt healthy behaviours, and the benefits of a healthier lifestyle through social marketing, media, or mass-media campaigns.
  - Social marketing campaigns - use commercial marketing techniques/technologies in the communication of health promotion messages designed to change voluntary lifestyle behaviours. Social marketing campaign messages may be disseminated through media, mass-media, or interpersonal channels.
  - Media campaigns - are a ‘coordinated series of linked advertisements with a single idea or theme’. They tend to be smaller in scale/less comprehensive than mass-media campaigns; may use one media channel.
  - Mass-media campaigns - use a comprehensive mix of multiple media sources, such as printed material, radio, television, public service announcements, billboards, social media, unpaid publicity and internet, to communicate health promotion/program messages to high proportions of large populations.

- **Increase knowledge and skills** to change behaviours through healthy lifestyle modification interventions delivered in a variety of community based settings.

- **Develop healthy policies and create healthy environments** by ensuring that physical, social, and political environments are designed to promote healthy behaviours and healthy lifestyles.

**Why?**

Behaviour change at the population level cannot be accomplished with one health promotion strategy alone. While some individuals may lack the knowledge to make healthier choices or the skills/ability to improve health behaviours, others may face economic or environmental barriers to a healthy lifestyle, such as poverty, unsafe neighborhood conditions or residing or working in an “obesogenic” or “diabetogenic” environment. A comprehensive approach to diabetes and obesity prevention is recommended to implement both a targeted high-risk population approach as well as a societal-level approach that emphasizes education and prevention for the whole community. Community-level, multi-strategic health promotion interventions have demonstrated the capability to influence healthy eating and physical activity. Specifically, behaviour modification, policy, and environmental interventions have all proven to be effective in reducing chronic disease risk.
### How?

- Implement a targeted high-risk population approach (behaviour modification activities) AND a societal level approach which emphasizes education and prevention for the whole community.\(^8,12,14\)
- Implement a comprehensive range of evidence-based health promotion strategies with a focus on healthy eating, physical activity, and diabetes prevention (see below).
- Model program strategies/activities after best practice diabetes prevention programs.

### Increase community awareness:

- Use a well-executed social marketing campaign as an effective strategy to increase physical activity and healthy eating knowledge, attitudes and behaviour.\(^15\)
- Use mass-media campaigns to increase the effectiveness of community-based interventions and public relation activities.\(^15\)
- Use communication and/or mass-media campaigns to educate the community and program participants about:
  - the risk factors for diabetes and consequences of unhealthy behaviours;
  - how to adopt physical activity and healthy eating behaviours and their associated health benefits;
  - how to access a free and appropriate diabetes risk assessment questionnaire;
  - where to get tested if they are at risk for diabetes; and
  - how to access community resources and/or diabetes prevention programming.\(^15-16,66\)
- Use media-only approaches, when resources are limited, to encourage a significant portion of people to increase healthy eating and physical activity behaviours.\(^15\) (e.g., promotional print materials or posters in public settings)
- Ensure messages are consistent, clear and culturally appropriate.\(^67\)

### Increase knowledge and skills:

- Provide community-based and/or group information and skill building activities.\(^15-16\)
- Use theory to develop educational programming and clear messages to increase effectiveness.\(^15,67\)
- Use principles of adult learning when developing educational materials/activities.\(^68\)
- Use well-established and evidence-based behavioural techniques.\(^16\)
- Tailor program materials and activities to ensure cultural/linguistic appropriateness.\(^16\)
- Provide information and instruction on the following educational topics (at a minimum):
  - diabetes and health - including risk factors, complications, prevention, benefits of healthy lifestyle, consequences of an unhealthy lifestyle;\(^15-16,66\)
  - nutrition and healthy eating - including the Eating Well with Canada’s Food Guide’s food groups and serving sizes, food portion control, energy balance and healthy weights, how to read a nutrition label, and how to self-monitor food intake and food skills (e.g., food preparation, grocery shopping);\(^45,57\)
  - physical activity - including the Canadian Physical Activity Guidelines recommended weekly accumulation of physical activity, moderate vs. vigorous physical activity, muscle and bone strengthening activities and skills to perform physical activity behaviours that meet the guidelines.\(^45,58\)
Create supportive environments

- Implement environmental and policy interventions to reduce chronic disease risk factors.\textsuperscript{12,15,67}
- Intervene comprehensively and across multiple levels in the physical, economic and communication environments.\textsuperscript{15,67}
- Make use of analytical tools, economic evaluations, and policy and health disparity research to inform healthy policies.\textsuperscript{15}
- Implement well-designed and theory-driven behaviour modification programs in key community-based settings (e.g., a workplace health promotion program).\textsuperscript{12,15}
- Offer program activities in multiple settings at different times to increase community access and create supportive environments.\textsuperscript{12,15,67}
- Engage community stakeholders to help create supportive physical and social environments.\textsuperscript{12,15,67}
- Increase physical activity by:
  - point-of-decision prompts for physical activity (e.g., take the stairs);\textsuperscript{15} and
  - implementing policies and environmental supports that increase access to physical activity (e.g., access to on-site physical activity facilities).\textsuperscript{15}
- Increase healthy eating by:
  - point-of-purchase/point-of-decision strategies (e.g., shelf or menu labelling);\textsuperscript{15}
  - systematic nutrition reminders (e.g., email messages with healthy eating tips); and
  - implement policies and environmental supports that increase access to healthier foods (e.g., school food policy, healthier vending machines).\textsuperscript{15}

Practical Examples of Best or Promising Practice Programs

<table>
<thead>
<tr>
<th>Program</th>
<th>Raise Awareness</th>
<th>Increase Knowledge and Skills</th>
<th>Create Supportive Environments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diabetes Prevention Program</td>
<td>Three or four motivational campaigns/year</td>
<td>Educational sessions on healthy eating, physical activity, energy balance, skill building</td>
<td>Team challenges with incentives to motivate participation and build social networks</td>
</tr>
<tr>
<td>(Best Practice)</td>
<td></td>
<td>Variety of well-established behaviour change techniques</td>
<td>Social support built into the program</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>$100/year/participant to implement a toolbox of strategies to overcome socio-economic, individual or environmental barriers (e.g., physical activity videos, exercise trainer for a tailored program, enrolled in a community exercise class)</td>
</tr>
<tr>
<td>Diabetes Fit</td>
<td>Collaborative program with broad group of engaged community partners to raise awareness</td>
<td>Educational sessions on healthy living - healthy eating, Canada’s Food and Exercise guidelines</td>
<td>Social environment - community partners, community-based support, and social support from staff, volunteers, and other participants</td>
</tr>
<tr>
<td>(Promising Practice)</td>
<td></td>
<td>Exercise sessions to build skills and confidence - cardiovascular exercise, strength training, stretching</td>
<td>Physical environment - delivered in the YMCA for access to physical activity facilities. Participants encouraged to come to YMCA outside of program hours</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Goal-setting with action planning</td>
<td></td>
</tr>
</tbody>
</table>
5. Includes social support as a key component of an effective behaviour modification program

What?

Social support is a multifaceted set of influences in an individual’s life and is considered a highly effective behaviour change technique in primary prevention interventions. It is the general manner in which peers, family, community members and/or program facilitators provide resources to an individual to help cope with change or stress and to foster a positive social environment which supports healthy behaviours and well-being. Types of social support include:

- **Emotional support** - to express approval, nurturing, caring, concern, empathy, trust and esteem.
- **Instrumental support** - to give tangible resources or provide direct/practical help.
- **Informational support** - to disseminate information, advice, suggestions and coping strategies.
- **Appraisal support** - to provide affirmation, feedback, self-evaluation and social comparison.

Why?

As excess weight/obesity is the major risk factor for type 2 diabetes, weight reduction is an important target for diabetes prevention. According to best practice and clinical practice guidelines, moderate weight loss (approximately 5-7%) among individuals whom have excess weight/obesity or having been diagnosed with prediabetes is sufficient to substantially lower risk of developing type 2 diabetes (~60% risk reduction). Incorporating social support into healthy eating and physical activity interventions has repeatedly been shown to be more effective in both increased weight loss and sustained weight loss at 12 months follow-up. Social support is the critical component to effective behaviour modification programs as it stimulates motivation among program participants to maintain their healthy lifestyle, particularly when the initial enthusiasm for the program has diminished.
How?

- Encourage participants to elicit social support from others (e.g., family, friends) to help them achieve and maintain behaviour change.\textsuperscript{12,16,53}
- Help participants to better understand the short and long-term impacts of health behaviours.\textsuperscript{16}
- Nurture confidence in participants’ ability to make and sustain healthy behaviours.\textsuperscript{16}
- Help participants identify barriers in their social contexts and/or relationships that influence their behaviour.\textsuperscript{16}
- Help plan to overcome barriers and/or to make small changes over time.\textsuperscript{16}
- Choose a mix of behaviour change techniques and social support strategies with a strong focus on behaviour maintenance.\textsuperscript{12,16,53} (e.g., providing/eliciting social support, goal-setting, self-monitoring of behaviour(s)/progress, reviewing goals, providing feedback, affirmation, relapse management, and follow-up prompts)
- Maximize the frequency of contact between program facilitator and participant to offer ongoing support.\textsuperscript{12}
- Provide more intensive support to the participant at the beginning of the program (e.g., once/week); reduce frequency over time.\textsuperscript{16}
- Offer follow-up sessions at scheduled intervals (e.g., every 3 months) for 2 years following the intervention to reinforce long-term positive behaviour change and to prevent relapse behaviours.\textsuperscript{16}

Practical Examples of Best or Promising Practice Programs

<table>
<thead>
<tr>
<th>Program</th>
<th>Strategy/Activity</th>
<th>Type of Social Support</th>
</tr>
</thead>
</table>
| **Diabetes Fit** (Promising Practice) | • Free membership to YMCA to participate in group-based healthy eating education and exercises  
• Increase social network          | • Emotional  
• Instrumental  
• Informational                        |
| **Get FHT** (Promising Practice)    | • Individual counselling with motivational interviewing  
• Group-based education  
• Increase social network          | • Emotional  
• Informational  
• Appraisal                            |
| **Therapeutic Lifestyle Clinic (TLC)** (Promising Practice) | • Group-based education and individually tailored counselling  
• Initial assessment & follow-up visits from registered dietitian, registered kinesiologist, and a social worker  
• Intensive support/higher frequency of contact in the first six months  
• Family members can come to group or counselling session  
• Maintenance visits to program graduates (every 6-12 months)  
• Increase social network          | • Emotional  
• Informational  
• Instrumental  
• Appraisal                            |
Promising Practices for Diabetes Prevention

6. Delivered in multiple community-based settings

What?

Community-based approach - ‘Community-based [obesity/diabetes] prevention interventions include programs delivered in key settings, such as workplaces and schools, as well as both targeted and universal public educational and information [campaigns].’ 66(p1)

Lifestyle interventions to prevent type 2 diabetes can be delivered in a wide-range of community-based settings. Activities of effective healthy eating and physical activity programs have been successfully implemented in the home, community, workplace, and the primary care setting. 12,15,16,56

Why?

The population health approach recognizes that the places where we live, play and work can influence health both positively and negatively. 72 Health promotion strategies and healthy public policies can be implemented in multiple community settings to broaden the reach of health promotion activities and to address the determinants of health at various levels of action (e.g., from the individual lifestyle factors to the environmental conditions and policies in the community, system or sector where the program or activity is being implemented). 72

The workplace, specifically, has been an appealing and effective setting to implement chronic disease prevention programs. 12,15,73-74 Health promoters are able to reach many people within the workplace, programs are considered cost-effective and the structure of the work environment facilitates social support and reinforcement. 12,15,73 Beyond the workplace, there have been well-established and highly effective intensive diabetes prevention programs, such as the US Diabetes Prevention Program, that have demonstrated the potential for less intensive adaptations to be feasibly implemented and effective in preventing diabetes in a variety of community settings. 75
How?

- Model program components after evidence-based best practice diabetes prevention programs.75
- Deliver program activities in a wide-range of community settings at various times to increase community access and create supportive environments.16
- Implement and advocate for healthy public policies in community-based settings to increase access to healthy foods/beverages and opportunities for physical activity.56
- Use the following strategies, specifically, for increasing effectiveness of workplace health promotion programs:
  - a comprehensive health promotion approach - including education, counselling, incentives, access to on-site physical activity/shower facilities and pedometers to self-monitor physical activity15,74,76,
  - environmental modifications to increase healthy eating and physical activity (e.g., point of decision prompts, increased access to healthy foods)15,74,76,
  - employee participation in the planning of activities74; and
  - family member participation to influence healthy eating behaviours.15

Practical Examples of Best or Promising Practice Programs

<table>
<thead>
<tr>
<th>Program</th>
<th>Community-Based Setting</th>
<th>Activity</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Diabetes Fit</strong></td>
<td>YMCA</td>
<td>Community-based support, education and physical activity</td>
</tr>
<tr>
<td>(Promising Practice)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Fun with Food and Fitness</strong></td>
<td>Community Health Centre</td>
<td>Educational and physical activities</td>
</tr>
<tr>
<td>(Promising Practice)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Diabetes Prevention Program</strong></td>
<td>In-home</td>
<td>Telephone-based follow-up supports/prompts</td>
</tr>
<tr>
<td>(Best Practice)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>New/Diabetes Clinic</strong></td>
<td>Grocery store, Anglican church</td>
<td>Grocery store tour, community-based education and support</td>
</tr>
<tr>
<td>(Promising Practice)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Promising Practices for Diabetes Prevention

7. Uses program staff with relevant expertise to develop a quality-assured program AND provides appropriate and sufficient training to program staff

What?

In the development of a quality-assured program, administrators must use program staff with relevant expertise to develop specific program components (e.g., registered dietitians should develop educational content on nutrition and healthy eating). Interventions should also be delivered by program staff with the relevant knowledge, skills or expertise. Where relevant expertise is lacking, physical activity and healthy eating interventions can be delivered by a wide range of people, subject to the provision of appropriate and sufficient training to program staff in order to implement and evaluate a quality-assured program.

Why?

Multi-component and multi-strategic behaviour modification programs require the relevant knowledge, skills and expertise to plan, develop, implement and evaluate. Components of effective diabetes prevention programs may be delivered by a wide range of people, such as physicians, nurses, dietitians, kinesiologists/exercise specialists, health promoters, health psychologists, peers and lay people. The educational or professional background of the program’s staff, the role of the person in developing and/or delivering the component(s) of the program, and the amount or type of training provided to program staff, however, can impact the quality of the program – its design, implementation and, ultimately, its effectiveness. The use of lay people and peers, rather than trained professionals/experts, to implement interventions can increase cost-effectiveness and achieve desired outcomes as long as they are appropriately and sufficiently trained to consistently implement the program as it is designed.
Practical Examples of Best or Promising Practice Programs

<table>
<thead>
<tr>
<th>Program</th>
<th>Program Staff with Expertise</th>
<th>Program Staff Training</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>TLC</strong> (Promising Practice)</td>
<td>Registered Dietitian, Registered Kinesiologists &amp; a Social Worker</td>
<td>All staff trained in motivational interviewing</td>
</tr>
<tr>
<td><strong>Vitality-Healthy Lifestyles Program</strong> (Promising Practice)</td>
<td>Registered Dietitian &amp; Registered Mental Health Worker&lt;br&gt;Healthy You and Craving Change™ standardized curriculum developed by subject-matter experts/specialists</td>
<td>Craving Change™ professional training is available with the purchase of Craving Change™ licensing</td>
</tr>
<tr>
<td><strong>The Life! Program</strong> (Best Practice)</td>
<td>Registered Dietitian &amp; Exercise Physiologist</td>
<td>Trained professionals with relevant expertise (gained through accredited educational/professional programs)</td>
</tr>
</tbody>
</table>

**How?**

- Use program staff with the relevant expertise to develop intervention/program components (e.g., a registered dietitian to develop nutrition and healthy eating components).
- Ensure program/interventions are delivered by program staff with the relevant knowledge, skills and expertise (e.g., registered dietitians, registered kinesiologists, health psychologists) or program staff who have received appropriate and sufficient training.
- Where expertise is lacking, ensure program staff have appropriate and sufficient training in the following areas:
  - diabetes content - type 2 diabetes, the consequences of type 2 diabetes, risk factors, how to prevent or delay the onset of type 2 diabetes and how to give advice to reduce risk;
  - nutrition and physical activity content - guidelines for healthy eating/physical activity, skills required to eat healthy and perform physical activity, how to advise participants on healthy eating and physical activity;
  - raising awareness and effective ways to communicate risk;
  - how to deliver a validated risk assessment questionnaire and how to advise participants based on risk score;
  - how to deliver interventions and/or intensive lifestyle modification programs;
  - how to provide advice to participants;
  - behaviour change techniques;
  - how to tailor interventions to meet the individual needs of participants;
  - how to work with vulnerable and/or culturally diverse groups;
  - how to refer participants for the appropriate intervention (e.g., refer high-risk participants to a primary care physician for diabetes screen/test); and
  - how to assess, audit and evaluate the diabetes prevention project.
- Provide refresher training to program staff for long-running programs or projects.
- Develop standardized curriculum and a training protocol for quality assurance and to help increase program sustainability.
8. Reports program evaluation results in the form of a report or peer-reviewed journal article AND provides evidence of effectiveness in eliciting desired behaviour changes

What?

A program evaluation is a type of research that applies ‘systematic methods to address questions about the program’s operations and results. It may include ongoing monitoring of a program as well as one-shot studies of program [processes/functioning] or program [impact/effectiveness].’ While it is important to ensure that evaluation research is conducted in a manner that meets quality and rigour criteria appropriate to study design, it may not be feasible for programs to submit their evaluation report to the peer review process for journal publication. Where resources are limited, evaluative data should be reported in the form of a technical/scientific report which may be sufficient to meet best or promising practice program criteria.

Program evaluations serve many useful purposes including:

- assessing the needs of your target population;
- documenting a range of information about the program;
- measuring the effectiveness/impact of the program and/or specific components;
- improving the program (functioning and outcomes);
- assessing the value and efficiency or cost-effectiveness of the program;
- comparing the program to other programs;
- ensuring financial accountability to funders; and
- sharing lessons learned and best or promising practices for health promotion programs.

Peer review is the process of engaging substantive experts to read and comment on new research in the fields in which they study in order to validate and certify that research. [It is] an essential dividing line for judging what is scientific and what is speculation [by ensuring quality and rigour criteria is appropriate for the study design].

Effectiveness is ‘the measure of the ability of an intervention, project, program, or policy to do what it was intended to do: produce a specific desired result or effect that can be quantitatively measured.’

Effective diabetes prevention programs provide evidence for eliciting desired changes related to primary prevention (increased awareness of diabetes risk, improved eating habits, and increased physical activity); verify that the observed changes are a result of the program’s activities; conducts process and outcome evaluations for continuous improvement; and documents accountability for program spending.
Why?

Evaluation is critical to the establishment and implementation of effective best and promising practices. Responding to the growing burden of the type 2 diabetes epidemic requires rigorous and robust research evidence to identify the prevention strategies that are most cost-effective, to appropriately allocate scarce resources and to disseminate the best and promising practices for diabetes prevention programming.

How?

- Develop an evaluation plan - including intervention goal(s), process/outcome objectives, appropriate indicators to measure attainment of objectives, and methods for data collection/analysis.
- Develop a workplan, budget and timeline; clarifying tasks, roles and resources.
- Ensure your study design meets quality and rigour criteria for best practice programs.
- Pilot test evaluation tools and materials.
- Collect the following information at a minimum:
  - number and demographics of participants registered;
  - level of attendance;
  - changes in amount of moderate to vigorous physical activity undertaken each week;
  - changes in dietary intake, with a focus on total intake of fat, saturated fat and fibre;
  - changes in weight, waist circumference or BMI;
  - the results of an annual audit of how the program was delivered (e.g., number of educators, amount/type of training provided, number/demographics of participants);
  - level of uptake (e.g., the percentage of those invited who attend the first session);
  - program content (e.g., the use of behaviour-change techniques, social support); and
  - methods of delivery.
- Submit evaluation report for the peer review process.

Practical Examples of Best or Promising Practice Programs

<table>
<thead>
<tr>
<th>Program</th>
<th>Peer Review Publication (s)</th>
<th>Evidence of Effectiveness</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diabetes Prevention Program (Best Practice)</td>
<td>Yes - The program has multiple publications in peer reviewed journals. Results, data, methods and program curriculum is accessible on the Diabetes Prevention Program Outcomes Study website (DPPOS).</td>
<td>Individuals receiving lifestyle intervention with intensive individual counselling and motivational support on healthy diet, exercise, and behaviour modification had 60% risk reduction for diabetes development.</td>
</tr>
</tbody>
</table>

Evaluation Resources and Tools

Evaluating Health Promotion Programs
Public Health Ontario’s Evaluation Resources
Canadian Best Practice Portal’s Evaluation Resources and Tools
Program planning, implementation and evaluation tools
CIHR’s Guide to Evaluation in Health Research
Evaluating health promotion programs (webinar)
Promising Practice | Guidelines for Implementation
--- | ---
1. Uses a systematic approach to education and program planning | • Use Jones & Bartlett Learning’s **Systems Approach Workbook for Health Education and Program Planning** as a guide to learn about the systems approach and to work through each step in the program planning process.
• Use Public Health Ontario’s resources to systematically plan, develop, implement and evaluate health promotion programs: **Skills for Health Promotion Toolkit** and **Priority Setting Process Checklist**.
• Use Public Health Ontario’s **Online Health Program Planner** to complete interactive worksheets that will help you to systematically plan and make evidence-informed program decisions.
• Use Ontario Public Health Association’s **Towards Evidence-Informed Practice (TEIP) tools**: program assessment, evidence and evaluation tools to build capacity for evidence-informed practice.
• Use University of Kansas’ toolkit for **Developing an Intervention**.
• Visit **University of Wisconsin’s free online course** or **Community Toolbox** website to learn about logic models.
• Use Innovation Network’s **Logic Model Workbook** to help develop a logic model for your project/program.
• Explore Public Health Ontario’s Webinar slides for an **Introduction to Models and Theories**.
• Use Riverside Community Health Foundation’s document entitled **Theories and Models Frequently Used in Health Promotion** to help select the appropriate theory(s)/model(s) to guide the design of project/program activities.
• Use the National Collaboration Centre for Methods and Tools’ **Evidence-Informed Decision Making in Public Health model** as a framework for programmatic decision-making.
• Visit Public Health Agency of Canada’s Canadian Best Practice Portal for **Evidence-Informed Decision Making: Information and Tools**.

2. Designed for primary prevention to modify risk for type 2 diabetes | • **Recommend that all individuals be assessed for type 2 diabetes risk** as per the Canadian Diabetes Association’s Clinical Practice Guidelines.
• Publicize and use the **Canadian Diabetes Risk Assessment Questionnaire (CANRISK)** as a statistically valid tool suitable for diabetes risk assessment in the Canadian population (free of charge on the internet) and provide information needed to complete and interpret the results.
• Use the **Canadian Guidelines for Body Weight Classification in Adults** and **Quick Reference Tool for Professionals** as a weight classification system to measure health risk associated with overweight and abdominal obesity.
<table>
<thead>
<tr>
<th>Promising Practice</th>
<th>Guidelines for Implementation</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Refer all individuals identified at risk to a primary care physician for diabetes testing and to discuss how to manage their risk.</td>
<td></td>
</tr>
<tr>
<td>• Target and encourage at-risk individuals to participate in diabetes prevention program activities to modify risk factors associated with diabetes to help prevent or delay the onset of diabetes and diabetes complications.</td>
<td></td>
</tr>
<tr>
<td>• Implement a structured lifestyle intervention that focuses on healthy eating, increased physical activity, and achieving or maintaining a healthy weight</td>
<td></td>
</tr>
</tbody>
</table>
| • Use the following healthy eating and physical activity targets to be effective in achieving moderate weight loss (~5%) to reduce risk for developing diabetes among individuals having excess weight, obesity or prediabetes:  
  o a low-calorie, low-fat, high-fibre diet; and  
  o a moderate-to-vigorous intensity physical activity regime (at least 150 minutes per week). |  |
| **3. Applies a mix of behaviour change interventions and techniques that target healthy eating AND physical activity behaviours** |  |
| • Plan coordinated health promotion activities to increase both healthy eating and physical activity behaviours. |  |
| • Implement behavioural strategies that focus on achievable and modest changes across multiple behaviour goals to be most effective in preventing diabetes. |  |
| • Increase intervention impact by maximizing the number of education and counselling sessions provided to the participant. |  |
| • Use Health Canada’s guidelines for **healthy eating**, **physical activity** and **healthy weights** as benchmarks for healthy eating and physical activity behaviour change and healthy weights among participants. |  |

**Both dietary and physical activity behaviour change are best supported by:**
- Self-monitoring (recording behaviour, e.g., a food or physical activity diary, the use of pedometers)
- Relapse prevention (e.g., problem solving, identifying coping strategies, decisional balance$^{G}$)
- Goal setting and review; small attainable goals (e.g., step-goals monitored with pedometer, servings of fruits/vegetables/day)
- Individual tailoring (e.g., tailor information or counselling content, tailor to stages of change, resources and context)

**Dietary behaviour change is best supported by:**
- Instruction provision (teaching the behaviour)
- Vicarious and observational learning (e.g., cooking demonstrations and shopping trips)$^{G}$
- Increasing confidence to change (self-efficacy)

**Physical activity behaviour change is best supported by:**
- Prompting (to stimulate behaviour, e.g., telephone reminder)
- Prescriptive approach with progressive increases in physical activity
- Structured programs with observational learning and modelling behaviour
- Direct supervision of exercise and performance review
- Time management techniques to support behaviour maintenance
<table>
<thead>
<tr>
<th>Promising Practice</th>
<th>Guidelines for Implementation</th>
</tr>
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</table>
| 4. Applies a mix of multiple health promotion strategies                           | • Implement a targeted high-risk population approach (behaviour modification activities) AND a societal level approach which emphasizes education and prevention for the whole community.  
• Implement a comprehensive range of evidence-based health promotion strategies with a focus on healthy eating, physical activity, and diabetes prevention.  
• Model program strategies/activities after best practice diabetes prevention programs.  

To increase community awareness:  
• Use a well-executed social marketing campaign as an effective strategy to increase physical activity and healthy eating knowledge, attitudes and behaviour.  
• Use mass-media campaigns to increase the effectiveness of community-based interventions and public relation activities.  
• Use communication and/or mass-media campaigns to educate the community and program participants about:  
  o the risk factors for diabetes and consequences of unhealthy behaviours;  
  o how to adopt physical activity and healthy eating behaviours and the health benefits;  
  o how to access a free and appropriate diabetes risk assessment questionnaire;  
  o where to get tested if they are at risk for diabetes; and  
  o how to access community resources and/or diabetes prevention programming.  
• Use media-only approaches, when resources are limited, to encourage a significant portion of people to increase healthy eating and physical activity behaviours.  
• Ensure messages are consistent, clear and culturally appropriate.  

To increase knowledge and skills:  
• Provide community-based and/or group information and skill building activities.  
• Use theory to develop educational programming and clear messages to increase effectiveness.  
• Use well-established and evidence-based behavioural techniques.  
• Use principles of adult learning when developing educational materials/activities.  
• Tailor program materials and activities to ensure cultural/linguistic appropriateness.  
• Provide information and instruction on the following educational topics (at a minimum):  
  o diabetes and health - including risk factors, complications, prevention, benefits of healthy lifestyle, consequences of an unhealthy lifestyle;  
  o nutrition and healthy eating - including the Eating Well with Canada’s Food Guide’s food groups and serving sizes, food portion control, energy balance and healthy weights, how to read a nutrition label, and how to self-monitor food intake and food skills (e.g., food preparation, grocery shopping); and  
  o physical activity - including the Canadian Physical Activity Guidelines recommended weekly accumulation of physical activity, moderate vs. vigorous physical activity, muscle and bone strengthening activities and skills to perform physical activity behaviours that meet the guidelines. |
To create supportive environments:
- Implement environmental and policy interventions to reduce chronic disease risk factors.
- Intervene comprehensively and across multiple levels in the physical, economic and communication environments.
- Make use of analytical tools, economic evaluations, and policy and health disparity research to inform healthy policies.
- Implement well-designed and theory-driven behaviour modification programs in key community-based settings (e.g., a workplace health promotion program).
- Offer program activities in multiple settings at different times to increase community access and create supportive environments.
- Engage community stakeholders to help create supportive physical and social environments.
- Increase physical activity by:
  - point-of-decision prompts for physical activity (e.g., take the stairs); and
  - implementing policies and environmental supports that increase access to physical activity (e.g., access to on-site physical activity facilities).
- Increase healthy eating by:
  - point-of-purchase/point-of-decision strategies (e.g., shelf or menu labelling);
  - systematic nutrition reminders (e.g., email messages with healthy eating tips); and
  - implementing policies and environmental supports that increase access to healthier foods (e.g., school food policy, healthier vending machines).

| 5. Includes social support as a key component of an effective behaviour modification program | • Encourage participants to elicit social support from others (e.g., family, friends) to help them achieve and maintain behaviour change.  
• Help participants to better understand the short and long-term impacts of health behaviours.  
• Nurture confidence in participants’ ability to make and sustain healthy behaviours  
• Help participants identify barriers in their social contexts and/or relationships that influence their behaviour.  
• Help plan to overcome barriers and/or to make small changes over time  
• Choose a mix of behaviour change techniques and social support strategies with a strong focus on behaviour maintenance. (e.g., providing/elliciting social support, goal-setting, self-monitoring of behaviour(s)/progress, reviewing goals, providing feedback, affirmation, relapse management, and follow-up prompts)  
• Maximize the frequency of contact between program facilitator and participant to offer ongoing support.  
• Provide more intensive support to the participant at the beginning of the program (e.g., once/week); reduce frequency over time.  
• Offer follow-up sessions at scheduled intervals (e.g., every 3 months) for 2 years following the intervention to reinforce long-term positive behaviour change and to prevent relapse behaviours. |
## Promising Practice Guidelines for Implementation

### 6. Delivered in multiple community-based settings
- Model program components after evidence-based best practice diabetes prevention programs.
- Deliver program activities in a wide-range of community settings at various times to increase community access and create supportive environments.
- Implement and advocate for healthy public policies in community-based settings to increase access to healthy foods/beverages and opportunities for physical activity.
- Use the following strategies, specifically, for an effective workplace health promotion program:
  - a comprehensive health promotion approach - including education, counselling, incentives, access to on-site physical activity/shower facilities and pedometers to self-monitor physical activity;
  - environmental modifications to increase healthy eating and physical activity (e.g., point of decision prompts, increased access to health foods);
  - employee participation in the planning of activities; and
  - family member participation to influence healthy eating behaviours

### 7. Uses program staff with relevant expertise to develop a quality-assured program AND provides appropriate and sufficient training to program staff
- Use program staff with the relevant expertise to develop intervention/program components (e.g., registered dietitian to develop nutrition and healthy eating components).
- Ensure program/interventions are delivered by program staff with the relevant knowledge, skills and expertise (e.g., registered dietitians, registered kinesiologists, health psychologists) or program staff who have received appropriate and sufficient training.
- Where expertise is lacking, ensure program staff have appropriate and sufficient training in the following areas:
  - diabetes content - type 2 diabetes, the consequences of type 2 diabetes, risk factors, how to prevent or delay the onset of type 2 diabetes and how to give advice to reduce risk;
  - nutrition and physical activity content - guidelines for healthy eating/physical activity, skills required to eat healthy and perform physical activity, how to advise participants on healthy eating and physical activity;
  - raising awareness and effective ways to communicate risk;
  - how to deliver a validated risk assessment questionnaire and how to advise participants based on risk score;
  - how to deliver interventions and/or intensive lifestyle modification programs;
  - how to provide advice to participants;
  - behaviour change techniques;
  - how to tailor interventions to meet the individual needs of participants;
  - how to work with vulnerable and/or culturally diverse groups;
  - how to refer participants for the appropriate intervention (e.g., refer high-risk participants to primary care physician for diabetes screen/test); and
  - how to assess, audit and evaluate the diabetes prevention project.
- Provide refresher training to program staff for long-running programs or projects.
- Develop standardized curriculum and a training protocol for quality assurance and to help increase program sustainability.
## Promising Practice

8. Reports program evaluation results in the form of a report or peer-reviewed journal article AND provides evidence of effectiveness in eliciting desired behaviour changes

## Guidelines for Implementation

- Develop an evaluation plan - including intervention goal(s), process/outcome objectives, appropriate indicators to measure attainment of objectives, and methods for data collection/analysis.
- Develop a workplan, budget and timeline; clarifying tasks, roles and resources.
- Ensure your study design meets quality and rigour criteria for best practice programs.
- Pilot test evaluation tools and materials.
- Collect the following information at a minimum:
  - number and demographics of participants registered;
  - level of attendance;
  - changes in amount of moderate to vigorous physical activity undertaken each week;
  - changes in dietary intake, with a focus on total intake of fat, saturated fat and fibre;
  - changes in weight, waist circumference or BMI;
  - the results of an annual audit of how the program was delivered (e.g., number of educators, amount/type of training provided, number/demographics of participants);
  - level of uptake (e.g., the percentage of those invited who attend the first session);
  - program content (e.g., the use of behaviour-change techniques, social support); and
  - methods of delivery.
- Submit evaluation report for the peer review process.
Appendix A
Best Practice Diabetes Prevention Programs

**Diabetes Prevention Program** - Lifestyle Balance© and Group Lifestyle Balance™

The Diabetes Prevention Program (also known as "Lifestyle Balance©") aims to prevent the onset of type II diabetes among an at-risk population. The Diabetes Prevention Program Outcomes Study (DPPOS) is a landmark trial demonstrating both short- and long-term effectiveness of lifestyle change interventions used in the program to reduce risk for the development of type 2 diabetes. The program has been adapted (Group Lifestyle Balance™) and implemented in a variety of settings and has been identified in multiple systematic reviews as effective.

Program description:

- **16-sessions (30-60 mins.) of Lifestyle Balance core curriculum delivered over 24 weeks**
  - 8 sessions: goals of the intervention, energy intake/output/balance, self-monitoring food intake and physical activity
  - 8 sessions: focus on overcoming psychological, social and motivational barriers to a healthy lifestyle
  - Sessions include: core curriculum, private weigh-in, review of self-monitoring records, presentation of a new topic, ongoing identification of personal barriers to weight loss and activity, and the development of action plan/goals for the next session

- **In-person adherence sessions with individual participants are provided after completing core curriculum (15-45 mins.)**
  - Sessions occur at least once every two months & individuals are contacted by telephone between visits
  - Lifestyle coaches are provided with intensive training, lessons, and variety of educational materials to tailor to individuals’ interest, concern and need
  - Lifestyle coaches encouraged to meet with participants as often as necessary

Each intervention site is required to offer three group courses (each lasting four to eight weeks) per year during the adherence phase. Participants are strongly encouraged but not required to attend these classes. At least one class per year focuses on a physical activity topic, one on a behavioural/motivational topic, and one on healthy eating/weight loss. Restart programs are also available for those desiring to re-initiate intensive weight loss efforts.

Three to four motivational campaigns are also developed per year. In several campaigns, local participant teams compete for the best attendance, self-monitoring, weight loss, minutes of physical activity or steps as measured by pedometer. Incentives are offered to participants such as self-monitoring postcards, magnets, T-shirts, etc. In addition to these programs, each intervention center offers supervised physical activity sessions at least two times per week throughout the intervention. Attendance is voluntary. The types of activity sessions vary across centers.

To help participants achieve and maintain lifestyle goals, a “toolbox” of strategies that can be used with individual participants is developed. Approximately $100 per participant per year is made available for implementing toolbox strategies. For example, participants having trouble achieving or maintaining the physical activity goal of 150 minutes per week may be loaned or given an aerobic dance tape, enrolled in a community exercise class or seen individually by an exercise trainer to begin a tailored regimen.

Strategies are also undertaken to tailor the intervention to the ethnically diverse population and those with low literacy levels. Lifestyle coaches are often chosen from the same ethnic group as the participant. Reference materials and lesson handouts include information about the types of foods and cooking methods used by various ethnic groups. Alternative approaches to self-monitoring are available for participants with limited reading or math skills. Additionally, cooking classes and menus for calorie-controlled diets allow flexibility to include familiar foods. During the adherence program, intervention centers select topics for the group classes that are most appropriate for their participants (e.g., Hip-Hop dancing).

Program manuals and materials can be found [here](#).
National Diabetes Prevention Program

The National Diabetes Prevention Program aims to prevent or delay the onset of type 2 diabetes among an at-risk, diverse population.\textsuperscript{83} The program is evidence-based and has proven to be effective in reducing risk for diabetes by 58\% in individuals with prediabetes through lifestyle changes with an accompanied modest weight-loss of \textasciitilde{}5-7\% of their total body weight.\textsuperscript{83} The National Diabetes Prevention Program lifestyle training curriculum is based on the Diabetes Prevention Program (DPP).\textsuperscript{44,80,83} The DPP was a clinical research study led by the National Institutes of Health and supported by the Centers for Disease Control and Prevention.\textsuperscript{44,80} Studies subsequent to the DPP determined how best to implement the program where people live and work.\textsuperscript{44(p.45)}

The curriculum consists of 16, one-hour core sessions are focused on the process of adopting lifestyle changes for healthy eating and physical activity. These sessions are designed to help participants develop lifelong skills for healthy living and reinforce step-by-step change. Groups generally meet with their lifestyle coach each week at the same time and location. Post-Core Sessions: Following the core phase, participants attend one hour “post-core” sessions on a monthly basis. The post-core sessions are intended to provide additional support and learning opportunities to participants, and help them transition to independently maintaining their lifestyle changes.

This program is a public-private partnership of community organizations, private insurers, health care organizations, employers, and government agencies. Partners work to establish local evidence-based lifestyle change programs for people at high risk for type 2 diabetes.\textsuperscript{44(p.45)}

The Life! Program

The Life! Program is a course for people over 45 yrs. at high risk of type 2 diabetes, heart disease and stroke. The program encourages participants to adopt healthy behaviours and a more active lifestyle to reduce their risk of these three serious conditions. Funded by the Victorian Government and provided by Diabetes Australia – Victoria, Life! works with participants to help them achieve their behavioural goals and live a healthier life.\textsuperscript{44(p.43)}

Key to the Life! Program is the support participants gain from trained health professionals including a dietitian and exercise physiologist. The participants receive support to improve their nutrition and increase physical activity to reduce their weight and waist circumference. The Life! Program is delivered in two different ways to suit participants – through either a group-based course or individual Life! telephone health coaching sessions.\textsuperscript{44(p.43)} Counselling sessions include a variety of behaviour change techniques, including goal-setting, performance review, relapse prevention, and individualized coaching.\textsuperscript{84} The program is designed to increase awareness, knowledge, skills and self-efficacy, as well as to offer individual and group-based.\textsuperscript{84} Program staff encourage participants to invite a family or friend to attend the program to provide social support and increased motivation for long-term behaviour change.\textsuperscript{84} The program is delivered, on request, in a wide-range of community settings, such as in the workplace.\textsuperscript{84}

More information about the program can be found here.
N-E-W and Diabetes Clinics (Charlotte County, NB)

The N-E-W (Nutrition-Exercise-Wellness) Clinic and Diabetes Clinic are two programs that are run in tandem. Participants are referred between the two programs interchangeably and the programs are considered by staff as stepping stones to one another. The original program, Diabetes Clinic, recruits participants who have been diagnosed with diabetes and/or prediabetes. Partnering with community partners, the diabetes clinic classes are delivered in multiple community settings, including the Anglican Church and the local independent grocery store. The eight-hour educational classes are delivered by a registered dietitian and nurse practitioner every 2-3 months and provide the opportunity for participants to learn about diabetes as well as the management of diabetes and lifestyle. Program staff use educational power point presentations, the Conversation Map™ from Lilly Diabetes and various aids to deliver and reinforce educational material. The morning session of the class includes diabetes/prediabetes and management education (e.g., screening/testing, medications, insulin, supplies, monitoring devices etc.), followed by an exercise class using resistance bands from Jonathan Fowlers, the Acadia research program to prevent type 2 diabetes. The afternoon session focuses nutrition education, including topics such as the Canada’s Food Guide to Healthy Eating, the diabetes food guide, label reading, meal planning etc. and concludes with an educational grocery store tour. Participants are also offered one-on-one individual appointments to monitor behavioural changes and to follow-up with recent lab work, foot exams and/or mental health concerns.

The N-E-W Clinic, which stands for Nutrition-Exercise-Wellness, is a newer program which has recently been recognized as a model program, by New Brunswick’s Department Health and Wellness, to be implemented in multiple districts across the province. Participants for this program are commonly recruited from the Diabetes Clinic program, however the program is open to any individual who wants to adopt a healthier lifestyle, as well as individuals who have been diagnosed with diabetes, prediabetes and/or obesity. The N-E-W Clinic is run by a registered dietitian and nurse practitioner for a period of 12 weeks to help participants adopt healthier lifestyle through eating healthy, physical activity and self-monitoring the achievement of healthy behavioural goals. The series of classes focus on various topics such as nutrition/healthy eating, exercise, wellness, progress and staying motivated. The aim of the program is to improve and/or prevent chronic disease among participants through goal-setting for wellness, healthy eating, physical activity and building self-esteem. To view a table of contents, which includes the various class activities by topic, see below.

The N-E-W clinic program is currently undergoing the peer-review process. Evaluation activities for both programs include client satisfaction surveys, pre-post self-report and measured data.

Contact: Stephanie Henry, Nurse Practitioner, Fundy Health Centre at Stephanie.Henry@HorizonNB.ca
N-E-W Clinic

Table of Contents for Class Activities

Preparation
• Self-referral process
• Poster up in community, MD, NP & other health care professionals’ offices
• Sent out letter to patients
• Sent out letter to health care providers

Class 1: Wellness
• Have clients complete health history questionnaire
• Do clients weight, BP, Height, body fat analysis, waist circumference, self-esteem questionnaire (located last page of health hx questionnaire)
• Give requisition for blood work to be completed within one week (fasting cholesterol-total, trig, HDL, LDL, ratio & non HDL, glucose, HbA1C, TSH)
• Motivator cards (mini cards lamented from dollar store)
• Elastic bands for negative thought stopping
• Give out journal (from dollar store)
• Goal setting sheet – time permitted

Class 2: Nutrition
• Individual meal plans
• Identify hunger (stomach, mouth, heart Craving Change worksheet)
• Nurture yourself sheet (Craving Change)
• Goal setting sheet
• Display models 1lb fat, ideal plate, measuring cups, food portions)
• Practice food label with samples

Class 3: Exercise
• pass out resistance bands and pamphlets (from Acadia University Johnathan Fowlers)
• Practice using resistance bands as a group
• pass out pedometer with instructions for target steps (10,000)
• discuss safety with exercise (do not have electronic copy, see handouts ) re heart rate, talk test, walking program
**note original were handouts from Saint Joseph’s Community Health Center
• goal setting sheet
N-E-W Clinic (cont’d)

Class 4: Progress
- “winging it” class
- No power point use large 3M wall post it/flip chart
- Talk about barriers and successes and dissect each challenge and reward successes
- Problem Solving worksheet (hard copy only Craving Change)
- Ask about previously discussed strategies ie: motivator cards, elastic bands, journals etc

Class 5: Staying Motivated
- Power point
- Investigate your motivation complete sheet and discuss as a group
- What motivates you game (clients get points for answering yes to a positive behaviour/statement)
- Goal setting sheet
- Organize individuals apts for Class 6 (time interval 15-30 mins depending on your client)

Class 6: Individual apts
- 15-30 individual apts
- Hand out blood requisition for post labs
- Discuss personals successes/barriers
- Make note of successes (will use these tidbits of info for report cards)
- Repeat measurements and self-esteem questionnaire
- Complete report cards before class 7

Class 7:
- Party Time 😊
- Order fruit tray/water etc
- Show video “Celebrate What’s Right with the World” National Geographic
- Celebrate personal successes
- Discuss where to go from here (ie start walking club, continue to meet health care provider, continue to meet as a group in community)
- Hand out report cards, send copy of report card to health care provider (ask permission first)
- Hand out evaluation sheet
- Facilitators to meet afterwards to discuss next class, what worked, what didn’t and review evaluations

Future ideas
- phone call follow ups in month, 3 months, 6 months, yearly
- larger class size
- evening vs daytime classes
- encourage to set up peer lead groups/activities
- grocery store tour (like done with current Diabetes class)
Diabetes Fit (Cambridge and Kitchener-Waterloo, ON)

The purpose of Diabetes Fit is to provide customized exercise and healthy living education in a supportive environment for individuals at risk of, or diagnosed with type 2 diabetes. This program supports lifestyle changes that improve physical, mental and spiritual health and slow or reverse progression of symptoms and overall impact of diabetes. Community-based support provided at the YMCA aims to strengthen the continuum of care from health care settings to the community.

Diabetes Fit is a collaborative program supported by a broad group of partners. This group based program includes 16 sessions over 8 weeks. Each session is 1-1.5 hours in length and includes both education and exercise. Participants are provided with a YMCA membership for the duration of the program and participants are encouraged to come in to the YMCA outside of the program for additional exercise.

Education includes the following topics: healthy eating (Canada’s Food Guide, Portion sizes), exercise guidelines, SMART goal setting and action plans, positive thinking, and foot care. Exercise includes cardiovascular exercise, introduction to strength training and stretching. [The] desired outcome around exercise is that participants have increased physical fitness, increased confidence to participate in exercise and are committed to a regular exercise routine post program [graduation]. Social support is an important component of the program. Participants are connected with others in the group, staff and volunteers at the Y, with the goal to increase social support networks that encourage healthy lifestyle behaviours.  

Graduates of Diabetes Fit are invited to join a maintenance program, called Live Smart, for continued support. Live Smart runs for 12 weeks with two 1-hour sessions per week. Sessions include supervised exercise and weekly healthy living educational tips.

See below to view the Diabetes Fit Program Evaluation Results (2011-2013, provided by Crystal Hughes 2014), which includes a program overview, an in-depth program description, a program logic model, links to video testimonials, participants’ comments, and a summary of process, outcome and impact measures obtained during 2011-2013.

Additional information about Diabetes Fit, Live Smart and other wellness programs offered through the YMCA’s of Cambridge and Kitchener-Waterloo can be found here.

Contact: Crystal Hughes, Supervisor Wellness, YMCA’s of Cambridge and Kitchener-Waterloo at chughes@ckwymca.ca
Diabetes Fit Program Evaluation Results (2011-2013)

Program Overview
Exercise and healthy eating are a vital part of preventing and managing diabetes. Diabetes Fit is a program offered by the YMCA’s of Cambridge and Kitchener-Waterloo that provides customized exercise and education support for individuals at risk of, or diagnosed with type 2 diabetes (DM2). Participants that join Diabetes Fit get the support needed to start and maintain an exercise program and learn the basics of healthy eating. The program provides community-based support to extend the continuum of care from health care settings to the community.

The Diabetes Fit group meets twice a week in 1-hour sessions for a total of 8 weeks. Each 1-hour session includes a mix of healthy living education and exercise. Exercise is based on personal fitness levels and individual goals. Personal measurements are completed at the beginning and end of the program including weight, waist circumference, 6-minute walk test, 30-second sit to stand test, static grip test, and a standing balance test. Pre and post assessments also include a questionnaire to collect other relevant qualitative data for program evaluation. Program instructors are kinesiologists and/or YMCA certified trainers. Volunteers assisting with the program have a wide variety of backgrounds including past program participants, registered nurses (RNs), and YMCA certified trainers.

Program participants are encouraged to check their blood pressure, heart rate, and blood glucose before and after their exercise sessions. During the class, staff and volunteers are available to answer questions, monitor, and modify exercises as needed. In addition, a healthy living topic is discussed weekly. Topics include: nutrition, exercise, and condition management. Through the program, participants build confidence to exercise safely and effectively, as well as gain support through exercising with individuals with similar conditions.

The program is free of charge for YMCA members. Non-members pay program fee of $30+HST/month, which includes YMCA membership for duration of the program. With this membership participants have access to other fitness classes and services like swimming, aquafit, sports, walking track, conditioning centre, group fitness classes, among other services. Payment options and membership subsidies are also available.

Program Details
Diabetes Fit classes are typically 8-12 participants, with 2 instructors per class. Participant to instructor ratio is 1:6. Smaller classes ensure a comfortable and safe environment for workouts and discussions. The groups are composed of a mix of both individuals with DM2 and pre-diabetes (preDM); this serves as an encouragement for behaviour change for persons with preDM, as they have the opportunity to learn from those living with DM2.

In order to become enrolled in Diabetes Fit, participants submit an application to be reviewed by the YMCA’s staff. Applicants may require medical approval to participate depending on their health status. If medical approval is required, the applicant is given a form for their doctor or nurse practitioner to complete.

A Diabetes Fit session includes 10 minutes of education, and 50 minutes of physical activity. In addition to the YMCA membership, the participants also receive a program journal and a pedometer. Healthy snacks are provided during a one-hour session with a dietitian. The education component of Diabetes Fit encourages group discussions with every topic presented. Sessions include brainstorming and problem solving in a group setting. Topics include:
• Nuts and Bolts of Physical Activity for people with DM2 or preDM
• SMART Goals, Action Plans
• Exercise Intensity and Pedometer Basics
• Canada’s Food Guide, Dietitian visit to answer nutrition questions from group
• Keeping it Positive-Power of Positive Thinking
• CDA handouts: Blood Glucose Monitoring, Foot care, Just the Basics

Diabetes Fit supports lifestyle changes that improve physical, mental, and spiritual health, and slow or reverse progression of symptoms and overall impact of diabetes. Through this exercise and education program, Diabetes Fit strives to meet a variety of initial, intermediate, and long-term outcomes for their participants. Some of these include:

• Increased access to customized exercise and education sessions
• Improvement in physical fitness and food choices
• Increased confidence to exercise independently
• Commitment to ongoing physical activity
• Increased social support
• Improvement of glucose levels

Program Background
Diabetes Fit began in the year 2011, and operated under the name “Smart Start to Healthy Living”. Multiple partners were involved in the development, implementation, and evaluation of this program (see Figure: 1). This strong network of partners provided program support in the areas of referrals, program consultations and communication, delivery of community surveys, program forms and program materials.

Figure 1: Key Stakeholder Map for Diabetes Fit

Program Logic Model
The revised program logic model in Appendix A presents the current understanding of the relationship between program activities and anticipated outcomes. Minor changes have been implemented to this model in order to make clear distinctions between initial, intermediate, and long-term outcomes. As monitoring and evaluation data becomes available, the logic model will be revised periodically to reflect program changes as the initiative evolves.
Program Process
Measurable outputs reflected in the logic model, can serve to assess design and delivery, consistency, and management of the program. Currently, Diabetes Fit collects a fair amount of data, including background information of participants, which can help examine agreement between program purpose and implementation. The following three tables represent information that can help document what happens in the program.

Table 1: Participant characteristics

<table>
<thead>
<tr>
<th></th>
<th>Apr 2011 – Dec 2013</th>
</tr>
</thead>
<tbody>
<tr>
<td># of participants</td>
<td>341</td>
</tr>
<tr>
<td># who completed program</td>
<td>280</td>
</tr>
<tr>
<td>Gender</td>
<td>Male: 33%</td>
</tr>
<tr>
<td></td>
<td>Female: 67%</td>
</tr>
<tr>
<td>Age range</td>
<td>(20 - 84 years)</td>
</tr>
<tr>
<td>Average age</td>
<td>57.4 years</td>
</tr>
<tr>
<td>Top 3 conditions</td>
<td>Type 2 diabetes: 68%</td>
</tr>
<tr>
<td></td>
<td>Prediabetes: 31%</td>
</tr>
<tr>
<td></td>
<td>Bone/Joint: 26%</td>
</tr>
<tr>
<td>Other conditions</td>
<td>Poor circulation: 19%</td>
</tr>
<tr>
<td></td>
<td>Neuropathy: 18%</td>
</tr>
<tr>
<td></td>
<td>Stroke: 7%</td>
</tr>
</tbody>
</table>

Table 2: Diabetes Fit Outputs

<table>
<thead>
<tr>
<th></th>
<th>Apr 2011 - Dec 2013</th>
</tr>
</thead>
<tbody>
<tr>
<td># of staff and volunteers trained</td>
<td>21</td>
</tr>
<tr>
<td># of program offerings</td>
<td>45</td>
</tr>
<tr>
<td># of program participants</td>
<td>341</td>
</tr>
<tr>
<td># of advisory group members &amp; partners</td>
<td>11</td>
</tr>
<tr>
<td># of advisory group meetings</td>
<td>9</td>
</tr>
<tr>
<td># of community contacts for communication purposes</td>
<td>21</td>
</tr>
</tbody>
</table>
Table 3: Client Satisfaction

<table>
<thead>
<tr>
<th>Client Satisfaction</th>
<th>Satisfaction Scale</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overall Program Satisfaction</td>
<td>Mean: 4.7</td>
</tr>
<tr>
<td></td>
<td>Mode: 5</td>
</tr>
<tr>
<td>Satisfaction with instructors</td>
<td>Mean: 4.8</td>
</tr>
<tr>
<td></td>
<td>Mode: 5</td>
</tr>
<tr>
<td>Likelihood of purchasing a YMCA membership</td>
<td>Yes: 52%</td>
</tr>
<tr>
<td></td>
<td>No: 11%</td>
</tr>
<tr>
<td></td>
<td>Undecided: 37%</td>
</tr>
</tbody>
</table>

1 = very dissatisfied
2 = not satisfied
3 = somewhat satisfied
4 = satisfied
5 = very satisfied

*Please see Appendix B for participant testimonials*

The analysis of data collected between April 2011 and December 2013 indicate that program process is in excellent condition. In a period of two and a half years, the program has demonstrated that it is serving their intended target population as described by participant demographic information. Additionally, the program has shown its ability to maintain participants engaged in the program, as demonstrated by its high completion rates and high ratings of client satisfaction. Finally, Diabetes Fit continues to deliver consistent outputs that directly reflect program growth.

Program Impact

Diabetes Fit has an extensive list of outcomes that work together to improve quality of life and slow the progression of diabetes for participants. For evaluation purposes, these outcomes have been divided based on when they are expected to happen for the participant.

Table 4 addresses the program’s initial outcomes. These outcomes focus on how the program is increasing access and exposure to program activities and services. As such, this data helps to answer the following evaluation questions: “Are participants social support networks expanding?” “Is access/exposure to the different program components (educational and exercise) increasing?”

Table 4: Diabetes Fit Initial Outcomes

<table>
<thead>
<tr>
<th>Outcomes</th>
<th>Attendance (total by year)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Access to program</td>
<td>2011: 87</td>
</tr>
<tr>
<td>Exposure to new exercises</td>
<td>2012: 122</td>
</tr>
<tr>
<td>Access to social support networks</td>
<td>2013: 132</td>
</tr>
<tr>
<td>Access to weekly topics</td>
<td>2011: 87</td>
</tr>
<tr>
<td></td>
<td>Total: 341</td>
</tr>
</tbody>
</table>

Aggregated data from all program sessions held between 2011 and 2013 indicates that the program is meeting its intended initial outcomes. Attendance data reflects a continuous growth of the program each year, serving as an indicator of the program’s goal to increase access and exposure to exercise and healthy living education.

Table 5 addresses the program’s intermediate outcomes, which focus on how the program has had an impact on the participants’ health behaviours. Outcomes are measured through data that is collected through assessment of participants pre and post program. Statistical numbers reported on the following tables include:
1) N (number), which indicates the number of observations used for the analyses. This number fluctuates, as some of the questions on either the pre or post assessment were not answered.

2) Mean Difference, which indicates the difference between the averages of pre and the post sample.

3) 95% confidence interval, which relates to the mean difference. It indicates the acceptable range of differences for 95% of the sample. With this information, the program will be able to specify the range of values within which the difference between the means of the two (pre/post) samples may lie.

4) Post Mode, the number that was selected the most by sample at post assessment. This number gives perspective on where majority of participants lie on the scale that measures the variable of interest.

The information derived from this analysis, can help address the evaluation questions: “Was there an increase in amounts of exercise?” “Was there an increase in physical fitness?” “Was there an increase in confidence to exercise?” “Was there improvement in understanding of healthy nutrition choices?” “Was there an increase in social support?”

<table>
<thead>
<tr>
<th>Table 5: Diabetes Fit Intermediate Outcomes</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Outcome</strong></td>
</tr>
<tr>
<td><strong>Increase in exercise</strong></td>
</tr>
<tr>
<td>During the last 2 months, on average how many times per week did you do continuous aerobic activity in segments of 20-30 minutes per session? 5 pt scale: 0xweek-4+xweek</td>
</tr>
<tr>
<td>During the last 2 months, on average how many times per week did you do strength training activities? 5 pt scale: 0xweek-4+xweek</td>
</tr>
<tr>
<td><strong>Increase in fitness</strong></td>
</tr>
<tr>
<td>Weight (Lbs)</td>
</tr>
<tr>
<td>Waist (inches)</td>
</tr>
<tr>
<td>Sit to Stand (# repetitions per 30 seconds)</td>
</tr>
<tr>
<td>Walk (metres walked per 12 minutes)</td>
</tr>
<tr>
<td><strong>Increase knowledge of exercise principles</strong></td>
</tr>
<tr>
<td>I feel confident in my understanding of the recommended physical activity guidelines 5 point scale: 1=strongly disagree-5=strongly agree</td>
</tr>
<tr>
<td><strong>Increase confidence to exercise</strong></td>
</tr>
<tr>
<td>I feel comfortable to exercise on my own 5 point scale: 1=strongly disagree-5=strongly agree</td>
</tr>
<tr>
<td><strong>Increase knowledge of healthy food</strong></td>
</tr>
<tr>
<td>I feel confident in my understanding of Canada’s Food Guide 5 point scale: 1=strongly disagree-5=strongly agree</td>
</tr>
</tbody>
</table>
Outcome

<table>
<thead>
<tr>
<th>Variable</th>
<th>N</th>
<th>Mean Difference</th>
<th>(±95%CI)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Increase # of daily intake of fruits and veggies</td>
<td>Fruit (#/day)</td>
<td>2</td>
<td>+0.5</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Veggies (#/day)</td>
<td>2</td>
<td>+0.5</td>
</tr>
<tr>
<td></td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>8</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Increase in Quality of Life

<table>
<thead>
<tr>
<th>Variable</th>
<th>N</th>
<th>Mean Difference</th>
<th>(±95%CI)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Energy</td>
<td>1</td>
<td>+0.4</td>
</tr>
<tr>
<td></td>
<td></td>
<td>5</td>
<td>Post Mode=3</td>
</tr>
<tr>
<td></td>
<td></td>
<td>4</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Happy</td>
<td>1</td>
<td>+0.4</td>
</tr>
<tr>
<td></td>
<td></td>
<td>5</td>
<td>Post Mode=3</td>
</tr>
<tr>
<td></td>
<td></td>
<td>4</td>
<td></td>
</tr>
</tbody>
</table>

Pre and Post assessment data collected from 2011 to 2013 have established that Diabetes Fit is meeting their intended intermediate outcomes. Statistical techniques employed have not only shown that there has been a change between all the outcomes measured before and after the program, but that this difference is significant. *see Appendix C*

Table 6 looks at the program’s long-term outcomes, which focus on how participants were able to maintain or further improve their wellness after the program was completed. Data used to answer long-term outcomes come from follow-up telephone interviews, which take place 3 months after participants complete the program. These outcomes are reflective of how the participant was able to take the teachings of the program and apply them into their life.

The information derived from this data can help address the evaluation questions: “Do participants maintain physical/functional fitness?” “Do participants maintain their commitment to regular exercise?” “Do participants maintain intake of healthy foods?” “Do participants maintain social support networks?”

**Table 6: Diabetes Fit Long-Term Outcomes**

<table>
<thead>
<tr>
<th>Follow up questionnaire</th>
<th>Variable</th>
<th>N</th>
<th>Averages</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maintenance/improvement of physical fitness</td>
<td>Aerobic</td>
<td>106</td>
<td>Total 162.6 min per week 44.4 min, 3.5 times per week</td>
</tr>
<tr>
<td></td>
<td>Strength</td>
<td>181</td>
<td>66% maintained aerobic exercise</td>
</tr>
<tr>
<td></td>
<td></td>
<td>181</td>
<td>41% maintained strength training</td>
</tr>
<tr>
<td>Maintenance of changes that help blood glucose levels</td>
<td>181</td>
<td>83% reported continuing changes that help their glucose levels</td>
<td></td>
</tr>
<tr>
<td>Committed to regular exercise routine</td>
<td>181</td>
<td>71% expressed maintenance of a regular exercise program</td>
<td></td>
</tr>
<tr>
<td>Maintenance/improvement of social support networks</td>
<td>181</td>
<td>41% reported keeping in touch with other program participants and staff</td>
<td></td>
</tr>
</tbody>
</table>
Follow-up data collected between 2011 and 2013, indicate that the majority of the respondents continue exercising and employing lifestyle changes to help their blood glucose level management. It is important to note that the response rate for the follow-up interviews was only of 53%, which may not reflect a true representation of all of the participants. Low rates of strength training and social support networks are addressed in the recommendation section.

**Recommendations**

The data analysis also yields information that the program can use for further program improvements. For example, satisfaction results may present a bias, given that participants who complete the program are the ones reporting these. As a recommendation, it would be a valuable idea to follow up with the participants who dropped out of the program and find out their rates of client satisfaction, reasons for dropping out, and plan according to these findings. The data for 2011 to 2013 allowed the program to review some basic characteristics of participants who dropped out of Diabetes Fit, displayed on Table 7. “Dropouts” were classified as participants who attended less than 10 times and who were not present for their post-assessments.

**Table 7: Participant (Dropout) characteristics**

<table>
<thead>
<tr>
<th></th>
<th>Apr 2011 – Dec 2013</th>
</tr>
</thead>
<tbody>
<tr>
<td># of participants</td>
<td>58</td>
</tr>
<tr>
<td>Dropout rate</td>
<td>18%</td>
</tr>
<tr>
<td>Gender</td>
<td></td>
</tr>
<tr>
<td>Male: 29%</td>
<td></td>
</tr>
<tr>
<td>Female: 69%</td>
<td></td>
</tr>
<tr>
<td>Age range</td>
<td>(25 - 78 years)</td>
</tr>
<tr>
<td>Average age</td>
<td>54.5 years</td>
</tr>
<tr>
<td>Conditions</td>
<td></td>
</tr>
<tr>
<td>Type 2 diabetes: 57%</td>
<td></td>
</tr>
<tr>
<td>Pre diabetes: 28%</td>
<td></td>
</tr>
<tr>
<td>Missing: 14%</td>
<td></td>
</tr>
</tbody>
</table>

**Conclusion**

Evaluation of the data collected by Diabetes Fit from 2011 to 2013 has demonstrated excellent results in terms of program impact. In addition, the data also reflects that the program process, delivery, and implementation are behaving as intended. This analysis demonstrated support for the relationship between program activities and anticipated outcomes, as reflected in the program’s logic model. It can be concluded that Diabetes Fit is meeting their intended outcomes, which work together to improve quality of life and slow the progression of diabetes for participants.
Video Testimonials
Jamie’s Story  http://www.ymcacambridgekw.ca/en/family-YMCA-centres/ark/Diabetes-Fit.asp
Doris’s Story  http://www.ymcacambridgekw.ca/en/family-YMCA-centres/ark/Live-Smart.asp

Comments From Participants:
“Diabetes Fit is an excellent start for people of any age or shape. One of the barriers to getting healthier is fear. Fear of not fitting in, fear of looking stupid because you don’t know what to do or how to do things. This program takes those fears away by starting at the basics and helping people to feel comfortable with the surroundings.”
“Most beneficial part of Diabetes Fit was the group support.”
“Loved to come to classes. Very informative. Would recommend it to anybody. Will continue on my own with exercises.”
“Nice to have so much encouragement & genuine care for me (a stranger).”
“Instructors were very good at providing the right level of support and encouragement.”
“I have really benefitted from this program. Mentally and physically I am in a much better place! My family has noticed this. I feel very comfortable here. Thank you!”

Gayle Parker, RN-Speaking Notes from YMCA of Cambridge and Kitchener-Waterloo Annual General Meeting April 24, 2014
I would like to provide you with a perspective on how the YMCA has provided a much needed missing link for people with chronic mental illness. I would also like to show you how their wellness programs have helped this population.
People with chronic mental illness such as schizophrenia, bipolar, and chronic depression also have high rates of chronic physical illnesses such as type 2 diabetes, cardiovascular disease, and chronic obstructive pulmonary disease, which results a 25 year reduced life expectancy. We know that these chronic physical illnesses can be prevented and/or modified through exercise. Most people with chronic mental illness also live below the poverty line as they have difficulty securing full time employment and therefore rely on disability. As if these issues are not enough to deal with, what people with serious mental illness have told me time again over the years, is that the most devastating part of the illness is the social isolation.
The wellness programs work so well for this population as they:

- Are hands on exercising programs, not cognitively based, and build on strengths
- Decrease social isolation by belonging to a community
- The fees are reasonable and geared towards income
- Flexible and allow support persons to exercise along with the participant, and allow organizations like Waterloo Regional Homes for Mental Health and other group homes to have house memberships that the residents can access.

I need to leave you with a little story that will capture how the Y is improving people’s lives. I was waiting one day at the Y to meet with Crystal when one of the fellows I work with at a group home came in by himself with his gym bag slung over his shoulder. He told me he was so stressed out with his roommate and all the issues happening at his group home that he knew he needed to get away and go to the Y where he could exercise and get rid of his stress. What is so amazing about this story is that this fellow used to spend the majority of his day lying in his bed and he was over a hundred pounds heavier than he is today.
Thank you for being such an inclusive program where everyone belongs

Appendix C:

Variables that served as indicators of certain outcomes were analyzed using a Paired T-test to compare matched individual responses before and after they had gone through the program.
The Paired T-test is used to assess whether the mean (average) of two groups (pre/post) are statistically different from each other. With this statistical analysis, the program can determine if the difference between the pre-test average score and the post-test average score is statistically significant, meaning that the change was not just random and it occurred as a result of the intervention.
From the Paired T-test two numbers are reported on Table 8. The first number is the *t*-value, which shows how different the two samples are from each other. The *t*-value is related to the size of the difference between the means of the two samples the program is comparing (the larger *t* is, the larger the difference). It is important to note that this value is not the most useful result to report, unless accompanied by the *p*-value, which shows how likely it is that such a difference would appear in two samples from the same population. The *p*-value is the most important number, as it demonstrates significance of the change or difference. In other words, proves that the change was caused by the intervention and it was not random. The lower this value is, the less likely it is that the program would find such a difference by chance. It has been determined from literature¹ that a *p*-value of less than 0.05 is considered to show significance.

Reference:


### Table 8: Diabetes Fit Intermediate Outcomes

<table>
<thead>
<tr>
<th>Outcome</th>
<th>Variable</th>
<th>N</th>
<th>Mean Difference</th>
<th>(±95%CI)</th>
<th>T-test value</th>
<th>Two-Tail P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Increase in amount of exercise</strong></td>
<td><strong>Aerobic</strong></td>
<td>214</td>
<td>1.5</td>
<td>(1.3, 1.7)</td>
<td>-13.3</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td></td>
<td><strong>Strength</strong></td>
<td>210</td>
<td>2</td>
<td>(1.8, 2.0)</td>
<td>-22.8</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td><strong>Increase physical fitness</strong></td>
<td><strong>Weight (Lbs)</strong></td>
<td>237</td>
<td>-2.1</td>
<td>(-1.5, -2.7)</td>
<td>7.1</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td></td>
<td><strong>Waist (inches)</strong></td>
<td>233</td>
<td>-0.9</td>
<td>(-1.2, -0.6)</td>
<td>5.3</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td><strong>Outcome</strong></td>
<td><strong>Sit to Stand (# reps per 30 sec)</strong></td>
<td>223</td>
<td>3.9</td>
<td>(3.4, 4.4)</td>
<td>-15.5</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td><strong>Variable</strong></td>
<td><strong>N</strong></td>
<td></td>
<td><strong>Mean Difference</strong></td>
<td>(±95%CI)</td>
<td><strong>T-test value</strong></td>
<td><strong>Two-Tail P-value</strong></td>
</tr>
<tr>
<td><strong>Walk (meters per 12 min)</strong></td>
<td><strong>N</strong></td>
<td>199</td>
<td><strong>87.4</strong></td>
<td>(63.9, 110.9)</td>
<td><strong>-7.3</strong></td>
<td>&lt;0.001</td>
</tr>
<tr>
<td><strong>Increase knowledge of exercise principles</strong></td>
<td><strong>Understand Exercise</strong></td>
<td>177</td>
<td><strong>0.6</strong></td>
<td>(0.4, 0.8)</td>
<td><strong>-7.5</strong></td>
<td>&lt;0.001</td>
</tr>
<tr>
<td><strong>Increase confidence to exercise</strong></td>
<td><strong>Comfort Exercise</strong></td>
<td>177</td>
<td><strong>0.4</strong></td>
<td>(0.2, 0.6)</td>
<td><strong>-4.4</strong></td>
<td>&lt;0.001</td>
</tr>
<tr>
<td><strong>Increase knowledge of healthy food</strong></td>
<td><strong>Understand CFG</strong></td>
<td>216</td>
<td><strong>0.5</strong></td>
<td>(0.4, 0.6)</td>
<td><strong>-6.5</strong></td>
<td>&lt;0.001</td>
</tr>
<tr>
<td><strong>Increase fruits and veggies</strong></td>
<td><strong>Fruit (#/day)</strong></td>
<td>221</td>
<td><strong>0.5</strong></td>
<td>(0.4, 0.6)</td>
<td><strong>-6.5</strong></td>
<td>&lt;0.001</td>
</tr>
<tr>
<td></td>
<td><strong>Veggies (#/day)</strong></td>
<td>218</td>
<td><strong>0.5</strong></td>
<td>(0.3, 0.7)</td>
<td><strong>-6.0</strong></td>
<td>&lt;0.001</td>
</tr>
<tr>
<td><strong>Increase in Quality of Life</strong></td>
<td><strong>Energy</strong></td>
<td>154</td>
<td><strong>0.4</strong></td>
<td>(0.3, 0.5)</td>
<td><strong>-5.8</strong></td>
<td>&lt;0.001</td>
</tr>
<tr>
<td></td>
<td><strong>Happy</strong></td>
<td>154</td>
<td><strong>0.4</strong></td>
<td>(0.3, 0.5)</td>
<td><strong>-5.8</strong></td>
<td>&lt;0.001</td>
</tr>
</tbody>
</table>

Box & Whisker Plot 12 Minute Walk Test N=199
Box & Whisker Plot
12 Minute Walk Test
N=199

12 minute Walk Test

metres

0 100 200 300 400 500 600 700 800 900 1000

Pre Walk Test  Post Walk Test
Fun with Food and Fitness (Ottawa, ON)

Fun with Food and Fitness is a 6 week program offered by Centretown Community Health Centre two to three times each year. The program goal is to support individuals to become more physically active and to eat healthier on a daily basis through discussion, walking, gentle exercise, pedometer use, and cooking/eating together and building self-management skills. For example, participants perform self-monitoring of behaviours, goal-setting, planning, problem solving, and seek to find both social support and resources to maintain healthy behaviours. The focus is on adopting an active lifestyle and healthy eating practices with the goal of decreasing individual lifestyle risk factors related to chronic disease. The intended target group for Fun with Food & Fitness are men and women, 18 years of age and older who face barriers to physical activity and healthy eating because of income or sedentary lifestyles. The program is facilitated by a Registered Dietitian and a Health Promoter.

Format for each individual session:

- Participant check in, record pedometer steps, feedback on individual action plans, physical activity discussion, physical activity and healthy eating discussions, physical activity and outdoor walk, cooking/eating and set individual weekly action goal.

- Healthy eating topics include (varies according to group identifies):
  - The basics - kitchen safety; the 'D' word - dieting; goal setting
  - Canada’s Food Guide- portion sizes, nutrition labels
  - How to curb your cravings - connection between food and mood
  - Eating well to stay healthy
  - Achieving a healthy weight - barriers and breakthroughs; strategies for weight loss and weight maintenance
  - Meal planning - meal planning on a budget; eating away from the home
  - Good Food Box
  - Grocery store tour - smart shopping, label reading

- Physical activity topics include (varies according to what the group identifies):
  - Getting started; benefits of physical activity
  - How to use a pedometer; goal setting and self-monitoring
  - Canada’s Guide to Physical Activity and components of fitness (endurance, strength, flexibility, body composition)
  - Smart and safe physical activity - how much is enough, preventing injury, exercise myths, lifestyle physical activity
  - Overcoming barriers to being physically active
  - Exercise - mood and stress
  - How to build support; how to build and maintain motivation
  - Maintaining physical activity; community resources

To view the 2014 Fun with Food and Fitness program manual, contact Susannah Juteau. The manual includes the program overview, description, a detailed plan of program content and activities as well as an evaluation summary.

Contact: Susannah Juteau, Registered Dietitian, Centretown Community Health Centre at sjuteau@centretown.org
Get FHT (Guelph, ON)

Get FHT is a healthy living program which aims to reduce diabetes and cardiovascular disease risk among individuals with metabolic syndrome. The program staff includes a registered nurse, a registered dietitian, a registered kinesiologist and a social worker. This 12-month program provides group education to participants, including the use of a conversation map, as well as offering tailored individual counselling sessions. Participants are also provided with access to a wide range of wellness groups on various topics, such as tobacco cessation. In these wellness groups, for example, individuals will receive/participate in FREE NRT up to 26 weeks, craving change programming, cooking classes and go healthy/mental health groups. Program participants are monitored every 3 months for changes in blood work, blood pressure and waist circumference. To ensure services are linguistically appropriate, the GetFHT program offers free interpreter services and handouts in 9 different languages. Motivational interviewing is also a critical component of the program to support lifestyle change and maintenance of healthy behaviours. Additionally, the GetFHT program runs community-based screening events to identify those at risk and refer them to the appropriate care giver.

Evaluation activities include client satisfaction, peer-review process, critical appraisal, and outcomes measurement. Evaluations results can be viewed here.

Visit the Guelph Family Health Team website for more information.

Contact: Sam Marzouk MB BCh, MBA, Corporate Manager Community Programs, Guelph Family Health Team at sam.marzouk@guelphfht.com

Vitality-Healthy Lifestyles Program (Timiskaming, ON)

This program offered at Timiskaming Health Unit is a 9 week group session that aims to reduce the risks associated with patients who are overweight and obese using the Canada Guidelines for Body Weight Classification in Adults. The curriculum for the Vitality program is based on both the Healthy You program (Developed by Hamilton FHT) and the Craving Change™ curriculum.

The Vitality Healthy Lifestyles Program is co-facilitated by a Registered Dietitian and a Mental Health Worker. It’s intended for people who want a lifestyle/non-diet way to help them reach a healthier weight. One of the main components of this program is “Craving Change” which provides a missing piece to the puzzle, helping people to change their eating habits. It translates behavior modification and cognitive-behavioral theory into appealing and practical strategies.

Program participants are invited to attend the program and are drawn from the Family Health Team client information system of patients with a BMI greater than 25 (as these individuals are at a higher risk of developing chronic conditions such as diabetes) and who were also identified as having anxiety and/or depression. Up to 15 persons participate in the program for the duration.

For more information, the link to Timiskaming Health Unit’s website can be found here.
TLC - Therapeutic Lifestyle Clinic (Ottawa, ON)

Therapeutic Lifestyle Clinic (TLC) is a program that recruits adults between the ages of 18-75 who want to make healthy lifestyle changes (Morin, Anna. Conversation with: Donna Smith. 2014 Dec 19). Program staff use a variety of communication and social marketing strategies to raise awareness about the program and disseminate the program’s healthy living messages. For example, posters are prominently displayed in the affiliated primary care clinic; TV slides are rotated in the waiting room; a telephone message is played when callers are on hold; TLC disseminates a healthy living tip-of-the-month; and a newsletter is distributed semi-annually (Morin, Anna. Conversation with: Donna Smith. 2014 Dec 19).

The goals of the program include:
- to improve self-management skills and self-efficacy;
- to educate patients about the potential impact of healthy lifestyle choices on wellbeing;
- to improve health and to prevent/manage chronic disease among participants through long-term lifestyle changes;
- to help participants to set and achieve incremental and realistic behavioural goals;
- to advocate for health promotion; and
- to link patients with available community resources (Morin, Anna. Conversation with: Donna Smith. 2014 Dec 19).

The program staff at TLC includes a registered dietitian, registered kinesiologist and a social worker. All program staff are provided with intensive training in motivational interviewing by Steve Hotz (a clinical psychologist and expert in behaviour change using motivational interviewing) (Morin, Anna. Conversation with: Donna Smith. 2014 Dec 19). The program is theory-based, guided by the Transtheoretical Model of behaviour change (Stages of Change) (Morin, Anna. Conversation with: Donna Smith. 2014 Dec 19). This includes the assessment of participants’ stage of change; having participants rate the value or importance of the behaviour changes and their experienced level of confidence to perform healthy behaviours; and then tailoring the goals/intervention based on individual priorities and degree of self-efficacy (Morin, Anna. Conversation with: Donna Smith. 2014 Dec 19). Social support is also a critical behaviour change technique used in the TLC program. Individuals are offered both individual counselling and group-based sessions to foster a supportive environment for behaviour change and family members are welcome to attend counselling sessions (Morin, Anna. Conversation with: Donna Smith. 2014 Dec 19). Additionally, program staff provide informational support to link participants to community resources that are individually tailored to their own context and resources (Morin, Anna. Conversation with: Donna Smith. 2014 Dec 19).

The program runs for a complete 12 months, with maintenance sessions also provided to program graduates at 6-12 months and as needed (Morin, Anna. Conversation with: Donna Smith. 2014 Dec 19). Details of program sessions include:
- participants preference for telephone vs. face-to-face sessions with program staff;
- focus of counselling sessions is tailored to participants’ priorities;
- 1 initial assessment and 7 individual sessions with registered dietitian and registered kinesiologist;
- 1 initial assessment, 3 follow-up individual sessions, and 1 maintenance session (following graduation) with social worker; and
- 3 group-based educational sessions with registered dietitian and registered kinesiologist (Morin, Anna. Conversation with: Donna Smith. 2014 Dec 19).


Contact: Anna Morin, Registered Kinesiologist, Primrose Family Medicine Centre at AnMorin@bruyere.org.
References


Acknowledgements

The named authors of this report would like to acknowledge the support of the Ontario Ministry of Health and Long-Term Care.

Additionally, NRC and PARC acknowledges the participating staff from promising practice programs featured in this report for kindly sharing program and contact information.

Suggested Citation

- Tools - for Implementing Promising Practices in Diabetes Prevention
This tool was developed by the Physical Activity Resource Centre (PARC) and the Nutrition Resource Centre (NRC) to summarize important information from *Guidelines for Implementing Promising Practices in Diabetes Prevention*. The purpose of this tool is to support the work you do by clearly identifying the steps necessary to implement a promising practice within your program.

<table>
<thead>
<tr>
<th>Promising Practice</th>
<th>Action Items</th>
<th>Tools</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Uses a systematic approach to education and program planning</td>
<td>• Engage learners/program participants and the community</td>
<td>Provincial</td>
</tr>
<tr>
<td></td>
<td>• Conduct a needs assessment and baseline research</td>
<td>• <a href="#">Introduction to Models and Theories webinar slides</a> (Public Health Ontario)</td>
</tr>
<tr>
<td></td>
<td>• Develop goals, standards and objectives</td>
<td>• <a href="#">Online Health Program Planner</a> (Public Health Ontario)</td>
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<tr>
<td></td>
<td>• Identify constraints and barriers</td>
<td>• <a href="#">Priority Setting Process Checklist</a> (Public Health Ontario)</td>
</tr>
<tr>
<td></td>
<td>• Select theory-driven and evidence-based strategies, methods, and techniques</td>
<td>• <a href="#">Program Logic Models webinar slides</a> (Public Health Ontario)</td>
</tr>
<tr>
<td></td>
<td>• Develop tailored program/project materials (concept test, develop, review, pilot test, revise)</td>
<td>• <a href="#">Skills for Health Promotion Toolkit</a> (Public Health Ontario)</td>
</tr>
<tr>
<td></td>
<td>• Implement the program</td>
<td>• <a href="#">Towards Evidence-Informed Practice (TEIP) tools</a> (Ontario Public Health Association)</td>
</tr>
<tr>
<td></td>
<td>• Conduct formative and summative evaluations</td>
<td>International</td>
</tr>
<tr>
<td></td>
<td>• Use evaluation data for continuous program improvement</td>
<td>• <a href="#">Community Toolbox</a> (University of Wisconsin)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• <a href="#">Developing an Intervention</a> (University of Kansas)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• <a href="#">Enhancing Program Performance with Logic Models online course</a> (University of Wisconsin)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• <a href="#">Logic Model Workbook</a> (Innovation Network)</td>
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<td>• <a href="#">Systems Approach Workbook for Health Education and Program Planning</a> (Jones &amp; Bartlett Learning)</td>
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<td>Local Tools:</td>
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</tbody>
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*Guidelines for Implementing Promising Practices in Diabetes Prevention Toolkit - Reference Sheet*
<table>
<thead>
<tr>
<th>Promising Practice</th>
<th>Action Items</th>
<th>Tools</th>
</tr>
</thead>
</table>
| 2. Designed for primary prevention to modify risk for type 2 diabetes | • Assess program participants for type 2 diabetes risk  
• Refer all individuals identified at risk to a primary care physician  
• Target and encourage at-risk individuals to participate in diabetes prevention program activities  
• Implement a structured lifestyle intervention that focuses on healthy eating, increased physical activity, and achieving or maintaining a healthy weight | National  
• [Canadian Diabetes Risk Assessment Questionnaire (CANRISK)](Government of Canada)  
• [Canadian Guidelines for Body Weight Classification in Adults](Health Canada)  
• [CANRISK Questionnaire in different languages](Government of Canada)  
• [CANRISK Patient Guide](Public Health Agency of Canada)  
• [Body Weight Classification Quick Reference Tool for Professionals](Health Canada)  
• [Screening for Type 1 and Type 2 Diabetes Clinical Practice Guidelines](Canadian Diabetes Association)  
<p>| Local Tools: |   |   |</p>
<table>
<thead>
<tr>
<th>Promising Practice</th>
<th>Action Items</th>
<th>Tools</th>
</tr>
</thead>
</table>
| 3. Applies a mix of behaviour change interventions and techniques that target healthy eating AND physical activity behaviours | • Plan activities to increase healthy eating  
• Plan activities to increase physical activity  
• Utilize behaviour change techniques (e.g., goal-setting and goal review, self-monitoring, performance review, relapse prevention, individual tailoring, or motivational interviewing) | Behaviour Change:  
• [Goal Setting information](#) (Public Health Ontario)  
• [Motivational Interviewing Tips Sheet](#) (Fort Defiance Indian Hospital Board, Inc.)  
• [Physical Activity Behaviour Change 201 Webinar](#) (PARC)  
• [Stages of Change Summary](#) (Winnipeg Regional Health Authority - pg. 8)  
• [The Readiness Ruler](#) (Region of Peel Public Health)  
• [Tools for Behavior Change Communication](#) (Johns Hopkins Bloomberg School of Public Health)  
• [Using Motivational Interviewing to Encourage People with Diabetes to Increase Physical Activity](#) (Alberta Centre for Active Living)  

Physical Activity:  
• [Canadian Physical Activity and Sedentary Behaviour Guidelines](#) (Canadian Society for Exercise Physiology)  
• [Canadian Physical Activity Guidelines Key Messages](#) (Physical Activity Resource Centre)  
• [Tips to Get Active](#) (Public Health Agency of Canada)  
• [Walk This Way tracking calendar with pedometer](#) (Physical Activity Resource Centre)  

Healthy Eating:  
• [Eating Well with Canada’s Food Guide](#) (Health Canada)  
• [The Canadian Nutrient File](#) (Health Canada)  
• [The Healthy Eating Manual](#) (Nutrition Resource Centre)  
• [Healthy Weights tools](#) (Health Canada)  
• [Tools for preventing and managing Type 2 diabetes](#) (Eat Right Ontario)  

Physical Activity & Health Eating:  
• [More Than 50 Ways to Prevent Type 2 Diabetes](#) (National Diabetes Education Program)  
• [Small Steps. Big Rewards. Your GAME PLAN to Prevent Type 2 Diabetes: Information for Patients](#) (National Diabetes Education Program)  
• [Tools for Behavior Change Communication](#) (Johns Hopkins Bloomberg School of Public Health)  

Local Tools:  
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### Promising Practice 4. Applies a mix of multiple health promotion strategies

<table>
<thead>
<tr>
<th>Action Items</th>
<th>Tools</th>
</tr>
</thead>
</table>
| Increase community awareness to impact knowledge, attitudes and behaviours | Provincial  
- Developing Health Communications Campaigns webinar slides (Public Health Ontario)  
- Policy Development Resources (HC Link)  
- Roadmap to Policy Development (The Health Communication Unit)  
- Social Media Starter Kit (HC Link)  
- Toolkit to Healthier Communities - Influencing Healthy Public Policies (Ontario Chronic Disease Prevention Alliance)  
- Workbook for Influencing Physical Activity Policy (Physical Activity Resource Centre) |
| Use communication activities to educate the community and program participants about:  
  - the risk factors for diabetes and consequences of unhealthy behaviours  
  - how to adopt physical activity and healthy eating behaviours and the health benefits  
  - how to access a free and appropriate diabetes risk assessment questionnaire  
  - where to get tested if at risk for diabetes  
  - how to access community resources and/or diabetes prevention programming | Resources for Special Populations  
- Diabetes in the Aboriginal Community (Canadian Diabetes Association)  
- Diabetes in the Chinese Community (Canadian Diabetes Association)  
- Diabetes in the Latin American Community (Canadian Diabetes Association)  
- Diabetes in the South Asian Community (Canadian Diabetes Association)  
- First Nation & Inuit Health - Diabetes (Health Canada)  
- Type 2 Diabetes in Aboriginal Peoples Clinical Practice Guidelines (Canadian Diabetes Association) |
| Ensure messages are consistent, clear and culturally appropriate |  |
| Provide education/skill building activities to increase knowledge and skills |  |
| Develop healthy policies and create healthy environments |  |
| Incorporate the physical, social, and political environments when promoting healthy behaviours and healthy lifestyles |  |
| Engage community stakeholders to help create supportive physical and social environments |  |

Local Tools:
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### Promising Practice
5. Includes social support as a key component of an effective behaviour modification program

<table>
<thead>
<tr>
<th>Action Items</th>
<th>Tools</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Encourage participants to engage social support from others</td>
<td>National</td>
</tr>
<tr>
<td>• Help participants to better understand the short and long-term impacts of health behaviours</td>
<td>• <a href="http://example.com">A Guide to Facilitating Diabetes and Mental Health Peer Support Groups</a> (Canadian Mental Health Association)</td>
</tr>
<tr>
<td>• Nurture confidence in participants’ ability to make and sustain healthy behaviours</td>
<td></td>
</tr>
<tr>
<td>• Help participants identify barriers in their social contexts and/or relationships that influence their behaviour</td>
<td></td>
</tr>
<tr>
<td>• Help plan to overcome barriers and/or to make small changes over time</td>
<td>International</td>
</tr>
<tr>
<td>• Choose a mix of behaviour change techniques and social support strategies with a strong focus on behaviour maintenance (e.g., providing/engaging in social support, goal-setting, self-monitoring of behaviour(s)/progress, reviewing goals, providing feedback, affirmation, relapse management, and follow-up prompts)</td>
<td>• <a href="http://example.com">Barriers to Being Active Quiz</a> (Centers for Disease Control and Prevention)</td>
</tr>
<tr>
<td>• Maximize the frequency of contact between program facilitator and participant to offer ongoing support</td>
<td>• <a href="http://example.com">How to Help a Loved One Cope with Diabetes</a> (National Diabetes Education Program)*</td>
</tr>
<tr>
<td>• Provide more intensive support to the participant at the beginning of the program and reduce frequency over time.</td>
<td>• <a href="http://example.com">Social Support Assessment Tool</a> (Diabetes Initiative)*</td>
</tr>
<tr>
<td>• Offer follow-up sessions at scheduled intervals for 2 years following the intervention</td>
<td></td>
</tr>
</tbody>
</table>

### Promising Practice
6. Delivered in multiple community-based settings

<table>
<thead>
<tr>
<th>Action Items</th>
<th>Tools</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Deliver program activities in a wide-range of community settings including:</td>
<td>International</td>
</tr>
<tr>
<td>- the home</td>
<td>• <a href="http://example.com">Engaging Faith Communities in Diabetes Prevention and Control</a> (National Diabetes Education Program)</td>
</tr>
<tr>
<td>- the community</td>
<td>• <a href="http://example.com">Preventing Type 2 Diabetes - Population and Community-Level Interventions</a> (National Institute for Health and Care Excellence)</td>
</tr>
<tr>
<td>- the workplace</td>
<td></td>
</tr>
<tr>
<td>- the primary care setting</td>
<td></td>
</tr>
<tr>
<td>• Deliver program activities at various times</td>
<td></td>
</tr>
</tbody>
</table>

*to be used by program participants
<table>
<thead>
<tr>
<th>Promising Practice</th>
<th>Action Items</th>
<th>Tools</th>
</tr>
</thead>
</table>
| 7. Uses program staff with relevant expertise to develop a quality-assured program AND provides appropriate and sufficient training to program staff | • Use program staff with the relevant expertise to develop intervention/program components  
• Ensure program/interventions are delivered by program staff with the relevant knowledge, skills and expertise  
• If expertise is lacking, ensure program staff have received appropriate and sufficient training in the following areas:  
  ▪ Diabetes content - type 2 diabetes, the consequences of type 2 diabetes, risk factors, how to prevent or delay the onset of type 2 diabetes and how to give advice to reduce risk  
  ▪ Nutrition and physical activity content - guidelines for healthy eating/physical activity, skills required to eat healthy and perform physical activity, how to advise participants on healthy eating and physical activity  
  ▪ Raising awareness and effective ways to communicate risk  
  ▪ How to deliver a validated risk assessment questionnaire and how to advise participants based on risk score  
  ▪ How to deliver interventions and/or intensive lifestyle modification programs  
  ▪ How to provide advice to participants  
  ▪ Behaviour change techniques  
  ▪ How to tailor interventions to meet the individual needs of participants  
  ▪ How to work with vulnerable and/or culturally diverse groups  
  ▪ How to refer participants for the appropriate intervention (e.g., refer high-risk participants to a primary care physician for diabetes screen/test)  
  ▪ How to assess, audit and evaluate the diabetes prevention project | Provincial  
• Developing and delivering successful presentations: Applying adult learning principles to support knowledge exchange Webinar Slides (Public Health Ontario)  
International  
• Training Those Involved in Promoting Healthy Lifestyles, (National Institute for Health and Care Excellence)  
Local Tools:  
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• |
<table>
<thead>
<tr>
<th>Promising Practice</th>
<th>Action Items</th>
<th>Tools</th>
</tr>
</thead>
</table>
| 8. Reports program evaluation results in the form of a report or peer-reviewed journal article AND provides evidence of effectiveness in eliciting desired behaviour changes | • Develop an evaluation plan including intervention goal(s), process/outcome objectives, appropriate indicators to measure attainment of objectives, and methods for data collection/analysis  
  • Pilot test evaluation tools and materials  
  • Collect the following information at a minimum:  
    - number and demographics of participants registered  
    - level of attendance  
    - changes in amount of moderate to vigorous physical activity undertaken each week  
    - changes in dietary intake, with a focus on total intake of fat, saturated fat and fibre  
    - changes in weight, waist circumference or BMI  
    - level of uptake (e.g., the percentage of those invited who attend the first session)  
    - program content  
    - methods of delivery  
  • Submit evaluation report for the peer review process  
  • Conduct process and outcome evaluations | Provincial  
  • [At the Heart of Good Objectives and Indicators](#) (Public Health Ontario)  
  • [Evaluating health promotion programs webinar slides](#) (Public Health Ontario)  
  • [The ten steps to evaluating a health promotion program](#) (Public Health Ontario)  

National  
  • [30 ideas for a culture of evaluation](#) (Community Solutions Planning and Evaluation)  
  • [Canadian Best Practice Portal’s Evaluation Resources and Tools](#) (Public Health Agency of Canada)  
  • [A Guide to Evaluation in Health Research](#) (Canadian Institute of Health Research)  
  • [Registry of Methods and Tools: Program planning, implementation and evaluation tools](#) (National Collaborating Centre for Methods and Tools)  

Local Tools:  
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  •  
  •
**Guidelines for Implementing Promising Practices in Diabetes Prevention Toolkit – Planning Worksheet**

This tool was developed by the Physical Activity Resource Centre (PARC) and the Nutrition Resource Centre (NRC) to summarize important information from *Guidelines for Implementing Promising Practices for Diabetes Prevention*. The purpose of this tool is to support the work you do by clearly identify the steps necessary to implement a promising practice within your program.

<table>
<thead>
<tr>
<th>Promising Practice</th>
<th>What has your program achieved so far?</th>
<th>What would you like your program to further achieve?</th>
<th>What specific action(s) do you plan to take to achieve this?</th>
<th>When do you hope to achieve this?</th>
</tr>
</thead>
</table>
| 1. Uses a systematic approach to education and program planning | ☐ Engage learners/program participants and the community  
☐ Conduct a needs assessment and baseline research  
☐ Develop goals, standards and objectives  
☐ Identify constraints and barriers  
☐ Select theory-driven and evidence-based strategies, methods, and techniques  
☐ Develop tailored program materials (concept test, develop, review, pilot test, revise)  
☐ Implement the program  
☐ Conduct formative and summative evaluations  
☐ Use evaluation data for continuous program improvement | | | |
| 2. Designed for primary prevention to modify risk for type 2 diabetes  
Program Example:  
• [Diabetes Prevention Program](#) | ☐ Assess program participants for type 2 diabetes risk  
☐ Refer all individuals identified at risk to a primary care physician  
☐ Target and encourage at-risk individuals to participate in diabetes prevention program activities  
☐ Implement a structured lifestyle intervention that focuses on healthy eating, increased physical activity, and achieving or maintaining a healthy weight | | | |
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<th>Promising Practice</th>
<th>What has your program achieved so far?</th>
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| 3. Applies a mix of behaviour change interventions and techniques that target healthy eating AND physical activity behaviours | □ Plan activities to increase healthy eating  
□ Plan activities to increase physical activity  
□ Utilize behaviour change techniques (e.g., goal-setting and goal review, self-monitoring, performance review, relapse prevention, individual tailoring, or motivational interviewing) |                                                                 |                                                             |                                                             |
| Program Example:  
• National Diabetes Prevention Program |                                                                                                                                  |                                                             |                                                             |                                                             |
| 4. Applies a mix of multiple health promotion strategies                           | □ Increase community awareness to impact knowledge, attitudes and behaviours  
□ Use communication activities to educate the community and program participants about: the risk factors for diabetes and consequences of unhealthy behaviours; how to adopt physical activity and healthy eating behaviours and the health benefits; how to access a free and appropriate diabetes risk assessment questionnaire; where to get tested if they are at risk for diabetes; how to access community resources and/or diabetes prevention programming  
□ Ensure messages are consistent, clear and culturally appropriate  
□ Provide education/skill building activities to increase knowledge and skills  
□ Develop health policies and create healthy environments  
□ Incorporate the physical, social, and political environments when promoting healthy behaviours and healthy lifestyles  
□ Engage community stakeholders to help create supportive physical and social environments |                                                                 |                                                             |                                                             |
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</tr>
</thead>
<tbody>
<tr>
<td>5. Includes social support as a key component of an effective behaviour modification program</td>
<td>- Encourage participants to engage social support from others</td>
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<tr>
<td>Program Example:</td>
<td>- Get FHT</td>
<td>- Help participants to better understand the short and long-term impacts of health behaviours</td>
<td>- Nurture confidence in participants’ ability to make and sustain healthy behaviours</td>
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<td>6. Delivered in multiple community-based settings</td>
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<tr>
<td>Program Example:</td>
<td>Diabetes Fit</td>
<td>- Deliver program activities in a wide-range of community settings including:</td>
<td>- the home</td>
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<td></td>
<td></td>
<td>- the community</td>
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<td></td>
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<td>- the workplace</td>
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| 7. Uses program staff with relevant expertise to develop a quality-assured program AND provides appropriate and sufficient training to program staff | Use program staff with the relevant expertise to develop intervention/program components  
Ensure program/interventions are delivered by program staff with the relevant knowledge, skills and expertise  
If expertise is lacking, ensure program staff have received appropriate and sufficient training | | | |
| Program Example:  
• The Life! Program | | | | |
| 8. Reports program evaluation results in the form of a report or peer-reviewed journal article AND provides evidence of effectiveness in eliciting desired behaviour changes | Develop an evaluation plan including intervention goal(s), process/outcome objectives, appropriate indicators to measure attainment of objectives, and methods for data collection/analysis  
Pilot test evaluation tools and materials  
Collect the following information at a minimum:  
• number and demographics of participants registered  
• level of attendance  
• changes in amount of moderate to vigorous physical activity undertaken each week  
• changes in dietary intake, with a focus on total intake of fat, saturated fat and fibre  
• changes in weight, waist circumference or BMI  
• level of uptake (e.g., the percentage of those invited who attend the first session)  
• program content  
• methods of delivery  
Submit evaluation report for the peer review process  
Conduct process and outcome evaluations | | | |
| Program Example:  
• Diabetes Prevention Program | | | | |