

**RECOMMENDATIONS FOR GROWTH MONITORING, PREVENTION AND MANAGEMENT OF OVERWEIGHT AND OBESITY IN CHILDREN AND YOUTH IN PRIMARY HEALTH CARE 2015**

**Slide 2**

**Use of deck**

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These guidelines were published online March 30, 2015.

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**CTFPHC Working Group Members:**

The Adult Obesity Working Group included members from the Canadian Task Force on Preventive Health Care (CTFPHC), the Public Health Agency of Canada (PHAC) and the Evidence Review Synthesis Centre (ERSC) at McMaster University.

CTFPHC Members:

- Patricia Parkin (Chair)
- Elizabeth Shaw
- Neil Bell
- Marcello Tonelli
- Paula Brauer

Public Health Agency of Canada:

- Sarah Connor Gorber
- Alejandra Jaramillo
- Amanda R.E. Shane

Evidence Review Synthesis Centre:

- Leslea Peirson
- Donna Fitzpatrick-Lewis
- Ali Usman

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**Overview of Presentation**

We will review the following:

1. Background on Child Obesity
2. Methods of the CTFPHC
3. Recommendations and Key Findings

4. Implementation of Recommendations
5. Conclusions
6. Questions and Answers

### **Slide 5-6**

#### **Background**

The prevalence of obesity in Canadian children has risen dramatically from the late 1970s, more than doubling among both boys and girls.

Recent estimates from 2009 to 2011 indicate that **32%** of children 5-17 years are **overweight (20%) or obese (12%)**, and that the prevalence of **obesity** is almost **twice as high in boys** (15% vs. 8%).

Childhood obesity is associated with increased risk of cardiovascular disease, diabetes and other chronic conditions in adolescence and later in life.

Excess weight in children often persists into adulthood.

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#### **Child Obesity 2015 Guidelines**

##### **2015 Guideline Objectives:**

This guideline provides recommendations for prevention of overweight and obesity in healthy weight children and adolescents aged 0 to 17 years of age in primary healthcare settings.

This guideline provides guidance for primary care practitioners on the effectiveness of overweight and obesity management in children and youth aged 2 to 17 years.

These guidelines do not apply to children and youth with eating disorders, or who are underweight, overweight, or obese (prevention) or with health conditions where weight management is inappropriate (management).

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#### **Structured Interventions**

**Behavioural modification programs** focused on diet, increasing exercise, or making lifestyle changes, alone or in combination, that take place over weeks or months.

Follow a comprehensive-approach delivered by a specialized inter-disciplinary team, involve group sessions, and incorporate family and parent involvement.

Delivered by a primary health care team in the office or through referral to a formal program within or outside of primary care, such as hospital-based, school-based or community-based programs.

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#### **Methods of the CTFPHC**

The CTFPHC is an independent panel of clinicians and methodologists with expertise in prevention, primary care, literature synthesis, and critical appraisal. The mandate of the CTFPHC is to apply the latest evidence in preventive health care research to primary care practice and policy across Canada.

The Child Obesity Working Group is composed of 5 CTFPHC members who work with PHAC science officers to establish the guidelines research questions and analytical framework.

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#### **Methods of the CTFPHC**

The Evidence Review and Synthesis Centre (ERSC), in consultation with field experts, then undertakes a systematic review of literature based on this analytical framework, and prepares a systematic review of the evidence with GRADE tables. The ERSC participates in working group and CTFPHC meetings.

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#### **CTFPHC Review Process**

The CTFPHC review process is composed of an (i) internal review process and an (ii) external review process. The internal review process involves the guideline working group, the full CTFPHC, PHAC science officers and ERSC staff.

The external review process involves review of the guidelines by key stakeholders from generalist and disease specific organizations, federal, provincial and territorial stakeholders.

The Canadian Medical Association Journal (CMAJ), where most of the CTFPHC guidelines are published, undertakes its own independent peer review journal process.

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#### **Research Questions**

The systematic review for the prevention of obesity in healthy weight children included 1 key research question and 5 sub-questions.

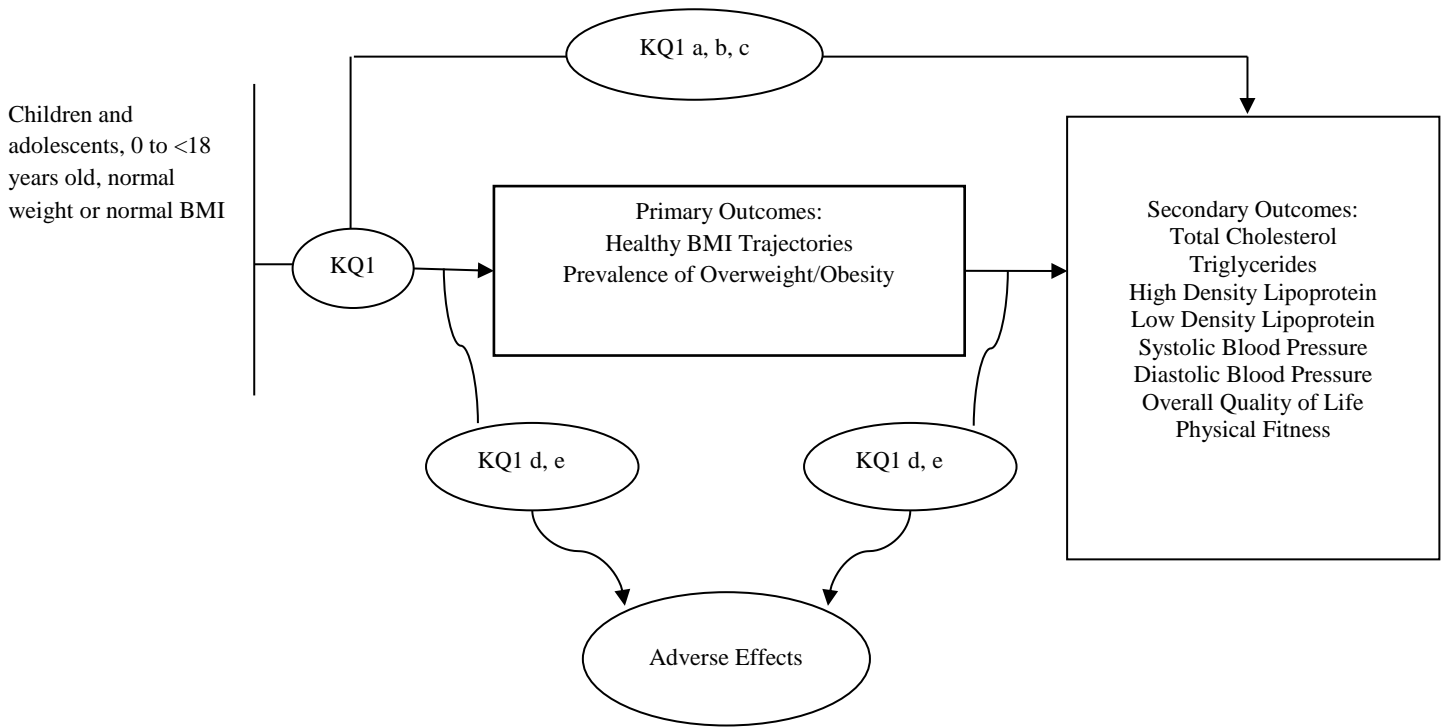
The systematic review for the management of overweight and obesity in children included 2 research questions and 10 sub-questions.

The systematic reviews for both the prevention and management of obesity in children included 1 supplemental or contextual question with 6 sub-questions.

For more detailed information please access the systematic review [www.canadiantaskforce.ca](http://www.canadiantaskforce.ca).

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#### **Analytical Framework Prevention**



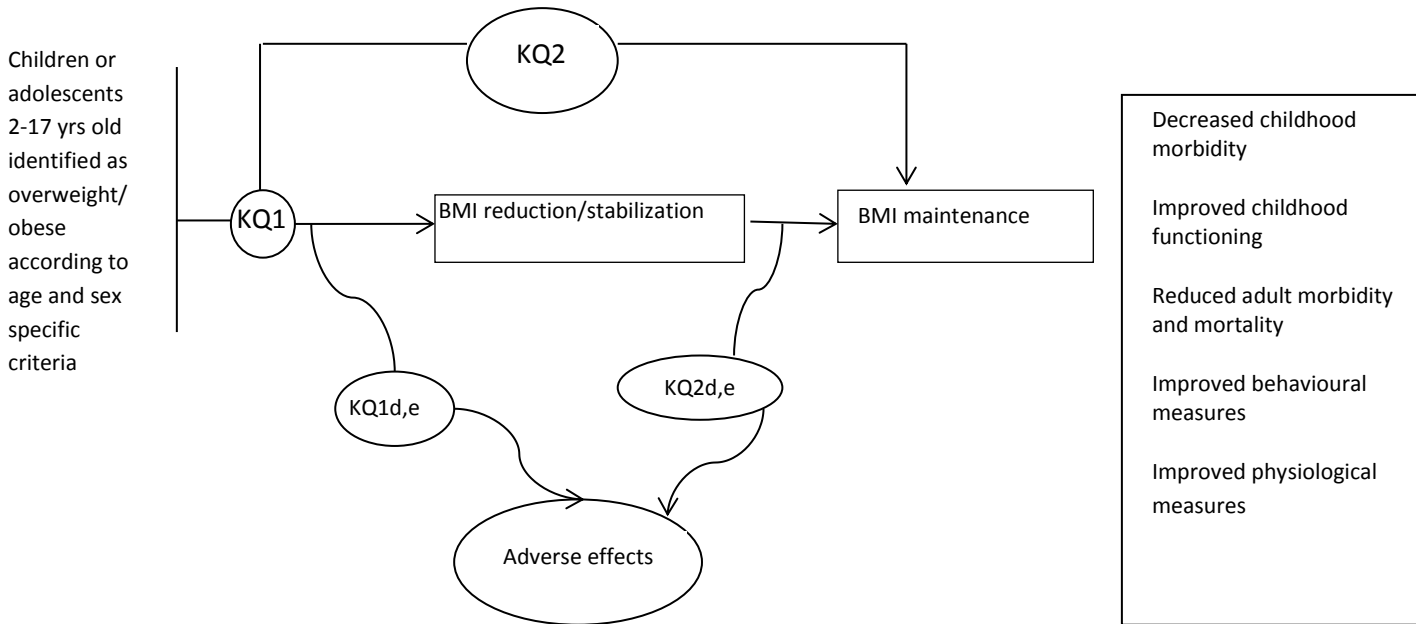
The analytical framework outlines the scope of the evidence review and guideline recommendations. The purpose of the analytical framework is to show practicing physicians what the guideline includes and does not include and to visually display the relationship between the key concepts.

This prevention guideline generally applies to children with healthy weight and BMI aged from 0 to 18. We followed the analytical framework of the Cochrane Systematic Review on Interventions for preventing obesity in children (2011). As outlined in the analytical framework, prevention interventions were assessed for their impact on primary outcomes including healthy BMI trajectories and prevalence of overweight/obesity, as well as associated adverse effects.

The secondary outcomes were total cholesterol, triglycerides, high density lipoprotein, low density lipoprotein, systolic blood pressure, diastolic blood pressure, overall quality of life, and physical fitness.

Key and contextual research questions (KQ) (outlined below) are associated with these actions, outcomes, and certain adverse effects. The KQs examine the relationship between the interventions and outcomes, the adverse effects of preventive and management interventions, to determine whether the prevention or management interventions should be recommended for children of varying ages.

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**Analytical Framework Management**



Management interventions apply to children or adolescents aged 2 to 17 years of age who are identified as overweight or obese according to age and sex specific criteria. We followed the analytical framework of the United States Preventive Services Task Force on screening for obesity in children and adolescents (2010). As outlined in the analytical framework, management interventions were assessed for their impact on primary outcomes including BMI reduction or stabilization, as well as associated adverse effects. Secondary outcomes included childhood morbidity, childhood functioning, adult morbidity and mortality, behavioural outcomes, physiological outcomes.

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**Eligible Study Types**

For the prevention interventions, we were unable to identify studies which included healthy weight children only. Therefore, the primary populations included for the child obesity prevention systematic review were mixed weight children and adolescents 0 to 18 years. For the child obesity management systematic review, the populations included were children and adolescents aged 2-17 years who were overweight or obese according to age and sex specific criteria.

The studies were in English or in French.

The study type was restricted to randomized control trials (RCTs).

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**GRADE Methodology**

The CTFPHC utilizes the GRADE system for providing clinical practice guideline recommendations based on a systematic review of the available evidence. The **GRADE** acronym stands for: **G**rating of **R**ecommendations, **A**ssessment, **D**evelopment and **E**valuation.

**The GRADE system is composed of two main components:**

**1. The quality of the evidence:**

- The quality of the evidence is graded as high, moderate, low or very low based on the degree of confidence that the available evidence correctly reflects the theoretical true effect of the intervention or service.

**2. The strength of recommendation:**

- The strength of the recommendation (strong/weak) is based on the balance between desirable and undesirable effects; the variability or uncertainty in values and preferences of citizens; and whether or not the intervention represents a wise use of resources.

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**GRADE: How is the strength of the recommendations graded?**

The strength of the recommendations (strong or weak) is based on four factors:

1. The **quality** of the supporting evidence
2. The **certainty** about the **balance between desirable and undesirable effects**
3. The certainty or variability in the **values and preferences** of individuals
4. The certainty about whether the intervention represents a **wise use of resources**

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**Interpretation of Recommendations**

<b>Implications</b>	<b>Strong Recommendation</b>	<b>Weak Recommendations</b>
For patients	<ul style="list-style-type: none"> <li>• Most individuals would want the recommended course of action;</li> <li>• Only a small proportion would not.</li> </ul>	<ul style="list-style-type: none"> <li>• The majority of individuals in this situation would want the suggested course of action but many would not.</li> </ul>
For clinicians	<ul style="list-style-type: none"> <li>• Most individuals should receive the intervention.</li> </ul>	<ul style="list-style-type: none"> <li>• Recognize that different choices will be appropriate for individual patients;</li> <li>• Clinicians must help patients make management decisions consistent with values and preferences.</li> </ul>

For policy makers	<ul style="list-style-type: none"> <li>The recommendation can be adapted as policy in most situations.</li> </ul>	<ul style="list-style-type: none"> <li>Policy making will require substantial debate and involvement of various stakeholders.</li> </ul>
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This is a standard GRADE table which outlines how weak or strong recommendations should be interpreted and implemented by different groups or stakeholders.

It is important to consider the strength of the recommendations when interpreting the CTFPHC guidelines for implementation in clinical practice, for policy, or for patients in decision making,

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**RECOMMENDATIONS & KEY FINDINGS**

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**Growth Monitoring**

**Recommendation:**

1. For children and youth 0-17 years of age, we recommend growth monitoring at all appropriate primary care visits using the WHO Growth Charts for Canada. (*Strong recommendation; very low quality evidence*).

**Basis of the recommendation:**

- Growth monitoring is a long-standing, feasible, low- cost intervention unlikely to result in harms, and likely to be valued by parents and clinicians in identifying children and youth at risk of developing weight-related health conditions.

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**Growth Monitoring and Appropriate Visits**

**Growth monitoring** consists of the measurement of height or length, weight and BMI calculation or weight-for-length according to age.

**Appropriate primary care visits** include scheduled health supervision visits, visits for immunizations or medication renewal, episodic care or acute illness, and other visits where the primary care practitioner deems it appropriate.

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**Obesity Prevention**

**Recommendation:**

1. We recommend that primary care practitioners not routinely offer structured interventions aimed at preventing overweight and obesity in healthy weight children and youth 0-17 years of age. (*Weak recommendation; very low quality evidence*).

**Basis of the recommendation:**

- The lack of evidence for clinically important benefits of current interventions to prevent overweight and/or obesity in the target population, the lack of evidence that any benefits are sustained in the long-term, and the lack of evidence for the use of such interventions in primary care settings.

Parents and children who are more interested in a small uncertain reduction in the risk of overweight and/or obesity and are less concerned about the time commitment required may choose to participate in such interventions.

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##### **Obesity Management**

#### **Recommendation:**

1. For children and youth aged 2 to 17 years who are overweight or obese, we recommend that primary care practitioners offer or refer to structured behavioural interventions aimed at healthy weight management. (*Weak recommendation, moderate quality evidence*).

#### **Basis of the recommendation**

- This recommendation is based on the modest, short-term benefits of weight management interventions and the lack of identified harms.
- The recommendation is weak because of the lack of data that such weight loss is sustained or has health benefits over time.

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##### **Obesity Management**

#### **Recommendation:**

2. For children and youth aged 2 to 11 years who are overweight or obese, we recommend that primary care practitioners not offer Orlistat aimed at healthy weight management. (*Strong recommendation, very low quality evidence*).

#### **Basis of the recommendation**

- This recommendation's GRADE is based on the lack of studies examining pharmacologic interventions and effectiveness as a treatment in this population.

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##### **Obesity Management**

#### **Recommendation:**

3. For children and youth aged 12 to 17 years who are overweight or obese, we recommend that primary care practitioners not routinely offer Orlistat aimed at healthy weight management. (*Weak recommendation, moderate quality evidence*).

#### **Basis of the recommendation**

- This recommendation was based on the lack of trials that examine pharmacologic interventions versus control with no behavioural intervention.



- Pharmacologic and behavioural interventions and trials were not more effective than the behavioural interventions on their own.
- This recommendation considers the potential for harm associated with Orlistat treatment (e.g., GI disturbances).

Youth and their families who value weight management programs and are less concerned about the harms of pharmacologic interventions may choose to supplement behavioural interventions with Orlistat treatment.

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**Obesity Management**

**Recommendation:**

4. For children and youth aged 2 to 17 years who are overweight or obese, we recommend that primary care practitioners not routinely refer for surgical interventions. (*Strong recommendation, very low quality evidence*).

**Basis of the recommendation**

- The absence of RCTs comparing with usual care showing that this intervention is effective, the potential for harm and the irreversibility of the procedure.
- Primary care practitioners do not normally refer directly to a clinic for bariatric surgery.

Surgery may be best considered by inter-disciplinary specialty obesity teams.

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**Effect of Prevention Programs: Changes in Key Outcomes**

This table presents data regarding the outcomes of the Prevention Programs. The Meta-analysis, P-value, number of participants and number of studies were tracked for the overall change in BMI/BMIz presented as a standardized mean difference, the overall change in BMI presented as the mean difference, the overall change in total Cholesterol presented as a mean difference, and the overall change in triglycerides presented as a mean difference. As you can see, although the p-values are significant (due to the large sample size), the differences are very small and not clinically significant.

Outcome	Meta-analysis (95% CI)	P-Value	No. Participants	No. Studies
Overall change in BMI/BMIz scores (Standardized mean difference)	-0.07 (-0.10, -0.03)	<0.00001	56,342	76
Overall change in BMI (kg/m <sup>2</sup> ; Mean Difference)	-0.09 (-0.16, -0.03)	<0.00001	40,214	57

Overall change in Total Cholesterol (mmol/L; Mean Difference)	-0.10 (-0.20, 0.01)	<0.00001	2,815	5
Overall change in Triglycerides (mmol/L; Mean Difference)	-0.01 (-0.05, 0.03)	<0.00001	3,097	4

**Slide 29****Effect of Prevention Programs: Changes in Prevalence**

This table presents data regarding the overall change in the prevalence of overweight/obese participants by measuring the ratio of pre-post prevalence in intervention arm and the control arm, the absolute number per million, and the absolute risk reduction. As you can see, these changes are small.

Outcome	RRi-RRc* (95% CI)	Absolute Number per Million (Range)	ARR	No. Participants	No. Studies
Overall change in Prevalence of Overweight/Obesity	0.94 (0.89, 0.99)	19,641 fewer (3,462 to 35,002 fewer)	1.96%	31,896	30

**Slide 30****Effect of Management Programs: Changes in BMI/BMIz scores**

This table presents data regarding the standardized mean difference in BMI/BMIz scores of the management interventions, as according to the overall effect in all 30 studies, as well as from the 28 studies of behavioral management interventions, and the 2 studies of combined behavioural and pharmacologic management interventions. The table presents the standardized mean difference, the p-value, the number of participants in the intervention and control, the number of studies, and the quality of studies. A standardized mean difference of 0.5 is considered to be a medium effect size.

Treatment Intervention	Effect Standard Mean Difference (95% CI)	P-Value (p≤0.05)	No. Participants Intervention	No. Participants Control	No. Studies	Quality
<b>Overall Effect</b>	0.5263 lower (0.6949 to 0.3578 lower)	0.067	2156	1752	30	Moderate

<b>Behavioural Only</b>	0.5446 lower (0.7298 to 0.3594 lower)	0.023*	1792	1554	28	Low
<b>Pharmacological * + Behavioural</b>	0.4287 lower (0.6044 to 0.2529 lower)	N/A (n<10)	364	198	2	Moderate

**Slide 31****Effect of Behavioural Programs: Changes in BMI scores**

This table presents data regarding the mean difference in BMI and BMIz scores of the management interventions, as according to the overall effect in all studies, as well as from the studies of behavioral management interventions. A difference of 1 BMI unit, or 0.26 BMIz score unit would be considered clinically modest.

<b>Treatment Intervention</b>	<b>Effect Mean Difference BMI</b>	<b>95% CI</b>	<b>Effect Mean Difference zBMI</b>	<b>95% CI</b>
Overall Effect	-0.97	-1.29 to -0.66	-0.26	-0.34 to -0.18
Behavioural Only	-1.01	-1.34 to -0.66	-0.27	-0.36 to 0.18

**Slide 32****Comparison of Obesity Prevention Recommendations**

Few organizations have systematically examined the effectiveness of preventive interventions or developed evidence-based recommendations for implementation in primary care.

Some groups focus on screening:

- USPSTF (2010)

Others groups discuss the importance of multisectoral approaches to preventing obesity:

- NICE (2006)
- Obesity Canada (2007)

**Slide 33****Comparison of Obesity Management Recommendations**

Our recommendations on management are consistent with those of other international guideline groups who recommend that behavioural interventions be used to address overweight and obesity in children and adolescents:

- USPSTF (2006)
- NICE (2006)
- SIGN (2010)

- Obesity Canada (2007)
- NHMRC (2013)

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#### **IMPLEMENTATION OF RECOMMENDATIONS**

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#### **Values and Preferences**

In the review of the key contextual questions, the CTFPHC Child Obesity Working Group found some limited evidence on patient preferences and values with respect to the interventions. Some of the key findings included:

- There is limited evidence available.
- Understanding the barriers to participation in physical activities or healthy weight management programs can help practitioners identify effective strategies for engaging children, youth and their families.
- The importance of supportive relationships between practitioners and families in attaining health weight amongst children and youth

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#### **Knowledge Translation Tools**

- The CTFPHC creates KT tools to support the implementation of guidelines into clinical practice.
- A clinician recommendation table and FAQ has been developed for the child obesity prevention and management guidelines.
- After the public release, these tools will be freely available for download in both French and English on the website: [www.canadiantaskforce.ca](http://www.canadiantaskforce.ca).

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#### **Update: CTFPHC Mobile App Now Available**

The app contains guideline and recommendation summaries, knowledge translation tools, and links to additional resources.

Key features include the ability to bookmark sections for easy access, display content in either English or French, and change the font size of text.

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#### **CONCLUSIONS**

Measuring BMI (height/weight) is important for weight monitoring.

- Treatment directed to weight loss is only modestly effective and prevention of obesity would be preferable if there was evidence of effectiveness.
- Some individuals may still benefit from being offered or referred to formal programs.

- Primary care practitioners have an important role to play in overweight and obesity prevention and management.
- Resources and strategies to better support primary care practitioners in implementing the guidelines are needed.
- Research is urgently needed about how best to prevent weight gain in normal weight adults.

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**More information**

For more information on the details of this guideline or to access the KT tools please refer to the evidence review in the resources section of the website <http://canadiantaskforce.ca>.

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**Questions & Answers**