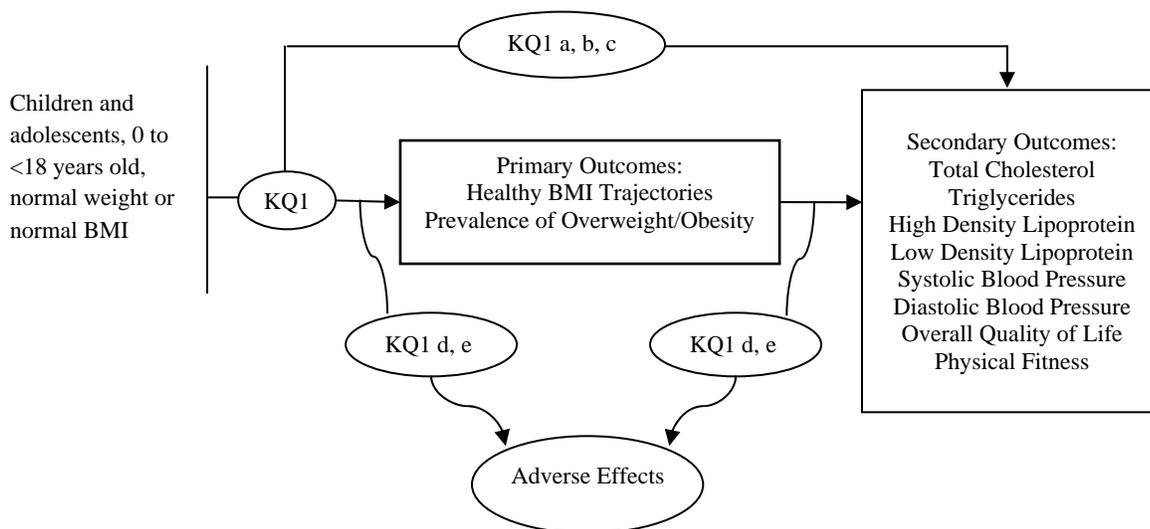


Appendix 2 (as supplied by the authors): Analytical Framework and Key Questions

PREVENTION OF OVERWEIGHT AND OBESITY



*Healthy BMI trajectories refer to a child's BMI growth pattern that would be considered healthy by *WHO's Child Growth Standards* <http://www.who.int/childgrowth/en/index.html>.

Healthy weight Children (See above figure)

KQ1: Do primary care-relevant prevention interventions (behaviorally-based) in healthy weight children lead to improved health outcomes or sustained/short-term healthy BMI trajectories?

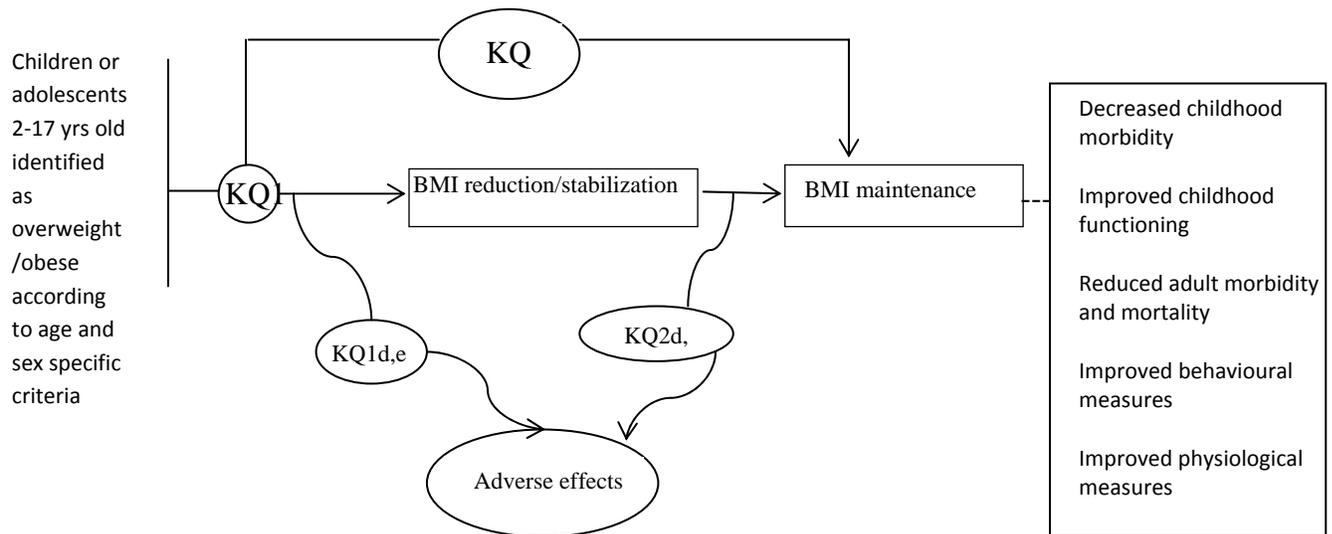
- How well are healthy BMI trajectories or health outcomes maintained after an intervention is completed?
- What are common elements of effective interventions for healthy BMI trajectories?
- Does the effectiveness of interventions vary between child subgroups (e.g., infants versus children or adolescents, sex, race-ethnicity, baseline cardiovascular risk status, low socio-economic status, parental history of obesity, maternal cigarette smoking in pregnancy, maternal diabetes, low birth weight, formula feeding, etc)?
- What are the adverse effects of primary care-relevant prevention in healthy weight children (e.g., disordered eating, psychological distress such as anxiety, micronutrient deficits, abnormal growth trajectory, or growth restriction)?
- Are there differences in adverse effects between child subgroups (e.g. infants versus children and adolescents, sex, race-ethnicity, baseline cardiovascular risk status, lower socio-economic status, parental history of obesity, maternal cigarette smoking in pregnancy, maternal diabetes, low birth weight, formula feeding, etc)?

The supplemental questions (SQ) on obesity screening considered for both the prevention and the treatment reviews are:

SQ1. Does screening for overweight and obesity in children and youth in primary care practice reduce the risk of morbidity, and mortality and/or improve health outcomes (impaired glucose tolerance, T2D, hypertension, dyslipidemia, non-alcoholic fatty liver disease, sleep apnea, slipped capital femoral epiphysis and psychosocial disorders)?

- a. Does screening for overweight/obesity in children and youth result in reduction or stabilization of adiposity?
- b. What is the most effective method of screening for overweight and obesity in children in primary care?
- c. What is the optimal interval/frequency for screening for overweight and obesity in children in primary care?
- d. What is the most effective type of screening (opportunistic vs. organized/systematic) for overweight and obesity in children in primary care?
- e. What are the harms associated with screening for overweight and obesity in children in primary care?
- f. Do screening interventions decrease mortality and incidence of health outcomes in high risk groups such as but not limited to those with a family history of obesity, psychological issues or co-morbid conditions?

MANAGEMENT OF OVERWEIGHT AND OBESITY



KQ1: Do weight management programs (behavioural, combined behavioural, pharmacological and surgical interventions) lead to BMI, weight, or adiposity stabilization or reduction in children and adolescents who are obese or overweight?

- a. Do these weight management programs lead to other positive outcomes (e.g. improved behavioural or physiological measures, decreased childhood morbidity, improved childhood functioning, or reduced adult morbidity and mortality)?
- b. Do specific components of the weight management programs influence the effectiveness of the programs?
- c. Are there population (e.g. age, sex, race-ethnicity, low socio-economic status, parental history of obesity, maternal cigarette smoking in pregnancy, maternal diabetes, low birth weight, formula feeding, etc) or environmental factors that influence the effectiveness of the weight management programs?
- d. What are the adverse effects of weight management programs (behavioural, combined behavioural and pharmacological) attempting to stabilize or reduce BMI?
- e. Are these differences in adverse effects between child subgroups (e.g. age, sex, race-ethnicity, low socio-economic status, severity of obesity, parental history of obesity, maternal cigarette smoking in pregnancy, maternal diabetes, low birth weight, formula feeding, etc)?

KQ2: Do weight management programs (behavioural, combined behavioural and pharmacological or surgical) help children and adolescents who are initially obese or overweight maintain BMI, weight, or adiposity improvements after the completion of an active intervention?

- a. Do these weight management programs lead to other positive outcomes (e.g. improved behavioural or physiological measures, decreased childhood morbidity, improved childhood functioning, or reduced adult morbidity and mortality)?
- b. Do specific components of the weight management programs influence the effectiveness of the programs?
- c. Are there population (e.g. age, sex, race-ethnicity (e.g. Canadian Aboriginal youth), lower socio-economic status, parental history of obesity, maternal cigarette smoking in pregnancy, maternal diabetes, low birth weight, formula feeding, etc) or environmental factors that influence the effectiveness of the weight management programs?
- d. What are the adverse effects of weight management programs (behavioural, combined behavioural, surgical and pharmacological) attempting to stabilize or maintain BMI?
- e. Are these differences in adverse effects between child subgroups (e.g. age, sex, race-ethnicity, low socio-economic status, parental history of obesity, maternal cigarette smoking in pregnancy, maternal diabetes, low birth weight, formula feeding, etc)?