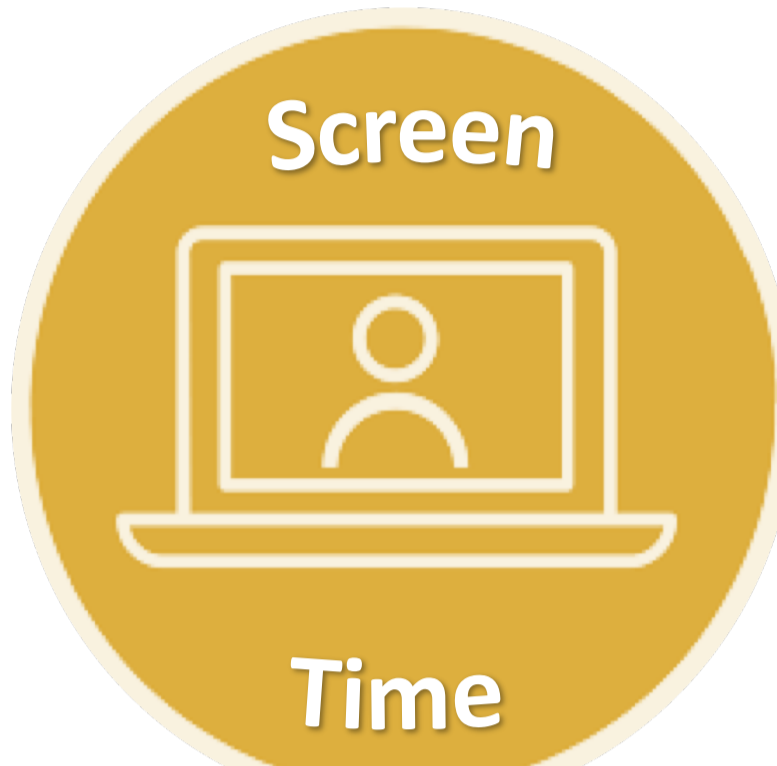


## Background

- Increasing physical activity, decreasing screen time, and getting adequate sleep improves wellbeing and prevents obesity in children
- Canadian 24hr movement guidelines** give recommendations for all three behaviours in combination over a 24hr period for children aged 5-18 years



8 hrs if <13yrs  
9 hrs if >14yrs

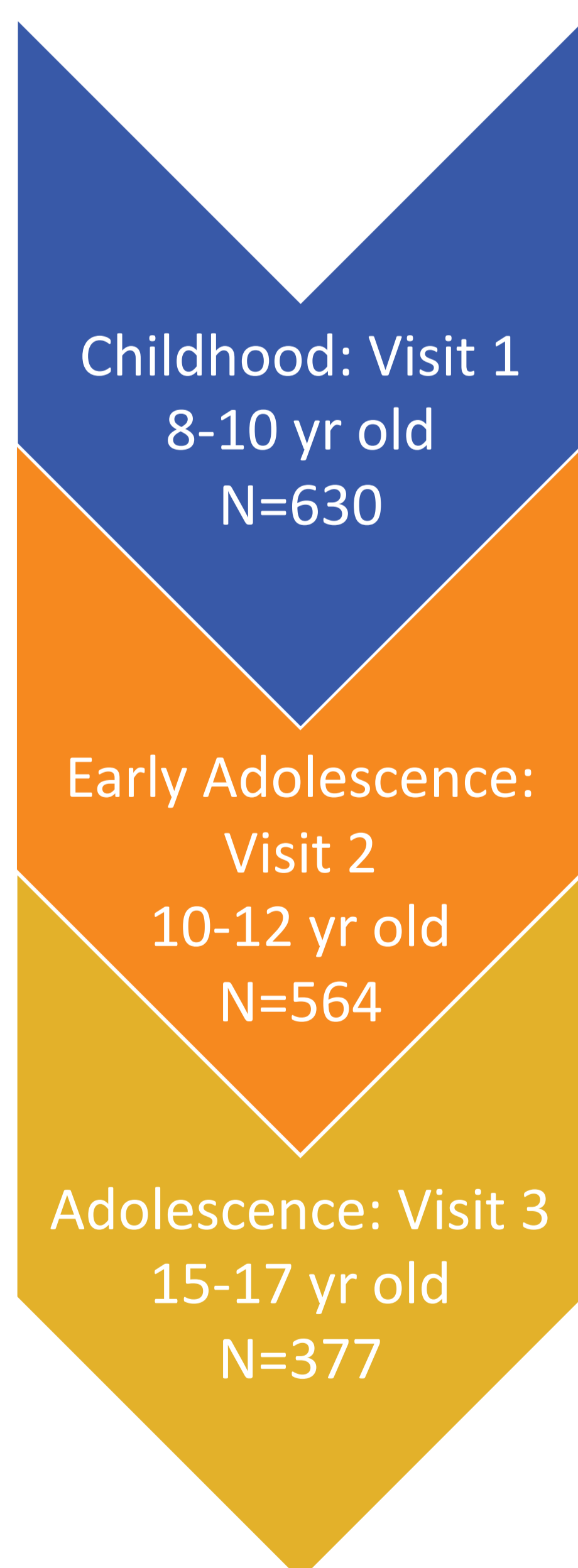
At least  
60 min MVPA

Maximum  
2 hrs of leisure

- Objectives:** 1. Describe adherence to these guidelines from childhood to adolescence 2. Determine the cross-sectional and longitudinal associations with adiposity

## Methods

- Secondary analysis using data from longitudinal investigation (QUBEC ADIPOSE AND LIFESTYLE INVESTIGATION IN YOUTH COHORT)



- Adiposity:** Body mass index Z-score (zBMI), waist circumference (WC), waist to height ratio (W-H ratio), % body fat (DEXA Scan)
- Movement behaviours:** 7-day accelerometry or self-report questionnaires
- Analyses:** Descriptive statistics and multiple linear regressions adjusted age, sex, puberty and parent education

## Results

### Adherence



- Meet 0
- Meet 1
- Meet 2



Childhood Early Adolescence Adolescence

#### Meet 24hr Movement Guidelines

14% 6% 0%

#### Meet Guideline Components

1% 5% 13%

36% 53% 70%

49% 36% 17%

#### Meet Individual Behaviours

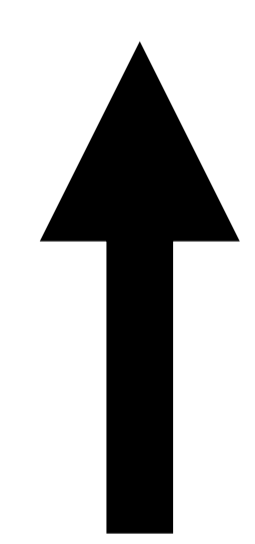
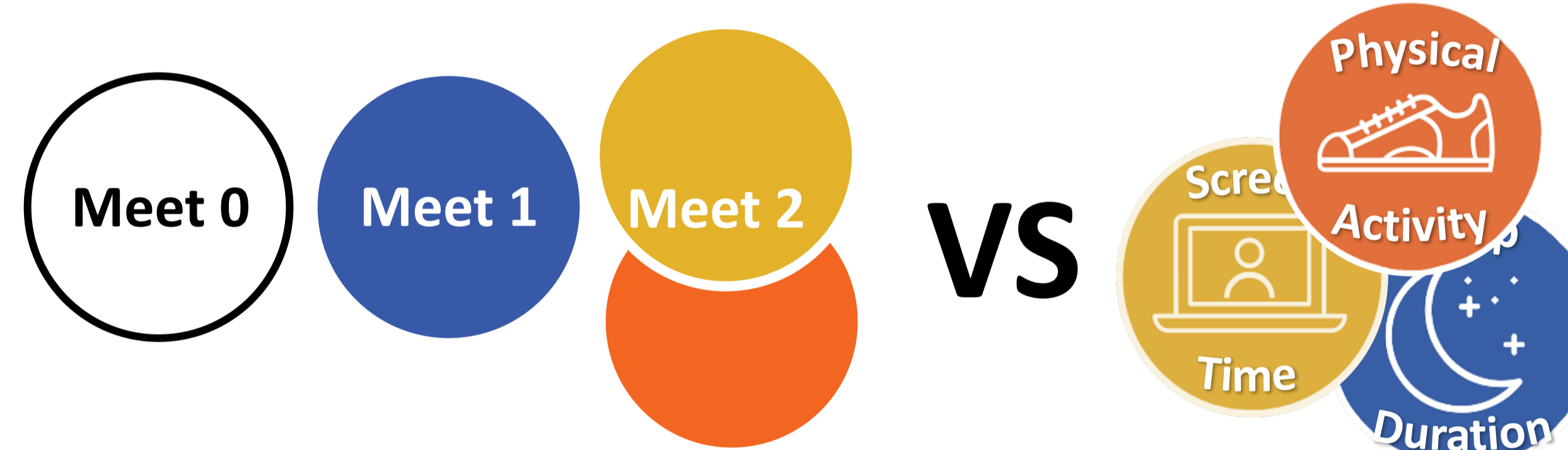
98% 92% 86%

32% 21% 6%

45% 29% 13%

### Cross-Sectional Associations

Childhood



ZBMI, WC, WHR, % body fat

zBMI: 0.44 SD (95% CI: 0.09, 0.79) higher if meet 2  
0.85 SD (95% CI: 0.48, 1.23) higher if meet 1  
1.49 SD (95% CI: 0.17, 2.80) higher if meet 0

Early Adolescence and Adolescence



Meet 1

zBMI  
% body fat

Adolescence: zBMI: 0.56 SD (95% CI: 0.05, 1.07) meet 1  
Early Adol: %BF: 3.33% (95% CI: 0.08, 6.57) meet 1  
Early Adol: zBMI: 3.0 SD (95% CI: -0.12, 6.12) meet 1

### Longitudinal Associations

Early Adolescence



Baseline

Baseline

ZBMI, WC, WHR, % body fat

zBMI: 0.53 SD (95% CI: 0.19, 0.87) higher if meet 2  
0.95 SD (95% CI: 0.59, 1.32) higher if meet 1  
1.66 SD (95% CI: 0.42, 2.89) higher if meet 0

Adolescence



Baseline

ZBMI, WC, WHR,  
% body fat

zBMI: 0.70 SD (95% CI= 0.22, 1.18) higher if meet 1

## Conclusion

- Few children meet 24hr movement guidelines and proportion decreases in adolescence
- Meeting fewer components is cross-sectionally associated with higher adiposity
- Meeting fewer components at baseline is longitudinally associated with higher adiposity 2 yrs and 7 yrs later.
- Importance of early interventions to increase adherence to the 24hr movement guidelines to prevent obesity from childhood to adolescence.

### Future directions

- Visit 4: adulthood
- HCP to disseminate and promote guidelines, especially in early childhood

