National Obesity Summit – February 2019

Obesity and the first 2000 days

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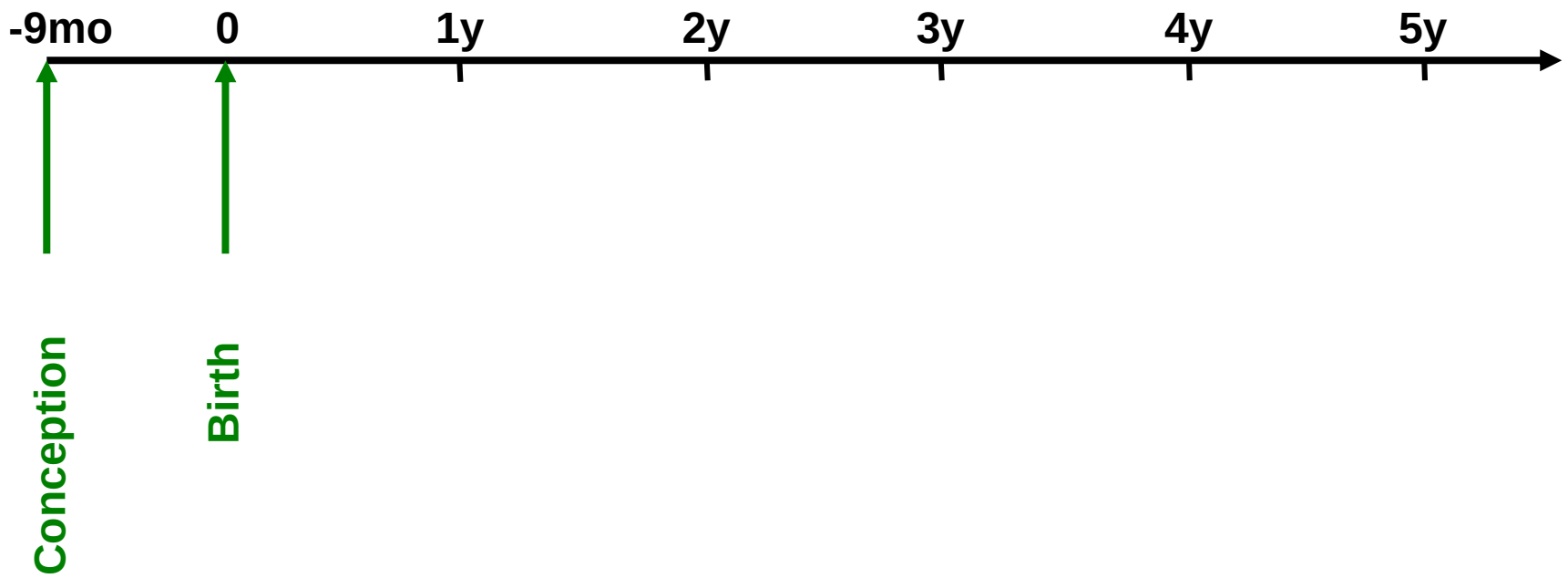
The first 2000 days?

From conception to age 5 years



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Why is this period important?

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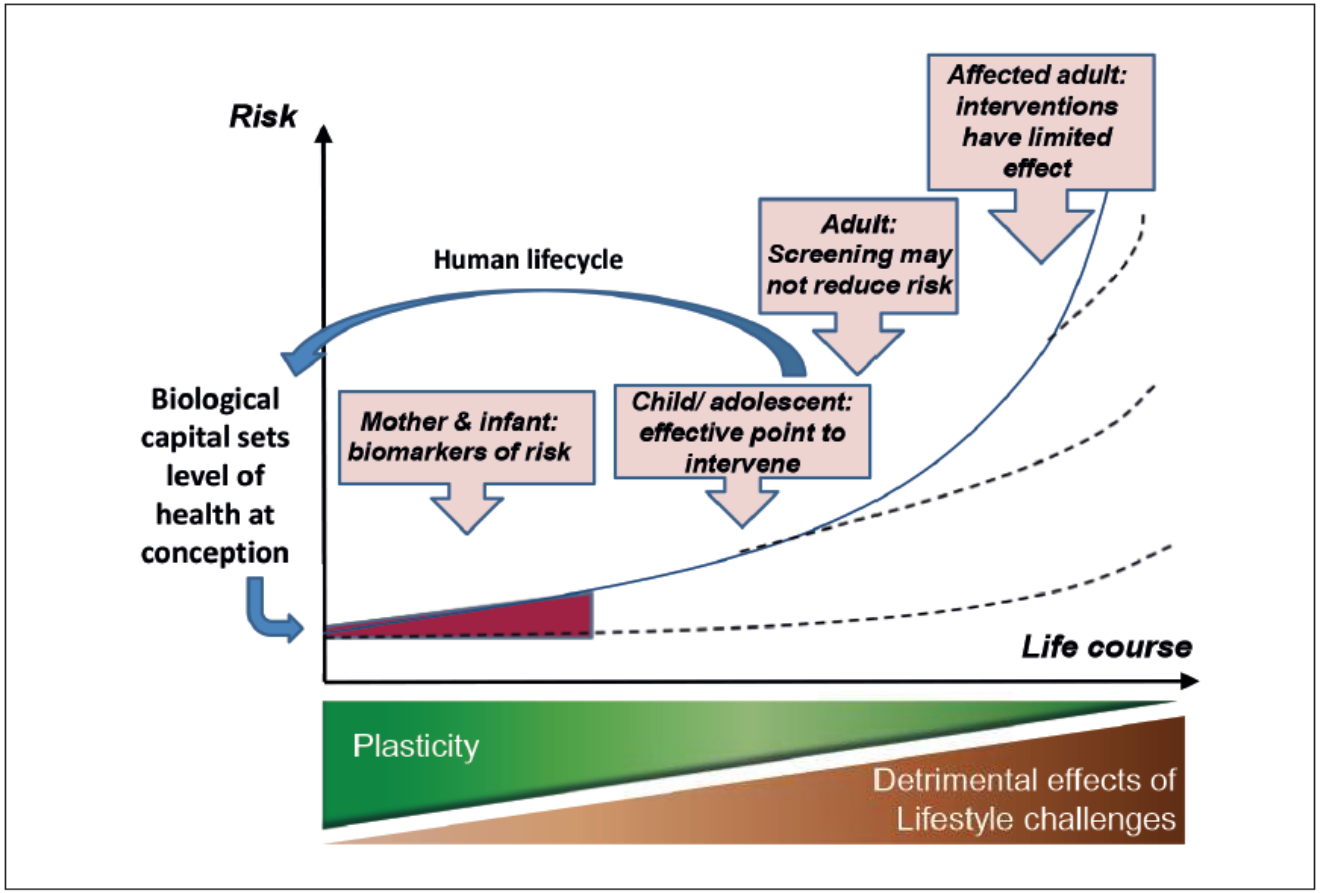
Life course perspective

- **"Pathway dependency": Health risk at one time-point is influenced by current health issues *and* previous health pathway for that individual**
- **Interventions earlier in life likely to be more effective than those starting in adulthood**



Hanson M. WHO 2013

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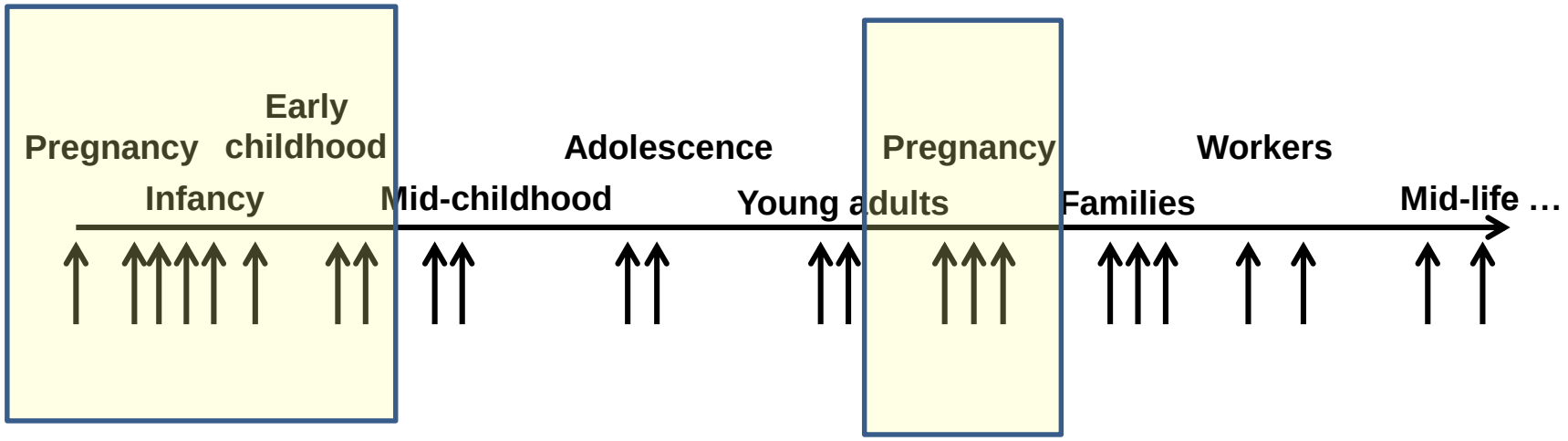
While obesity interventions are needed across the life-course…the first 2000 days are especially important



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The *antenatal period* and later obesity?

- **Over one-half of Australian women enter pregnancy with overweight or obesity**

- **Maternal *pre-pregnancy obesity* and *excessive gestational weight gain*:**
  - **associated with increased risk of obesity (and other health risks) in the offspring in childhood, adolescence and young adulthood**

- **Maternal *gestational diabetes:***
  - **associated with child and adolescent obesity**

McIntyre HD et al. MJA 2012; Yu Z et a;, PLoS One 2013; Eriksson JG et al. Annals of Medicine. 2014; Godfrey KM et al, Lancet Diabetes Endocrinol 2017; Mamun AA et al, Circulation 2009; Adane AA Int J Obesity 2018; Kim SY et al Curr Opin Obstet Gynecol 2012; Kawasaki M et al PLoS One 2018

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Early childhood and later obesity?

- **Australia: 1:5 children *already* affected by overweight & obesity at school-entry**
- **Infant feeding practices, early dietary patterns and early sedentary/ screen behaviours → influence obesity onset**
- **Excess weight and fast weight gain in early childhood → related to later weight status and health outcomes**
- **Most excess weight gained *before puberty* is gained *by 5 years* (i.e. *prior to school entry*)**

Cunningham SA et al. N Engl J Med 2014; Stettler N, Iotova V. Opin Clin Nutr Metab Care 2010; Leunissen RWJ et al. JAMA 2009; Hesketh KD, Campbell KJ, Obesity 2010

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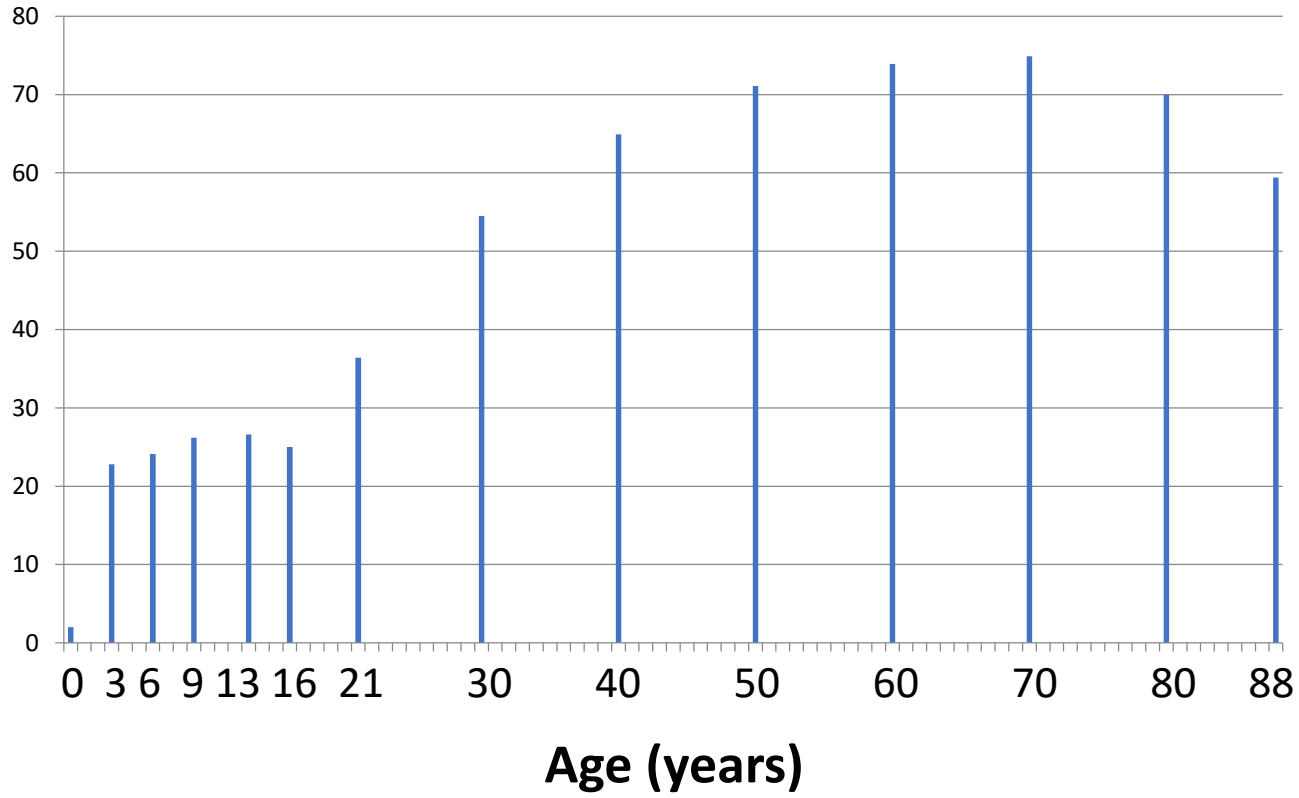
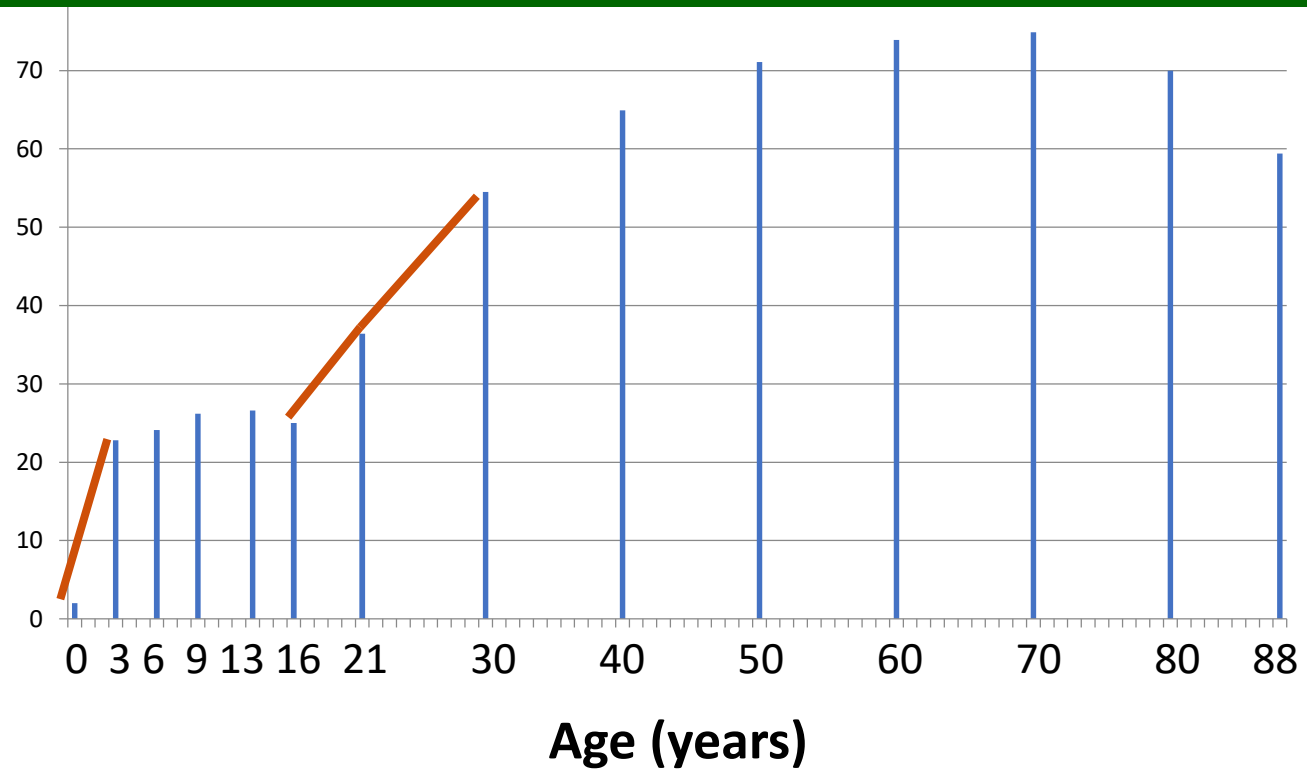
Prevalence of overweight & obesity by age, Australia 2011-12



Source: Australian National Health Survey 2011-12

Prevalence of overweight & obesity by age, Australia 2011-12

The biggest rises in prevalence: First 3 years, and later adolescence/ young adulthood



Source: Australian National Health Survey 2011-12

WHO Ending Childhood Obesity Commission

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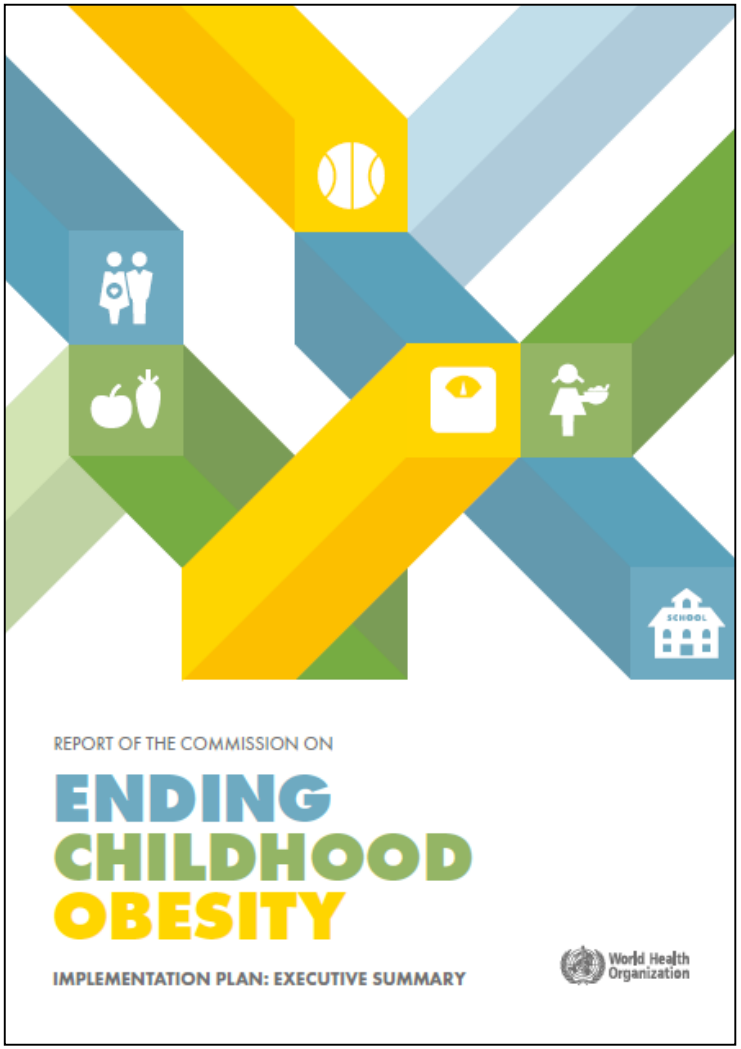
World Health Organization
Ending Childhood Obesity (ECHO) Commission



WHO 2017. ECHO Commission Implementation Plan

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WHO ECHO Commission: *Leadership for comprehensive, integrated, multisectoral action to end childhood obesity*

- ***"No single intervention can halt the advance of the epidemic of obesity***
- ***To challenge obesity successfully requires countering the obesogenic environment and addressing vital elements in the life course through coordinated, multisectoral action that is held to account***
- ***Interventions to tackle obesity can be integrated into and build upon existing national plans, policies and programs"***

WHO 2017. ECHO Commission Implementation Plan. P9

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We have an opportunity today to provide some of this leadership

- *"No single intervention can halt the advance of the epidemic of obesity*
- *To challenge obesity successfully requires countering the obesogenic environment and addressing vital elements in the life course through coordinated, multisectoral action that is held to account*
- *Interventions to tackle obesity can be integrated into and build upon existing national plans, policies and programs"*

WHO 2017. ECHO Commission Implementation Plan. P9

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WHO ECHO Commission: *Six key areas of action*

WHO 2017. ECHO Commission Implementation Plan

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WHO ECHO Commission: *Six key areas of action*

WHO 2017. ECHO Commission Implementation Plan

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The preconception and antenatal period

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Preconception and antenatal care

- **Preconception**
  - **Aim to prevent maternal obesity *prior* to being pregnant and also in the inter-pregnancy period → evidence base for interventions still largely in development**

- **Antenatal period**
  - **Targeted care of high risk women:**
    - **pre-pregnancy obesity**
    - **excessive gestational weight gain**
    - **gestational diabetes**

- **Cultural adaptation and co-production**
  - **Culturally relevant, and co-produced**

Hanson M et al. Lancet Diabetes Endocrinol 2017; Harrison VL et al, Midwifery 2017

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0-2 year age range

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Early childhood

- **Encouraging evidence from 4 Australasian trials that started antenatally or in early infancy and targeted healthy infant feeding and lifestyle behaviours**
- **Different types of intervention – nurse home visiting, group programs**
- **What can we learn from combining *individual participant data* from these trials at age 18-24 months?**
- **Total n=2000**

Askie L et al. BMC Public Health 2010; Wen LM et al. BMJ 2012; Daniels LA et al. Int J Obesity 2012; Campbell KJ et al. Pediatrics 2013; Taylor RW et al. AJCN 2018

Askie *et al. BMC Public Health* 2010, **10**:728
http://www.biomedcentral.com/1471-2458/10/728

BMC Public Health

STUDY PROTOCOL Open Access

The Early Prevention of Obesity in CHildren (EPOCH) Collaboration - an Individual Patient Data Prospective Meta-Analysis

Lisa M Askie[1*], Louise A Baur[2], Karen Campbell[3], Lynne A Daniels[4], Kylie Hesketh[3], Anthea Magarey[5], Seema Mihrshahi[4], Chris Rissel[6], John Simes[1], Barry Taylor[7], Rachael Taylor[8], Merryn Voysey[1], Li Ming Wen[6], EPOCH Collaboration[1]

Results to date from combining the data

- **Interventions starting in the first few months can lead to:**
  - **Some reduction in BMI at 18-24 months**
  - **Longer duration breast feeding**
  - **Reduction in TV viewing time**
  - **Reduction in some undesirable feeding practices**

Askie L et al. Manuscript submitted. Data presented at Eur Congress Obesity and at ANZ Obesity Society

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My recommendations for obesity prevention in the 0-2y age range

- **A range of strategies to promote breastfeeding, appropriate introduction of solids, and transition to healthy child & family lifestyle**

- **High risk mothers & children:**
  - **sustained home visiting**
- **Most mothers & families:**
  - **strengthen existing early childhood nurse support**
  - **mothers' groups**
  - **phone coaching/ other e-health support**
- **Cultural adaptation and co-production**
  - **Culturally relevant, and co-produced**

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The preschool age period

The preschool age period

- **Early care and education settings**
  - **Are avenues for general obesity prevention**
  - **Moderate evidence for interventions to improve obesity-conducive behaviours**
  - **Comprehensive, multi-component, multi-level interventions, with parental engagement are most effective**
- **Cultural adaptation and co-production**
  - **Culturally relevant, and co-produced**

Ward DS et al. Prev Med 2017

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But let's think about the world in which young children live

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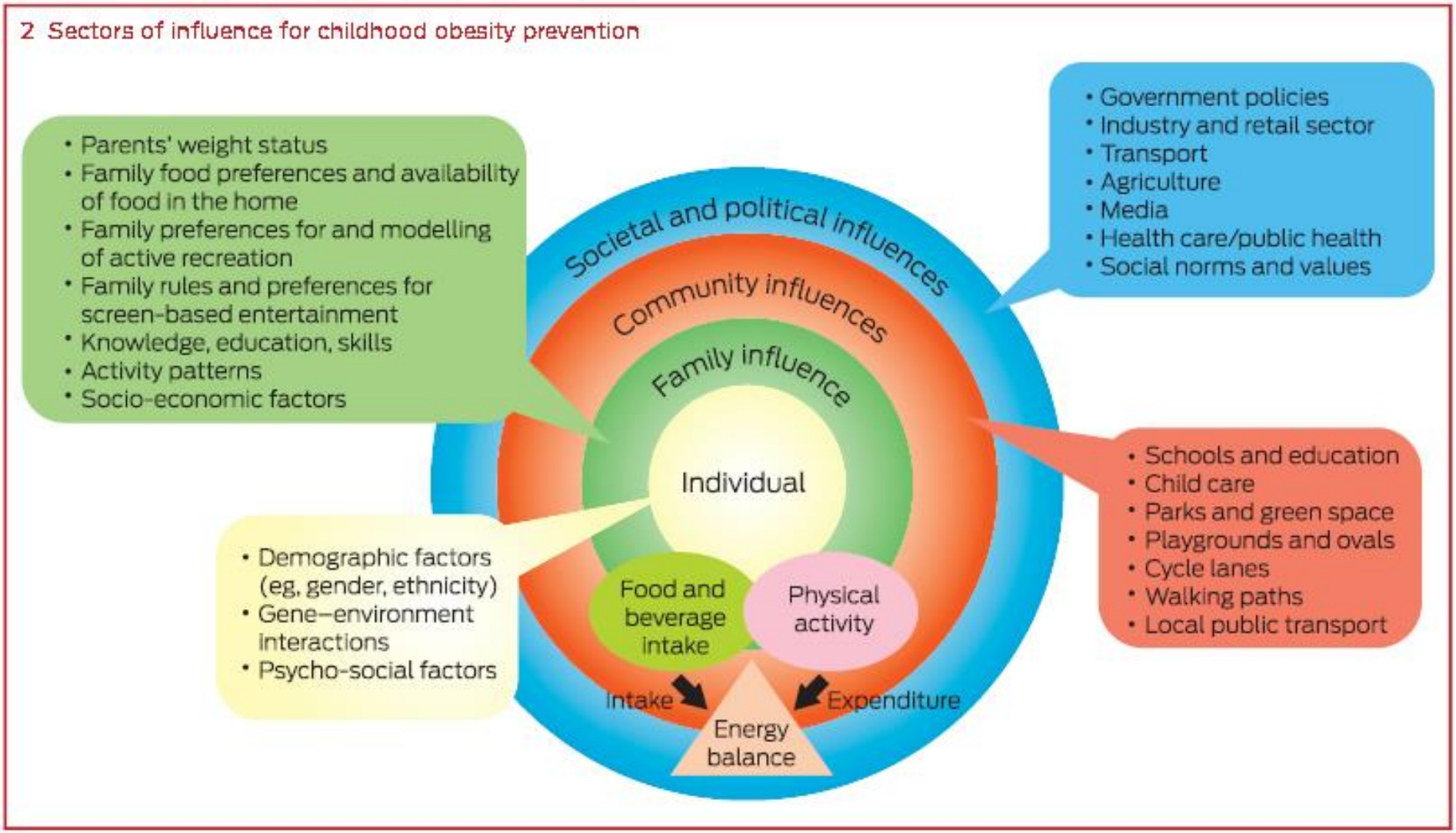
Sectors of influence for childhood obesity prevention



Mihrshahi, Gow & Baur. MJA 2018.

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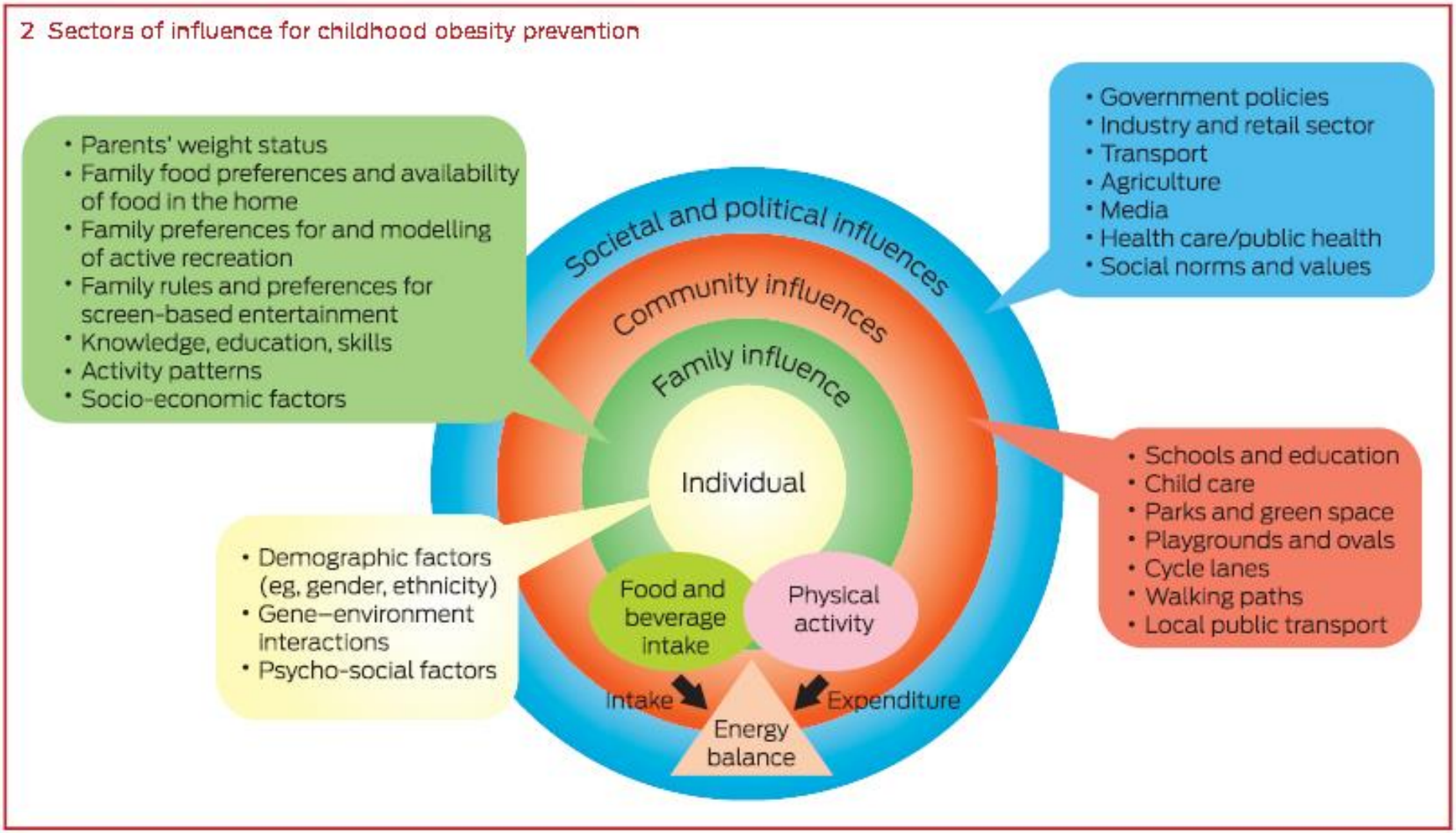
Most of these sectors of influence lie beyond the capacity of the family or health sector to control



Mihrshahi, Gow & Baur. MJA 2018.

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The world in which young children live

How do we tackle these influences?

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Obesity prevention in the first 2000 days

- **Specific interventions should be rolled out in:**
  - **antenatal period**
  - **0-2 year period**
  - **preschool age group**
- **Must have cultural adaptation**
- **Must have co-production**

- **How do we tackle the upstream drivers (outer sectors of influence) that are also at play?**
  - **Regulation of food marketing**
  - **Strategies to decrease sugar sweetened beverage consumption**
  - **Other influences….**

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Acknowledgements

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- NHMRC EPOCH CRE members
- WHO ECHO Commission Working Gp
- World Obesity Federation staff
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Thank you!

www.earlychildhoodobesity.com

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