Health
South Eastern Sydney
Local Health District

Framework to prevent and address childhood obesity

2018

Contents

This Framework has been prepared by Adjunct Associate Professor Lesley King for SESLHD

Abbreviations

CALD	Culturally and linguistically diverse
DPC	Department of Premier and Cabinet
FACS	Family and Community Services
ISLHD	Illawarra Shoalhaven Local Health District
LGA	Local Government Area
LHD	Local Health District
MOH	Ministry of Health
NSW	New South Wales
OSCH	Out of School Hours Care
PHN	Primary Health Network
SESLHD	South Eastern Sydney Local Health District
SSB	Sugar Sweetened Beverages
SPANS	School Physical Acitvity and Nutrition Survey
WSLHD	Western Sydney Local Health District

Preamble

This document has been developed as a Framework for guiding South Eastern Sydney's efforts to prevent and address childhood obesity. Addressing childhood obesity effectively requires a whole of community, as well as health service effort.

This Framework has been prepared in consultation with key stakeholders, and ongoing consultation and engagement will take place in order to effectively translate the Framework into local actions.

Childhood obesity is a serious problem, with immediate and long-term health and social consequences. The proposed approach addresses a wide range of social factors contributing to the problem, as well as more immediate behavioural influences. At the same time, the proposed framework is solution-oriented and presented in a way to reflect the manner in which solutions are organised and implemented.

Highlights

This Framework is based on the substantial foundation of programs and services that are currently being implemented in NSW and SESLHD.

This Framework identifies SESLHD's leadership role, but encompasses a whole of district approach. That is, the Framework adopts a partnership approach, where the Local Health District (LHD) works collaboratively with community members, local government and other government and non-government agencies to remove barriers to children and families' health and wellbeing, with a focus on weight-related factors. Importantly, the Framework is focused on promoting equity, and ensuring initiatives connect and engage with the most disadvantaged community members within SESLHD. The approach is based on evidence that highlights the fundamental contributions of social, economic and environmental factors to childhood obesity, and the importance of providing conducive conditions for community members themselves to take action to promote the health of their families. Thus the Framework and the proposed actions address a wide range of social factors contributing to overweight and obesity, as well as more immediate behavioural influences.

In terms of addressing social factors influencing obesity, the Framework focuses on improvements in the built environment that facilitate physical activity and active transport, ensuring that these are available for all population groups and locations, in concert with social initiatives to engage community members and ensure that their social and physical needs are recognised and addressed. At the behavioural level, the proposed actions seek to facilitate children and families in reducing consumption of energy-dense, nutrient poor foods, particularly sugar sweetened drinks, increasing physical activity, reducing screen time, and promoting regular, adequate sleep.

The Framework structure seeks to reflect the ways in which solutions are organised and implemented – the settings and agencies through which facilitating changes can be made.

The Framework comprises three streams of actions:

1

Building health sector organisational capacity

Promoting an integrated effort with actions implemented through health service settings and roles, promoting health literacy around healthy eating, active living, sleep, and related factors, as well as providing appropriate referrals and clinical services.

2

Community partnership development

Fostering collaborations across local government, community agencies, community members and businesses to:

(a) improve the amenity of the built environment for active living;
(b) promote accessibility of healthy food choices;
(c) using social networks to engage more disadvantaged people in promoting their families' wellbeing; and
(d) co-produce and co-deliver initiatives with community members, building on community strengths.

3

Children's everyday settings

Sustaining and strengthening the health facilitating systems approach in schools, childcare and sports settings through implementing key policies and practices.

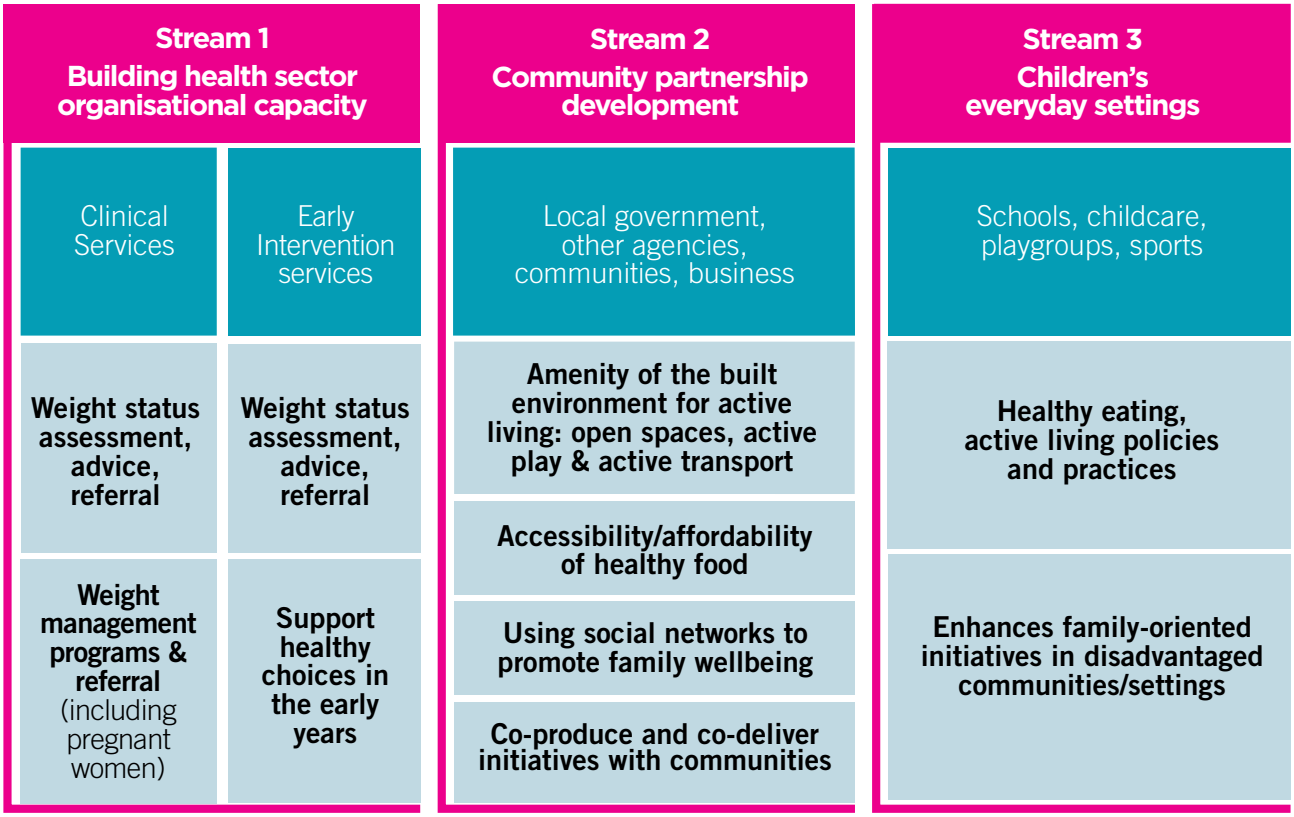
Thus these three streams of action reflect a systems change approach within health services, and across community stakeholders and children's setting. At the same time, the proposed actions identify practical steps that can be taken within these systems and settings. The Framework is presented in Figure 1.

Reflecting the NSW Department of Premier and Cabinet's (DPC) requirements, the LHD is seen as playing a critical leadership role, in collaboration with other government, non-government, business, Primary Health Network (PHN) and community partners. As responsibilities for actions within each stream would logically be spread across different facilities and clinical streams within the LHD, a high level governance structure within SESLHD is also proposed, to promote coordinated action and support reporting to the Ministry of Health (MOH) and DPC.

The Framework seeks to provide a clear and integrated communication about the range and types of actions required to mount an effective obesity prevention effort. It seeks to foster constructive engagement between the health sector, communities and other government and non-government agencies. The highlights of this Framework reflect this emphasis on community engagement and equity.

The Framework identifies initiatives that are currently being implemented, and indicates in general terms where there is scope for further enhancements, as opportunities arise. Any new actions would require consultations with internal SESLHD partners, as well as community members and representatives. It is recognised that careful investigation and detailed development work is required to ensure all initiatives are relevant to the community and organisational setting.

FIGURE 1: Three streams of action



1 Introduction

Prevention and treatment of childhood overweight and obesity in NSW is a serious public health issue. The NSW Premier has announced that tackling childhood obesity is a priority for the NSW government. While SESLHD has been involved in implementing prevention initiatives amongst children and families across the district over a number of years, there is now a need for strengthening of efforts and additional actions to better reach more disadvantaged population sub-groups and support them in making choices that support health and wellbeing.

Childhood overweight and obesity increases the likelihood of adult overweight and obesity, and associated increased risk of chronic disease, including diabetes, cardiovascular disease and cancer. It also has immediate negative physical and mental health consequences for children and adolescents, including bullying and early onset diabetes and liver disease (see Box A).

The current high prevalence of childhood overweight and obesity is complex, with a multitude of interrelated social, environmental and economic causes which ultimately influence children's eating, activity, sedentary and sleep behaviours. Prevention efforts seek to address these social, environmental and economic factors, as well as influence behaviours directly. The scope of action required extends far beyond that of the health sector, so that many sectors and agencies have a role to play.

While the risks and issues associated with childhood obesity are of serious concern, the changes required are fundamental to good health and wellbeing generally, so that they are of immediate relevance to families and children on a day-to-day basis.

This Framework outlines a strategic approach for preventing and addressing childhood obesity in SES. The document notes key characteristics of the SES population, available information about eating and activity patterns of children in NSW and the district, and the current array of prevention efforts. On this basis, and in the light of available research evidence on effective interventions that would be applicable in the SESLHD context, the Framework paves the way for the ongoing development and implementation of action.

The purpose of this document is to:

- Depict a framework to facilitate a coordinated approach to addressing childhood obesity across a wide set of stakeholders
- Present the array of current state and local efforts
- Contribute to a cohesive systems approach to addressing childhood obesity across SESLHD
- Develop synergy with SESLHD's commitment better address social determinants of health and child and family wellness goals

BOX A:

The problem of childhood overweight and obesity

- The consequences of overweight and obesity in children have impacts on both physical and mental health, and obese children are more likely to stay obese as adults and have increased risk of diabetes and cardiovascular disease at younger ages (Reilly et al, 2003).
- There are immediate health and social consequences associated with childhood overweight and obesity (Reilly et al, 2003).
- Recent NSW surveys have found that since 1997 obesity has remained stable and overweight stabilised in children, but has increased in adolescents (Hardy et al, 2016).
- The likelihood of being overweight or obese was significantly higher in low socioeconomic children and adolescents compared to high socioeconomic children/ adolescents (Hardy et al, 2016).
- There is a multitude of interrelated causes, including both nutrition and physical activity related behaviours and environmental factors (Government Office for Science, 2010).
- The complex systems of factors contributing to the problem at population level mean that we need a significant set of environmental, social and behavioural changes to address the problem. This requires a whole of community response that is multifaceted and comprehensive (Jebb et al, 2007).
- Despite high professional and public awareness of childhood obesity as a problem in general, there is less awareness about its personal relevance (Campbell et al, 2006). This awareness is important for health and community agencies who can implement changes throughout local communities; and for families who can make changes in their everyday lives, to reduce the availability of unhealthy food items and increase their level of activity.

2 South Eastern Sydney Local Health District

SESLHD covers seven NSW Local Government Areas, from Sydney's Central Business District to the Royal National Park in the south. The District also provides a key role in assisting residents of Lord Howe Island and Norfolk Island with access to hospital and health services, including statewide services. SESLHD has a complex mix of highly urbanised areas, industrialised areas and low density suburban development areas in the south, with a culturally and linguistically diverse population.

Population profile

The residential population of SESLHD was around 871,000 in the 2016 census and is projected to increase to about 890,000 by 2021 and 930,000 by 2031. The population has significant social and cultural diversity, with sizeable Aboriginal populations, and a large share of some of NSW's high risk populations, including homeless people, marginalised youth, and people who inject drugs. Thus the overall profile, showing the SESLHD population as being relatively advantaged overall compared to the rest of NSW, masks groups who have significant disadvantage, with some suburbs among the least advantaged in the state and 17 of the 200 suburbs more socioeconomic disadvantaged than the average (i.e. SEIFA < 1000) (SESLHD, 2015).

As occurs generally across Australia, the starkest variation in health status between population groups resident in SESLHD is between Aboriginal and non-Aboriginal people. While the non-Aboriginal population of SESLHD is rapidly ageing, Aboriginal people are facing increased growth in young age groups. In 2011, 28% of Aboriginal residents were under 15 years of age, compared with 16% of non-Aboriginal residents. In 2011, SESLHD's total Aboriginal resident population was 6,319 people – 0.8% of the District's total population.

Source: Data provided by SESLHD Planning Unit

The District's Aboriginal population makes up 3.6% of the State's Aboriginal population. The District's largest Aboriginal populations live in the Randwick and Sutherland Local Government Areas (LGA).

SESLHD also has a large population who were born overseas. In 2011, 26% of the District's population (206,195 people) was born in a non-English speaking country, an increase of 5% from 2006. Almost half (42%) of these SESLHD residents live in the St George area. More than a third (37%) of the residents speak another language at home. Each year 7,500 people on average migrate from overseas into the SESLHD area, particularly the St George area. Most are young (18-35 years), and the largest numbers come from China and India. SESLHD also receives a small but significant number (approximately 200) of new humanitarian arrivals per year from countries such as China, Iran, Iraq, Egypt and Bangladesh.

In terms of housing, Randwick LGA has the largest number of public housing dwellings, whereas Botany in Bayside LGA has the highest percentage of public housing dwellings. Within these areas, there are particular suburbs which have an even higher proportion of public housing, such as in Daceyville (Botany Bay LGA) with about 71% of all homes being public housing.

Children in SESLHD

Children aged up to 14 years make up 15% of the SESLHD population, with 6% of those children aged 0-4 years (the early years). As a raw figure, the highest number of children aged 0-4 years live in the Sutherland Shire, Bayside and Georges River LGAs. It is estimated that 20,000 children live in low income families.

Table 1 presents the numbers of children living in each LGA.

TABLE 1: Population of children 0-14 years

LGA*	Total population	# 0-4	# 5-9	# 10-14	Total # 0-14 yrs	% 0-14 yrs
Sutherland	218,464	13,624	14,354	13,676	41,654	19.1
Bayside	156,058	9,551	8,429	7,371	25,351	16.2
Georges River	146,841	8,556	8,267	7,798	24,621	16.8
Randwick	140,660	7,645	7,225	6,089	20,959	14.9
Waverley	66,812	4,154	3,658	2,897	10,709	16.0
Woollahra	54,240	2,771	2,921	2,782	8,474	15.6
Sydney (Inner and East)	88,559	2965	1,712	1,290	5,967	6.74
TOTAL	**871,634**	**49,266**	**46566**	**41,903**	**129,261**	**14.8**
% of population	100%	5.7	5.3	4.8	14.8	

Source: Australian Bureau of Statistics (ABS), Census 2016 *Listed in decreasing order of population of 0-14 Year olds

Patterns of overweight and obesity

Estimates of the prevalence of childhood obesity vary according to the measurement method, whether this is objectively or based on parent report. NSW Government primarily uses parental report data, from the NSW Child Health Survey (NSW Government. Health Stats NSW, 2018). This data shows that the prevalence of childhood overweight and obesity in NSW children aged 5 to 16 years was 22.0% in 2015. The prevalence of overweight and obesity has remained relatively stable in NSW primary school aged children since 2007.

The Schools Physical Activity and Nutrition Surveys (SPANS) conducted over the period 1998 to 2015 use objective measurements, and have found that the rates of overweight and obesity are increasing in adolescents (Hardy et al, 2017). Analyses of SPANS 2010 have shown that students from low SES backgrounds, compared with high SES students, are more likely to be overweight or obese; and this pattern holds for some related risk behaviours (Hardy et al, 2013). This data has also been used to explore cultural differences in prevalence, with Middle Eastern students of all socio-economic levels having higher prevalence of overweight and obesity than the NSW average (Hardy et al, 2013). While a large proportion of these children were from low SES backgrounds, the prevalence of overweight /obesity was higher than English background low SES peers (Hardy et al, 2013) (see Table 2).

TABLE 2: Selected patterns in prevalence of overweight and obesity

Sub-group	Prevalence		
Children 5-16 yrs, overweight + obesity 2016	22%		
Adolescents 12 -17 yrs, overweight + obesity 2014, SESLHD+ SLHD,& ISLHD	16.6%		
Low SES* English speaking, overweight + obese			
Boys, 2010	24.6		
Girls	27.6		
Middle Eastern primary school students	**Low SES***	**Mid SES***	**High SES***
Boys 2010, Overweight+ obese	39.4	41.2	23.2
Girls 2010, Overweight + obese	34.0	28.8	26.4

Source: Hardy et al, 2013. *Socio-economic status

Between 1997 and 2010 there was a proportionally greater increase in prevalence of overweight and obesity in Aboriginal children in NSW compared to their non-Aboriginal counterparts (Hardy et al, 2014). Unhealthy risk behaviours were frequent among Aboriginal children, but particularly lack of breakfast daily, excessive screen time and soft drink consumption (Hardy et al 2014).

Weight-related behaviours

Data about weight-related risk factors is focused on the prevalence of indicators for eating and activity, and some related household practices. There is no available data on other contributing factors such as children's sleep patterns or psychological factors. The available data shows that many NSW and SESLHD children are not achieving recommended health guidelines related to nutrition, physical activity or sedentary time, and provides a strong rationale for promoting these building blocks of wellbeing (see Table 3).

Note that the indicators listed come from a number of different data sources, with different methodologies and different coverage in terms of age range; and that overall, the sample sizes for SESLHD are too small to allow accurate prevalence estimates. Often, NSW wide data provides the best estimate for SESLHD children and adolescents. Despite these methodological issues, the patterns are consistent.

Eating patterns

As shown in Table 3, available data indicates that an extremely low proportion of children or adolescents consume the recommended level of vegetables, although by contrast, a clear majority do meet guidelines for fruit consumption. The consumption of energy-dense nutrient poor foods, known to contribute to excessive weight gain is commonplace, with 45% drinking soft drink regularly and eating unhealthy snacks daily.

There are also a number of eating habits that are known to be associated with unhealthy weight gain, including eating breakfast daily and eating dinner in front of the TV (Hardy et al, 2011). The 2015 NSW School Physical Activity and Nutrition Survey (SPANS) found that the prevalence of eating breakfast daily was significantly lower than amongst NSW primary school aged children from low socio-economic status backgrounds compared to high socio-economic backgrounds, and children from European and Asian backgrounds, with the lowest among those from Middle eastern background (56% compared to 85% overall). The prevalence of eating breakfast daily was lower among adolescents (60%) overall, and with lower levels among low and middle socio-economic status (55 and 56%); but there were no differences in terms of adolescents cultural background (Hardy et al, 2016 b).

The prevalence of eating dinner in front of the TV five or more times per week was found to be higher among primary school aged children from Middle Eastern backgrounds (22% compared to 16%), although this had decreased from 2010. Eating dinner in front of TV five times or more per week was higher among adolescents from low and medium socio-economic status backgrounds compared to those from high socio-economic status, and among Middle-Eastern adolescent girls, compared to other adolescent girls.

Breastfeeding and introduction of solids

The patterns of breastfeeding across SESLHD are similar to state patterns, where there is a considerable drop-off in rates of exclusive breastfeeding from about 6 weeks (NSW MOH, 2011).

There is anecdotal evidence about the overly early introduction of solid foods in some cultural groups, and about ongoing over feeding and lack of independent eating amongst Nepalese and Bangladeshi families.

Active living

As shown in Table 3, NSW Child Health Survey data (2016-2017)shows that the proportions of NSW and SESLHD children meeting physical activity recommendations is low, at around 25% or less; and correspondingly, the majority do not meet recommendations related to time spent in sedentary behaviours. The 2015 SPANS data on screen time use shows a similar pattern (Hardy et al, 2016b). A majority of primary school children are driven to school each day.

The 2015 SPANS survey also shows that there were significant differences in weight related behaviours of children who were overweight or obese, compared with those in the healthy weight range; they were less likely to eat breakfast daily, meet physical activity or screen time recommendations, and have higher consumption of soft drinks and be driven to school (Hardy et al, 2016b).

Knowledge, attitudes and perceptions

There is a wealth of Australian research on families' attitudes and perceptions about their children's weight status, physical activity and nutrition, and their health literacy on these topics. Importantly, one of the consistent findings is that parents frequently perceive that their child is in the healthy weight range, even when they are overweight or obese. For example, the SPANS 2015 survey found that almost three quarters of NSW parents of primary school aged children who were in the overweight range and one third of those with children in the obese range perceived their child to

TABLE 3: Prevalence of selected obesity-related behaviours

Health guideline/indicator	Population Group & Source	SESLHD	NSW
Met daily recommended vegetable intake	Children 2 -15 yrs [1]		7.1%
Met daily recommended fruit intake	Children 2 -15 yrs [1]		67.5%
Regularly drink sweetened drinks	Children 2 -15 yrs [2]		45%
Eat unhealthy snacks daily	Children 2-15 yrs [2]		50%
Met daily recommended physical activity level	Children 5-15 yrs [1]	17.8	24.2
Met sedentary behaviour guideline	Children 5-15 yrs [1]	47.2	44.0
Met daily recommended limits of screen time: weekday	Secondary students [3]		36%
	Primary school children [3]		62%
Driven to school	Secondary students [3]		24%
	Primary school children [3]		54%

be 'about the right weight' (Hardy et al, 2016b).

In terms of health literacy, the SPANS 2015 survey found that only 17% of parents of primary school aged children correctly reported the recommended time per day for young people to participate in physical activity; and 53% of parents and year 6 children did not know the recommended level of screen time for children (Hardy et al, 2016b).

Social and environmental factors

There is sound evidence that many household, community and environmental factors influence children's food consumption and energy expenditure (WHO, 2003; Government Office for Science, 2010) such as:

- Access to affordable physical activity opportunities
- Access to affordable healthy food and drink choices
- Larger than recommended portion sizes have become 'normal', thus fostering over-consumption
- Having energy-dense nutrient poor foods and drinks available at home
- Unrestricted access to screen time at home, which increases the likelihood of increased food consumption and sedentary time.

While we don't have specific information about these factors for children living in SESLHD there is some information about NSW students. In terms of food availability at home, the prevalence of usually having soft drinks available in the home was significantly higher amongst primary school aged children (21% compared to 7%) and adolescents (37% compared to 20%) from Middle Eastern backgrounds compared to other children/ adolescents. This is important, as national data shows that over 60% of sugar sweetened beverages are consumed at home, and those children who had soft drink at home were five times as likely to be high consumers (Hardy et al, 2016b).

Evidence shows that children with a TV in their bedroom are at greatest risk of becoming overweight or obese, have lower academic performance and reduced /poorer sleep. The SPANS survey found that having a TV in the bedroom was more prevalent among children from low (26%) and middle (21%) socio-economic status backgrounds, compared to those from higher socio-economic status backgrounds (11%) (Hardy et al, 2016b).

Some of these household practices and parental views form an important focus for brief advice by health professionals, when communicated sensitively and appropriately to the family circumstances.

[1] NSW Government, Health Stats NSW. Child Health Survey Data, 2016-2017.
[2] NSW MOH, 2017. What NSW Children Eat and Drink. Report of the Chief Health Officer.
[3] Hardy et al, 2016b

3 Policy context

SESLHD health framework and approach

SESLHD is committed to prevention and community wellbeing, and 'giving every child the opportunity to have a good start to life'. This approach is described in SESLHD's *Journey to Excellence 2018-2021*, which builds on earlier commitments to population wellbeing and equity[10]. The key objectives encompassed by this commitment to community wellbeing and health equity are presented in Box B.

BOX B:

SESLHD Community wellbeing and health equity objectives

1. Focus on wellness, early intervention and prevention
2. Enable people to stay well and be equipped to manage periods of ill health
3. Our community will experience improved health outcomes
4. Health inequities will be reduced
5. Give every child a healthy start to life

The focus on addressing health inequities is further detailed in the District's Equity Delivery Plan. The Equity Plan takes a systematic and whole of system approach to improving the health and wellbeing of the most disadvantaged groups such as people who are subject to homelessness and Aboriginal People. A number of important equity initiatives are well underway. The central themes are addressing the social determinants of health, promoting community engagement and partnerships and adopting asset-based approaches, which identify, acknowledge and draw upon the assets that individuals and communities can bring to health enhancing endeavours. SESLHD priorities for investment to promote equity are presented in Box C.

BOX C:

Priorities for SESLHD investment to promote equity

- Engage communities to identify and co-produce more local actions that build community capacity and resilience
- Build environments that enable safe, active and socially inclusive lifestyles for good population health and wellbeing
- Build stronger intersectoral working partnerships -the scope of this undertaking is more than we can achieve alone
- Embed the principles of addressing social determinants throughout our entire organisation

The *Journey to Excellence* also identifies 'partnerships that deliver' as a key enabler, particularly for addressing social determinants of health and improving wellbeing: *'Strong partnerships enable individuals and agencies to be actively involved in shaping the services we deliver by identifying their preferences, needs and the goals that are important to them. They also provide the opportunity to collectively leverage the resources in the community to integrate health and social care and shift the power dynamic from the service provider to the individual to give our community a greater control over their own health and wellbeing'.*

[10] *SESLHD Road Map to Excellence 2014-2017.*

4 Action to promote healthy eating and active living in NSW and SESLHD

The District planning and policy documents outlined above operate in the context of statewide plans and programs, including the NSW Premier's Delivery Plan to address child obesity prevention, the NSW Health policy framework, the *NSW Healthy Eating and Active Living (HEAL) Strategy: Preventing overweight and obesity in New South Wales 2013-2018, NSW Health's Healthy+ Safe+ Well: a strategic health plan for children, young people and families 2014-2024* and NSW Health Policy direction on *Breastfeeding in NSW: Promotion, Protection and Support, 2011.*

The role of LHDs in relation to these frameworks has been recently reinforced and in 2016 the Chief Health Officer advised LHDs of 7 priorities (see Box D). These 7 priorities are evidence-based and provide a foundation of actions for local implementation. There are corresponding quarterly performance and reporting requirements for LHDs. LHDs are in a pivotal position and can play a key role in contributing leadership, establishing governance and coordination mechanisms and stimulating community partnerships.

BOX D:

Priorities for LHDs. Communique from the Chief Health Officer, 2016.

1. An enhanced focus on the delivery of the Healthy Children's Initiative (including increased impact of programs in primary schools, childcare and increased reach of the community based treatment program (Go4Fun)
2. LHD promotion of the Make Healthy Normal (MHN) Campaign
3. Improvements in routine recording of weights and heights of paediatric patients. For those children identified as being above a healthy weight, ensuring systematic provision of brief advice and referral to appropriate services and resources including services with a family focus
4. Referral of pregnant women to the Get Healthy in Pregnancy program (part of the Get Healthy Information and Coaching Service)
5. Implementation of the *Healthy Food and Drink in NSW Health Facilities for Staff and Visitors Framework* throughout LHD managed retail settings in health facilities (e.g. cafes, vending, and fundraising)
6. Limiting the promotion of unhealthy foods and drinks in Health facilities (if relevant)
7. LHD leadership in a regional whole of government approach (with the support of Regional Department of Premier and Cabinet)

The identification of childhood obesity as one of the Premier's priorities creates new opportunities at local as well as central levels. NSW is well-positioned to implement a multi-layered, strategic approach, with many of the key elements for effective approaches in place.

In addition to strong policy frameworks at state and district levels, there is also an increasingly strong body of research and implementation evidence supporting prevention efforts. Based on the work illuminating the complex systems underpinning the increasing prevalence of overweight and obesity in our current society, the UK's landmark Foresight Report (Government Office for Science, 2010) indicates the importance of adopting a portfolio of strategies that addresses various social, economic and community sectors, a mix of contributing factors, and different population groups – all at multiple levels, including national, state and district. There is a plethora of reviews, guidelines and local research studies which contribute to the overall body of evidence. A summary of research evidence, primarily based on a recent review prepared for NSW MOH, is presented in Attachment A.

BOX E:

Checklist of critical dimensions for effective obesity prevention (Foresight)

Strategy support – policy, governance, resources and risk management

- ✓ Ongoing strategy development process
- ✓ Government management structures
- ✓ Underpinning risk analysis
- ✓ Sufficient resources for scaled up response

The strategy itself – seeks change at different social levels, with multiple community groups, over time by using a mix of change processes (influence, inform, enable, motivate)

- ✓ Interventions/ change mechanisms that act at different levels - focused attention, enable and amplify
- ✓ Influence a broad set of levers (food, physical acitvity, individual, environment)
- ✓ Operate at multiple levels (local, regional, state)
- ✓ Allow for life-course and generational effects
- ✓ Goals and implementation targets
- ✓ Align with other policy agendas
- ✓ Balance feasibility and cost-effectiveness
- ✓ Consider equity

Source: Government Office for Science, 2010

5 Addressing childhood obesity in SESLHD

This Framework is based on the substantial foundation of programs and policies that are currently being implemented in NSW and SESLHD.

Structure of the Framework

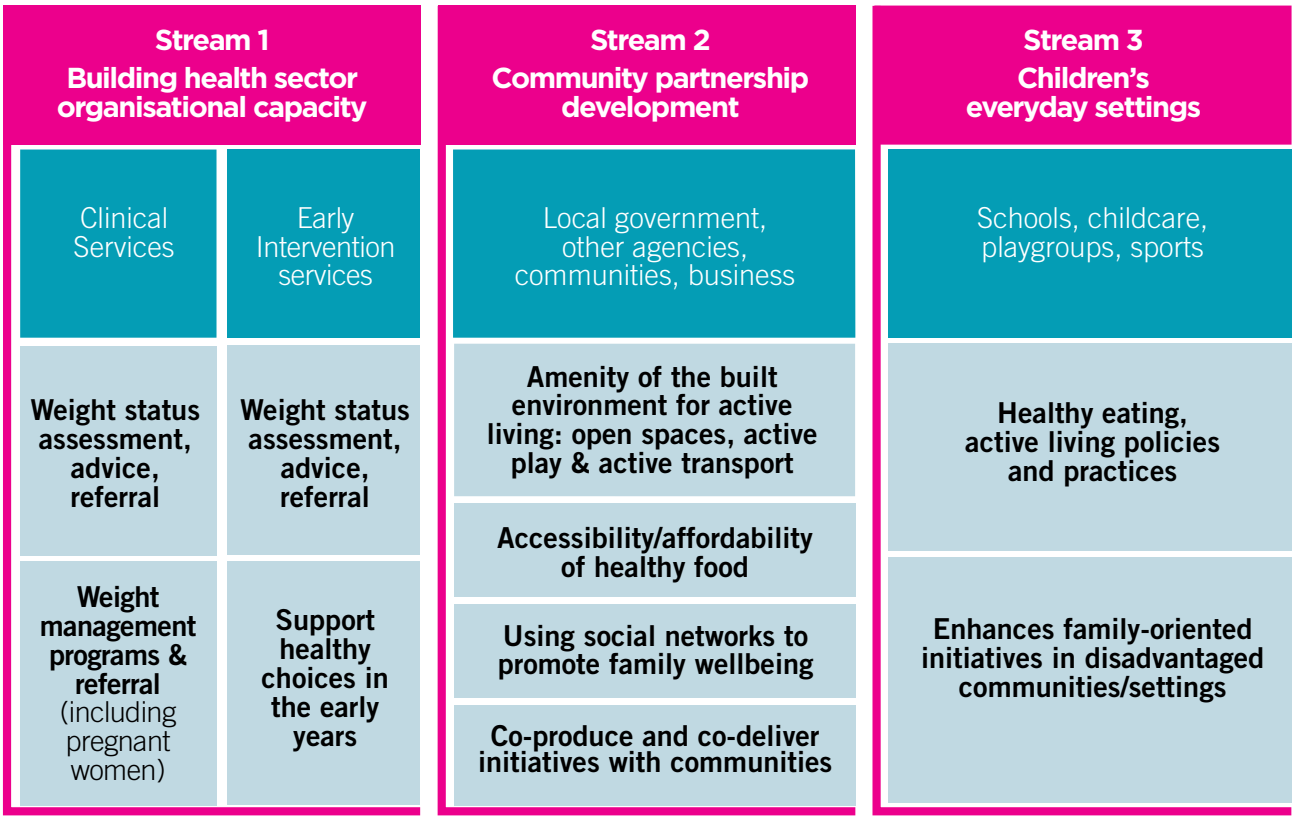
The Framework addresses a wide range of social factors contributing to overweight and obesity, as well as more immediate behavioural influences. At the same time, the Framework is solution-oriented, and seeks to reflect the ways solutions are organised and implemented – the settings and agencies through which facilitating changes can be made (see Figure 1).

The Childhood Obesity Prevention Strategy Advisory Committee was established to oversee the development of this Framework. A coordinated approach to implementation requires governance and oversight, to facilitate coordinated action and integrated reporting. Many LHDs have convened high level structures to oversee the implementation of the Premiers' Priority on addressing childhood obesity, and include this as part of their reporting to the MOH (and thence to DPC). To date the SESLHD effort has been concentrated at primary prevention level, with responsibility primarily lodged with health promotion and population health services. A whole of organisation approach means that responsibilities operate across different organisational divisions and clinical streams. Going forward a new governance structure will be developed to oversee implementation of the Framework across SESLHD.

Overall, the Framework adopts a partnership approach, where the LHD works collaboratively with community members, local government and other government and non-government agencies to remove barriers to children and families' health and wellbeing, with a focus on weight-related factors. Importantly, the Framework is focused on promoting equity, and ensuring initiatives connect and engage with the most disadvantaged community members within SESLHD. The approach is based on evidence that highlights the fundamental contributions of social, economic and environmental factors to childhood obesity, and the importance of providing conducive conditions for community members themselves to take action to promote the health of their families.

Figure 2 presents a highly simplified, schematic representation of direct and indirect links between the streams of action and groups of contributing factors. While a specific stream of action may have a direct or primary role in addressing certain types of contributing factors, the actions can be designed and implemented to also have indirect impacts on other groups of factors. For example, an initiative within a school setting can influence school practices, and also engage parents and carers, and potentially influence their household practices, and promote health literacy (for example, awareness about the educational benefits of healthier foods, being more active or adequate sleep).

FIGURE 1: Three streams of action



The Framework's three streams of action comprise:

1

Building health sector organisational capacity

Promoting an integrated effort with actions implemented through health service settings and roles, promoting health literacy around healthy eating, active living, sleep, and related factors, as well as providing appropriate referrals and clinical services.

2

Community partnership development

Fostering collaborations across local government, community agencies, community members and businesses to:

(a) improve the amenity of the built environment for active living;
(b) promote accessibility of healthy food choices;
(c) using social networks to engage more disadvantaged people in promoting their families' wellbeing; and
(d) co-produce and co-deliver initiatives with community members, building on community strengths.

3

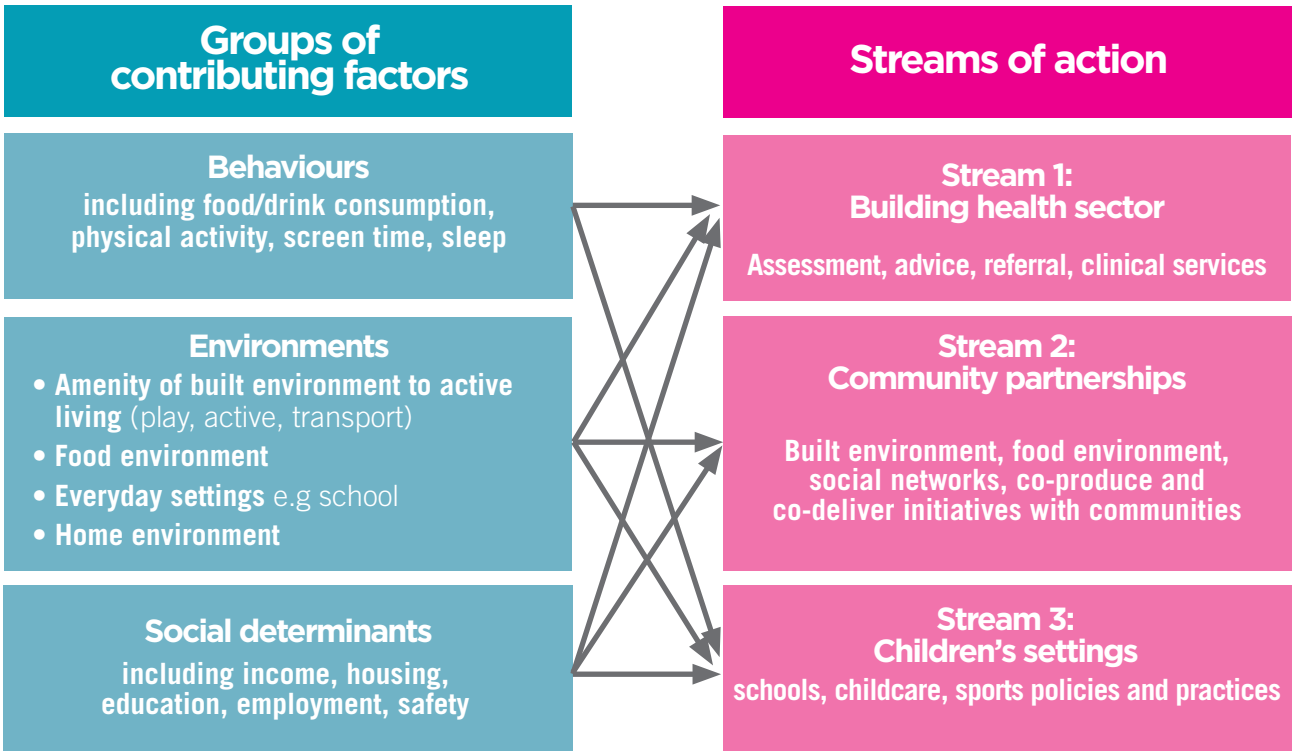
Children's everyday settings

Sustaining and strengthening the health facilitating systems approach in schools, childcare and sports settings through implementing key policies and practices.

These three streams of action reflect a systems change approach within health services, across communities and community stakeholders, and children's settings. At the same time, the proposed actions identify practical steps that can be taken within these systems and settings.

In terms of addressing contributing factors, the Framework recognises that interventions can operate at multiple levels (see Figure 2). This can occur indirectly, through targeting interventions to more disadvantaged groups or locations and checking that actions are appropriate to their target group (through consultations and collaboration); and directly, by addressing social and economic factors. In terms of social determinants influencing obesity, the Framework focuses on (a) improvements in the built environment that facilitate physical activity and active transport, ensuring that these are available for all population groups and locations; (b) improving access to healthy food choices; and (c) thirdly, fostering social initiatives to engage community members and ensure that their needs are recognised and appropriately addressed. At the behavioural level, the proposed actions seek to promote health literacy and facilitate children and families in reducing consumption of energy-dense, nutrient poor foods, particularly sugar sweetened drinks, increasing physical activity, reducing screen time, and promoting regular, adequate sleep, for example.

FIGURE 2: Schematic representation of direct and indirect links between streams of action and contributing factors



What do we want to achieve?

A key aim of this Framework is to contribute to achievement of the Premier's target 'to reduce the rate of overweight and obesity in children and young people (5-16 years) by 5 percent over 10 years (by 2025)'. At the same time, the Framework seeks to contribute to more general health improvement, 'to improve the wellbeing and health status of children and adolescents in SESLHD' and reduce health inequities (SESLHD, 2015).

There are many changes in behaviours, environments and social factors that are required in order to achieve such aims. It is useful to identify the various layers of changes that are required and might be achieved, as a way of guiding program design and as reference points for assessing progress.

Population reach and engagement

Reaching large segments of the population, and particularly those groups within the population with greatest needs, is a fundamental objective. Some actions have the potential to reach large numbers of children (for example through schools, long day care centres, community grants); whilst in other cases, actions may be targeted to specifically reach priority population groups, such as Aboriginal children. Tracking the reach of programs is important to ensure that they do reach appropriate target groups and are of sufficient scale to make a real impact.

However, population reach is only one part of the picture; there are also important aims related to the extent and quality of community engagement. Thus stronger community engagement, leadership, and ownership, as well as the emergence of new models and approaches and implementation of co-developed and co-delivered initiatives form a domain of relevant outcomes. These are particularly relevant in relation to specific communities, such as those where there are place-based initiatives.

Changes in social, cultural and economic factors

There is scope to identify changes in social factors, such as attitudes, literacy/knowledge and access to services/ programs/ facilities as both key objectives and indicators of success. Social, cultural and economic factors are inherently linked with aspects of everyday environments; but they also exert independent influences on children's eating, activity and weight status. These include housing arrangements, kitchen facilities, accessibility to healthy food choices and open space, access to sports and recreational activities and aspects of health literacy.

Changes in parents' knowledge and attitudes is also a relevant aim; their attitudes influence their approach to providing food for children and opportunities for children to be active. Importantly, parents' lack of awareness of weight and associated harms reduces their perception of the issue as important or relevant; it is well established that parents typically under-estimate their children's weight status, and experience barriers in making changes to family routines

Changes in environments

Changes in organisations and environments are important in supporting and enabling good health and wellbeing, including healthy eating and active living. Thus the extent to which these environmental changes occur can indicate the extent to which actions have been effective in producing an environment more conducive to wellbeing; and may form a relevant layer of outcomes for program evaluation purposes.

Changes in very local environments, in association with place-based initiatives represent relevant aims.

More generally, key aspects of the food environment that may constitute relevant aims include: what foods are available in children's and commercial settings, and the accessibility and affordability of healthy foods. Key environmental features supporting active living comprise physical activity opportunities at childcare and schools, access to safe open green space, active travel routes and public transport.

Not all the critical organisational and environmental factors are within the control of LHDs. For example, TV food advertising and the high availability of energy-dense nutrient poor foods, often at low prices, can be best influenced at state or national levels, rather than locally. Nevertheless, there may be specific actions that can be undertaken at local level, such as controls on

outdoor food advertising near schools, sports field and other outdoor locations, planning regulations related to placement of fast food restaurants and access to open spaces and active living facilities, such as cycle paths. This can provide meaningful indicators of change at a local level.

Changes in behaviours

Changes in the prevalence of key behavioural influences can provide an early indication of population-wide change in weight status, and thus comprise relevant objectives for change and reference points for assessing progress.

The behavioural indicators currently measured and used for these purposes focus on aspects of eating and activity and correspond to Australian Healthy Eating and Physical Activity Guidelines, and form the intervention focus of the NSW Health *HEAL strategy*.

Outline of streams of action

The following section includes a more detailed description and rationale for each action stream.

Stream 1

Building health sector organisational capacity

Description and rationale

An effective strategy to address childhood overweight and obesity requires a whole of health service approach. The health sector has a key leadership role, can provide important services to meet community needs and is in a position to model health enabling policies and practices.

A whole of LHD approach involves providing clinical services, integrating healthy eating and active living into all child and family clinical encounters, providing early intervention services and working with external settings and agencies to promote a whole of population approach. This approach is represented in Figures 3a and 3b.

Assessment and advice

The early detection/ intervention, problem diagnosis and management of weight problems form a set of clinical responsibilities. NSW MOH has mandated that all health professionals in contact with children and families should have the skills, resources and commitment to communicate with them to support them to eat healthily and lead active lives, as part of routine professional practice. The MOH requires LHDs to report on the extent to which their health services assess children's weight status and provide brief advice. In practice, implementation of this directive requires a mix of workforce development and service development. This requirement is based on evidence that interventions directly seeking to influence health behaviours are effective in influencing children's health behaviours and children's weight status; and that parents are not well informed of relevant health recommendations. Furthermore, health professionals have a responsibility to inform and guide families clearly and directly about the fundamentals of good health and the risks of excessive weight gain.

NSW MOH has developed a range of resources to support LHDs in routinely assessing children's weight status and providing related advice, in the form of a brief intervention. This is a key initiative to promote the personal relevance and importance of healthy weight and related behaviours, and to identify families requiring more intensive support. While some services are implementing this directive, there is not a coordinated SESLHD-wide approach to implementation to date.

Clinical weight management services

As with many LHDs, there are limited referral services in SESLHD – such as a paediatric dietetic position or public weight management services. Go4Fun only caters for specific age groups and is not accessible for many families. There is scope to investigate options for developing clinical services specifically addressing young children/ families, through an early childhood dietitian-run weight management service, referral arrangements for out of district multidisciplinary clinics and potentially strengthening the profile of Paediatric services within the LHD.

General practices can similarly implement routine weight assessment and advice as part of their service portfolio.

LHDs across NSW are currently supported by NSW MOH to conduct Go4Fun and Aboriginal Go4Fun family weight management programs, targeting children aged 7 to 13 years. NSW also runs the specialised 'Get Healthy' telephone coaching services, for weight management for adults and pregnant women[11]. The role of LHDs is to ensure appropriate referrals; these are monitored and subject to MOH reporting and review.

[11] These programs are based on international evidence and NHMRC guidelines for effective weight management programs. NSW research has further found that Go4Fun is successful in reaching its target group of overweight/ obese children at socioeconomic disadvantage; has good levels of retention, with more than half of the participants completing at least 75% of sessions; and is effective in achieving weight reduction, improved diet and improved self esteem (Welsby et al 2014).

Stream 1

Building health sector organisational capacity

Addressing equity and social determinants

Early intervention and clinical services can give priority, and ensure they are accessible to, more disadvantaged locations and population groups. Physical accessibility is related to where services are located, and the availability of public transport.

Services and advice can be provided in a way that takes account of the home environment, social factors and relevant circumstances, such as family violence or trauma, mental health issues or families with children with developmental disabilities. Figure 3b illustrates the point that health service actions can address multiple layers of contributing factors.

FIGURE 3a: Stream 1

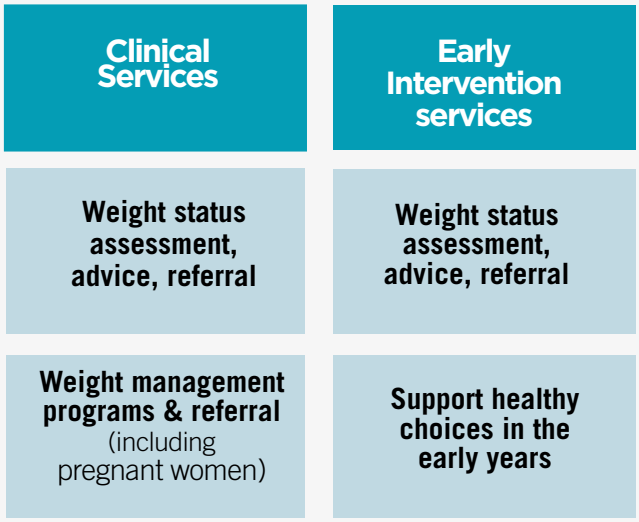
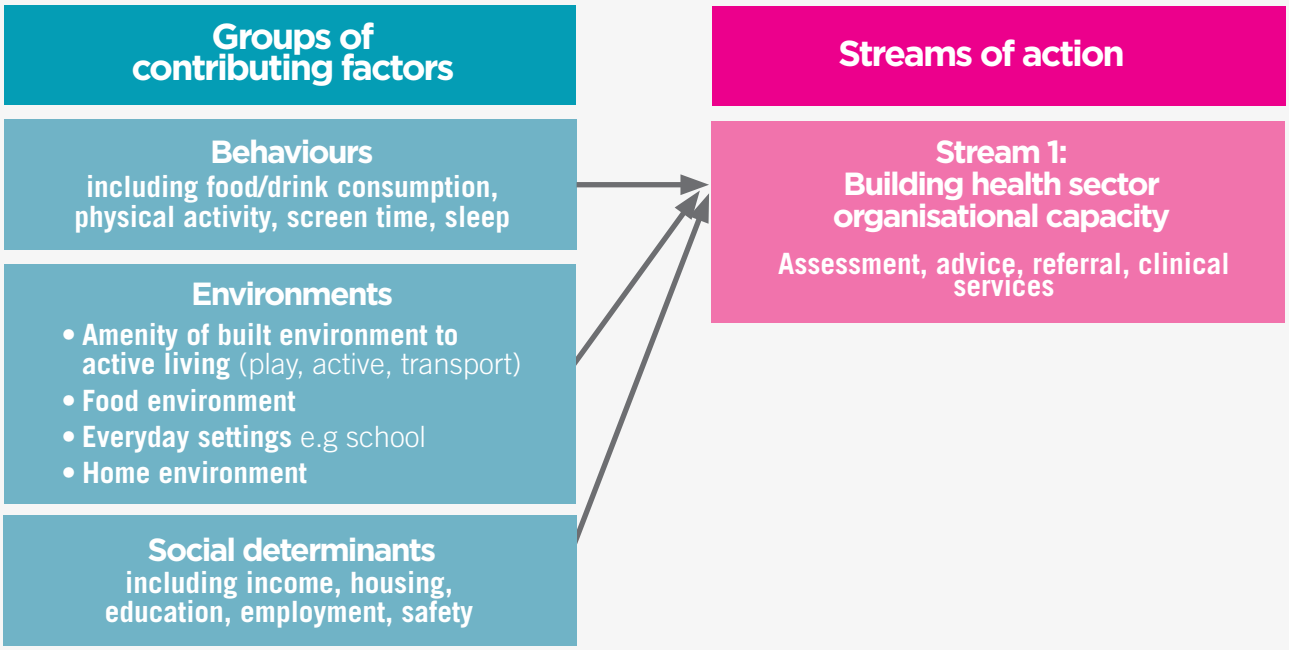


FIGURE 3b: Schematic representation of direct and indirect links between Stream 1 and contributing factors



Stream 2

Community partnership development

Description and rationale

Building partnerships with local government, cross-sectoral agencies and communities is an important strategy for fostering social and environmental changes that support health and wellbeing. SESLHD's vision emphasises the importance of strengthening collaborative initiatives to improve community environments and collaborate with communities directly (see Figure 4a).

Key stakeholders within SESLHD include 7 LGAs, communities themselves and a wide range of non-government agencies, including Aboriginal and Culturally and Linguistically Diverse (CALD) community agencies.

Healthy built environment

Community partnership development is an optimal way of improving the amenity of the environment, so that families have better access to open space, safe play opportunities and active transport. For example, the MOH and peak non-government organisations have developed significant resources and expertise to guide such collaborative efforts. This priority has also been the focus of recent NSW Government infrastructure commitments, including the 'Open spaces and Greener Sydney' package[4] and the 'Five Million Trees Initiative' [5]. These and other related initiatives will generate opportunities for local environmental, active play and active transport projects.

Availability of healthy food choices

There is scope to develop such initiatives (as well as related healthy eating activities such as community gardens, food security projects, healthy eating events) in disadvantaged locations in SESLHD.

Social network initiatives

Community partnership development also involves engaging community members, including parents and families.

At the same time, such community partnerships can be used to support community leaders and peer networks. This is important for influencing local environments, mobilising social networks and promoting health literacy and wellbeing at home. New parents and priority population groups are important target groups. For example, peer networks can help new mothers understand the benefits of playing with young children and the early introduction of tummy time (Xu et al, 2016). Health literacy and home environment initiatives can also be supported by community agencies.

Co-produce and co-deliver initiatives with communities

This area of action involves extending the principles and approaches currently underway in place-based initiatives and working with those and other communities to apply for grants, such as the recent 'My community dividend' grants initiative[6]. These grants can be used to build on local strengths, to improve local health environments and other issues identified by community members.

Community surveys

Surveys conducted with selected communities in a consultative and participatory fashion provide an appropriate vehicle to both hear community members' views, to guide future actions and assess progress. Self-assessed health, health literacy, family habits, social norms, attitudes, perceived capacity to support health behaviours, social, economic and

[4]http://www.urbanalyst.com/in-the-news/new-south-wales/4775-nsw-government-announces-290m-for-more-green-and-open-spaces.html [Accessed 31 May 2018]
[5]www.planning.nsw.gov.au/policy-and-legislation/open-space-and-parklands/5-million-trees {Accessed 31 May 2018]
[6]www.budget.nsw.gov.au/my-community-dividend

Community partnership development

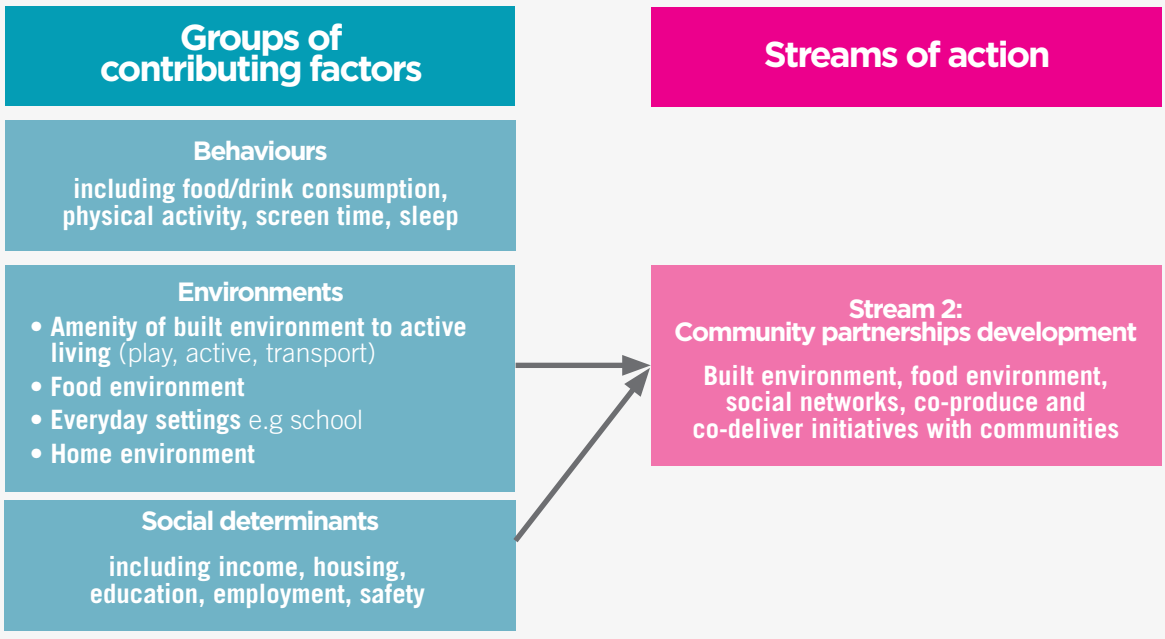
other barriers, and views on what else is needed all comprise valuable modules to include in surveys and evaluation projects. There is scope to develop this measurement and evaluation focus.

Addressing equity and social determinants

This stream of action directly addresses both environmental and social factors influencing health and wellbeing. Health facilitating environments promote healthier behaviours and food choices, for example; they can also indirectly facilitate sharing of information and promote health literacy (see Figure 4b).

FIGURE 4a: Stream 2

FIGURE 4b: Schematic representation of direct and indirect links between streams of action and contributing factors



Stream 3

Children's everyday settings

Description and rationale

There is strong international evidence that promoting healthy eating throughout childcare and school settings is an effective strategy for increasing the prevalence of healthier behaviours (Bauman et al, 2016). There have been sustained efforts to promote healthy eating and active living policies and practices in these settings in SESLHD, with direction and support from NSW MOH. In SESLHD these initiatives have reached the majority of schools and childcare settings, including Family Day Care providers. In addition, SESLHD has used small grants to enable and support specific settings to address particular barriers or challenges (such as lack of equipment or teacher relief time). The extent of the adoption of healthy practices in schools and childcare settings is routinely reported to the MOH.

While SESLHD has conducted healthy eating and active play initiatives with some OSHC and supported playgroups previously, recent additional MOH funding has supported a small number of new grants to services in selected locations. Note that supported playgroups are mostly located in areas of high disadvantage, with high representation of Aboriginal or Torres Strait Islander, and parents born overseas. MOH formative research (Lloyd et al, 2017) has identified supportive playgroups as a setting that lends itself to an informal health promotion approach, where interpersonal interactions facilitate parental engagement and learning. MOH is also focused on working with major auspice organisations in these sectors.

The sports setting has been addressed through state initiatives, including *Finish with the Right Stuff* to reduce availability of sweetened drinks at sports venues; and most recently, the *Active Kids* initiative, to provide financial assistance to all school children to participate in active sport or recreational activities. However, there remains scope for local initiatives to reach the majority of sports settings.

Addressing equity and social determinants.

At this point, priorities are to sustain existing efforts and strengthen their impact across Aboriginal, CALD and disadvantaged communities. This may require more intensive initiatives in selected settings.

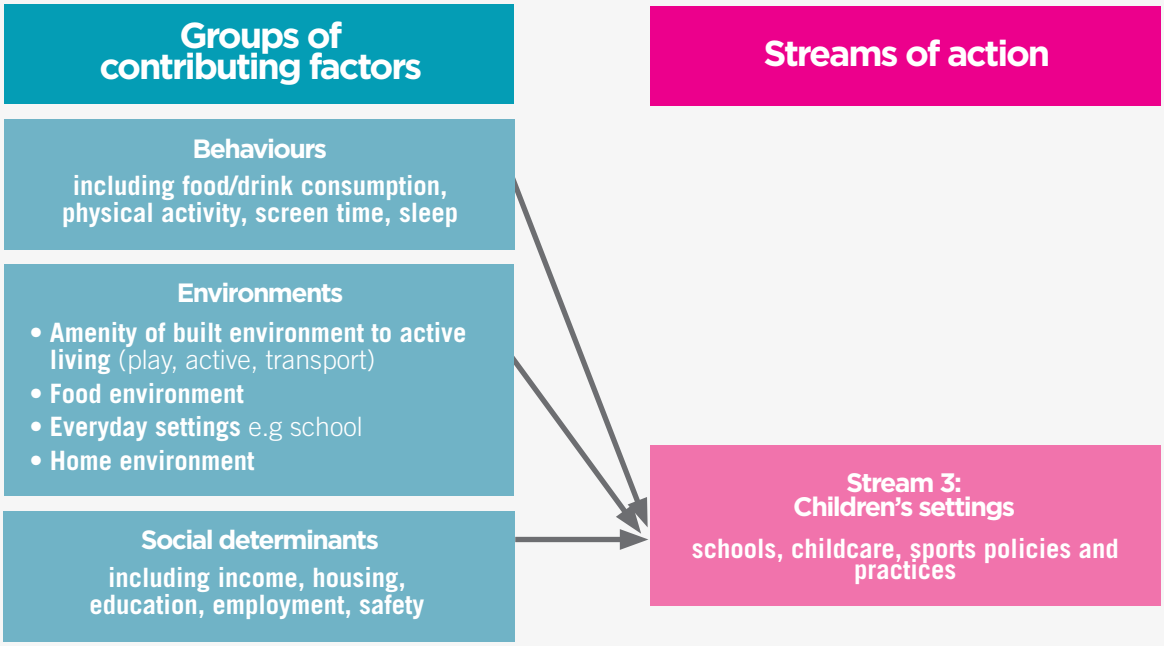
In addition, there is scope for enhancements of existing initiatives, such as exploring local opportunities for a sustained method of making subsidised fruit and vegetables available for school *CrunchnSip* programs, as this has been found to an effective equity strategy in Western Sydney Local Health District (WSLHD) (Hector et al 2017), has been adopted elsewhere and fits within a framework to be developed by the MOH.

Stream 3

Children's everyday settings

FIGURE 5a: Stream 3

FIGURE 5b: Schematic representation of direct and indirect links between streams of action and contributing factors



Attachment A: Evidence for effective solutions

Overview

- This summary is based on the most recent review of evidence regarding effective interventions conducted by the Physical Activity Nutrition Obesity Research Group, which provides a relevant and useful synthesis.
- This review builds on a series of previous literature reviews commissioned by NSW Health, starting with Best Options for Promoting Healthy Weight and Preventing Weight Gain in NSW in 2003 (Gill et al, 2005), which set out the rationale for a settings-based and a portfolio approach to obesity prevention, and provided a foundation for subsequent reviews.
- The promising approaches identified in previous reviews retain their place in the 2016 update41There is a wealth of evidence regarding child obesity prevention, healthy eating and active living. This comprises a considerable body of international and Australian evidence on effective interventions; and research on the system factors contributing to obesity, their amenability to change and the anticipated impact of modifying these factors. This latter evidence is important to guide action in those areas such as policy action, where controlled intervention studies are generally not feasible or meaningful.
- A consistent finding is that no single solution creates sufficient impact to reverse obesity; and only a systematic, sustained, comprehensive portfolio of cumulative initiatives delivered at scale, is likely to be effective in tackling the issue.
- Multi-faceted, community-based approaches that comprise school components and community partnerships and implemented over sufficient duration and intensity are indicated.
- Dynamic simulation modelling was undertaken in 2016 by The Australian Partnership Prevention Centre to test strategies to address the Premier's target for reducing childhood overweight and obesity in NSW (Roberts et al, 2018). Initial insights indicated what combination of interventions is required to meet the target; these include improvement in built environment infrastructure, to food policy interventions, school interventions and clinical service delivery.
- Overall, most jurisdictions have implemented a narrow band of interventions over short time periods and with small scale investments. The most cost-effective policy actions are rarely selected, or only partially adopted and implemented. Genuinely comprehensive, long-term population wide approaches are scant.
- NSW is one of the few jurisdictions in the world to have achieved an improvement, with modest changes in the proportion of overweight students in years K, 4 and 6 and apparent stabilization of the combined overweight and obesity rate for children age 5-16yrs. These modest improvements have been achieved after substantial government investment.
- To date, scaled up initiatives in NSW have been directed to school and childcare settings. Having health promoting policies and practices in these settings contributes to healthier eating and activity. However, modelling has shown that initiatives to reduce promotion and availability of unhealthy foods (e.g. tax on sugar sweetened beverages), limiting unhealthy food advertising to children and other environmental changes will be required to produce the target degree of change in weight status. These actions are beyond the scope of a LHD.
- There is evidence for the effectiveness of parent involvement and social marketing components.
- In NSW, the Good for Kids - Good for Life Program (GFK) provides useful guidance on which to build the next generation of community based programs. GFK interventions were implemented through primary schools, child care services, community services, sports clubs, GPs, Aboriginal Health Workers and health services and were supported by a social marketing strategy (Wiggers et al, 2013).

Specific settings/ approaches

School setting

- Most of the research has been conducted on interventions in schools and childcare settings. There is strong evidence for the effectiveness of school programs, particularly amongst children 6 to 12 years. Both physical activity only and combined diet and physical activity interventions are effective, particularly when combined with home or community components. Well researched

Attachment A: Evidence for effective solutions

and published examples include EPODE (the basis for the South Australian OPAL interventions) which is a whole of school and community/LGA approach; and Be Active, Eat Well in Colac (Victoria).
- There is specific evidence that change the school nutrition environment, by making sustained changes in the availability of foods at school and incorporating educational and curriculum components are effective in primary schools.
- More intense school-based interventions tend to be more effective
- There is a lack of evidence regarding the impact of the NSW Crunchn Sip program, although a local study of the impact of providing free fruit and vegetables found that this increased the proportion of students participating, and the proportion bringing/ consuming fruit and vegetables in the vegetable/fruit break. (Hector et al, 2018)

Childcare
- There is weak to moderate evidence on the effectiveness of childcare interventions. Certainly Australian studies have found these programs to be feasible, acceptable and reach young children and their parents at a time in the lifecourse when there was otherwise little previous contact between health and families.

Early childhood
- Home visits and anticipatory advice are effective in promoting and supporting breastfeeding and the timely introduction of appropriate solids; and a recent study on parental support related to sleep, activity, food and breastfeeding, and including home visits, may be promising (Taylor et al, 2017).
- Recent research on early interventions conducted in Australia (EPOCH) , that involve education and support through mothers groups, shows promising results, although the interventions can be labour-intensive / expensive.
- The UK has implemented the HENRY parent education and support program and found increased health behaviours (eating and activity, and parent self-efficacy)
- The review by Laws 2014 found that interventions with disadvantaged families of infants 0-2 years had a positive impact on weight related behaviours.

Home-based interventions
- Home environments and practices are highly associated with eating behaviours, activity levels and weight status. However, parent education and engagement involvement is usually seen as a component of a community intervention.

Adolescents
- There is limited evidence regarding effective approaches, although programs and incentives can increase participation in physical activity. The easy access and affordability of SSBs, fast food and screen-based leisure time activities create challenging forces to overcome.

Active travel
- Active travel, particularly if fostered during the transition from primary to secondary school can increase overall PA and fitness. However, this tends to be most appropriate as a companion intervention, rather than a stand-alone strategy.

Environmental interventions
- Proposed environmental interventions, including access to safe play spaces are based on evidence regarding the associations between time spent outdoors or other environmental features and activity levels and/or weight status.

Child weight management interventions
- There is good international and Australian evidence that intensive weight management programs focussed on parents are effective in reducing the weight status of participating children. These findings are reflected in current National Medical Research Council (NHMRC) Guidelines for addressing childhood obesity .
- There is some evidence, including reports from NSW clinical settings, that constructive brief advice delivered by health professionals to parents with children at risk of overweight/ obesity is acceptable and welcomed by parents, and increases their awareness of the issues and motivation to seek solutions.
- Overall, there is considerable local evidence for specific strategies for different age groups and settings that can inform program specifications.

Attachment B: Consultees in the development of this Strategy document

The development of this Framework has largely involved consultation with internal SESLHD stakeholders. This initial phase has involved 15 individual consultations and 3 group consultations, as well as discussions with the Advisory Committee on 2 occasions.

Consultations have covered the following services/ units:

- Oral health
- Community child, family and youth services
- Maternity services
- Paediatric services
- Allied health
- Primary and community health, including Priority populations
- Population health, health promotion and community partnerships.

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In order to focus on a framework for further work, much of the rich detail about current services could not be incorporated. However there is no doubt that current services provide a strong basis and sound opportunities for any further efforts to prevent and address childhood obesity.

Lesley King


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