PREVENTING OVERWEIGHT AND OBESITY IN YOUNG CHILDREN: SYNTHESISING THE EVIDENCE FOR MANAGEMENT AND POLICY MAKING

Australian Primary Health Care Research Institute (APHCRI)

- Stream Four -

Rationale for Study:

- Australia has one of the highest proportions of overweight children in the developed world and this is increasing steadily
- Serious long term physical, emotional and social consequences, eg. low self-esteem, isolation, school absenteeism, & bullying
- Overweight at 6 years is a good indicator of overweight in adulthood yet few interventions focus on young children
- Of those interventions that do focus on children, most are aimed at school aged children which does not adequately acknowledge that food preferences & lifestyles are already likely to be well established by the time they reach school age

Rationale cont…

- Previous efforts have focused “what” types of interventions work best (with emphasis on single component, behavioural models based on diet and exercise), rather than on “who” are the primary care providers and “how” can they best be engaged in multi-component interventions to ensure long-term results

- Parents play a critical role in developing children’s attitudes and habits regarding food and exercise, but barriers between PHC providers and parents have discouraged programs from systematically involving parents

- Interventions that focus on shared goals between PHC and parents are needed, rather than activities that label their children as overweight

Initial research questions:

- What are the key causal pathways for overweight and obesity in primary school children?
- What are some of the 'mediators' and outcomes of overweight and obesity in primary school children?
- What empirically tested interventions & strategies exist to address overweight and obesity and their mediators in both school and out of school programs?
- To what extent have these interventions & strategies engaged parents?

Revised research questions:

- To what extent is overweight and obesity a problem among children aged 2-6 years in Australia?
- Who are the key 'moderators' in preventing/reducing overweight & obesity in children aged 2-6 years?
- What 'successful' or 'promising' interventions exist to strengthen the capacity of PHC providers to work with parents to prevent overweight & obesity among children 2-6 years?
- How applicable are these interventions to different PHC settings and what do they imply Commonwealth/state relationships, organisational linkages, costs, etc.?

Research Question 1: To what extent is overweight and obesity a problem among young children (2-6 years) in Australia?

§To what extent is it perceived as a problem by national/state governments in Australia?

- How is it reflected in government policies?
- How significant is it compared with other issues?
- What actions have been taken to deal with the situation?
- What government organisations exist to address the issue?
- What barriers exist in translating policies into practice?

§To what extent is it a real problem among young children in Australia

- Prevalence (Overall, SES, CALD)
- Long term impact (physical, social, emotional, financial costs)
- Changes over time

§How and why has the problem come about and what frameworks have been used to address the problem?

Review of literature on:

- National, state & peak body strategies, policies, action plans & guidelines on overweight and obesity in young children:
  - Tabled these to chronicle the historic development of international, national, state & peak body policies, action plans and guidelines
  - Australia was 1st country to develop national strategy – 1997
  - Set up national sub-committees (SIGNAL & SIGPAH) – 1998/9
  - Initial emphasis very much divided into nutrition/diet & physical activity, school based, not targeted
  - As emphasis swung to multi-causal pathways developed NOTF in 2002
  - *Healthy Weight Australia* and *National Agenda of Action for Young People and their Families* which emphasised healthy life styles/environmental factors
  - *National Agenda on Early Childhood* focus on children aged 0-5 years

§ How and why have these problems come about and what frameworks are being used to address them?

- Despite national policies outlining the urgency of problem and emphasising the need for multi-component, population focused aimed at strengthening of the capacity of parents, teachers, child care workers, and PHC providers, emphasis is still on the individual;
- Major gap in the development of interventions aimed at children aged 2-6 years;
- Emphasis has been on mediating variables:

Intervention Categories	Selected Examples
Physical activity	Actual engagement in physical activities
Diet	Intervention focus on dietary intake
Psychosocial	Focus on self-esteem, body image, and peer support
Health education	Education on healthy eating and active living
Environmental	Environmental modification for greater accessibility and safe use of public transport, recreational facilities, cafeteria menus
Behaviour modification	Motivational reinforcement
Legislative	Advertising, marketing, food pricing and labelling
Promotional incentives and rewards	Money, sports equipment and stickers

By placing emphasis on "what" to do:

§ Reinforced notion of overweight as a 'problem' – resulting in victim blaming and apportioning of guilt/blame on children and parents

§ Ignored the profound impact of micro environment – Parents/family attitudes, lifestyle, food preference

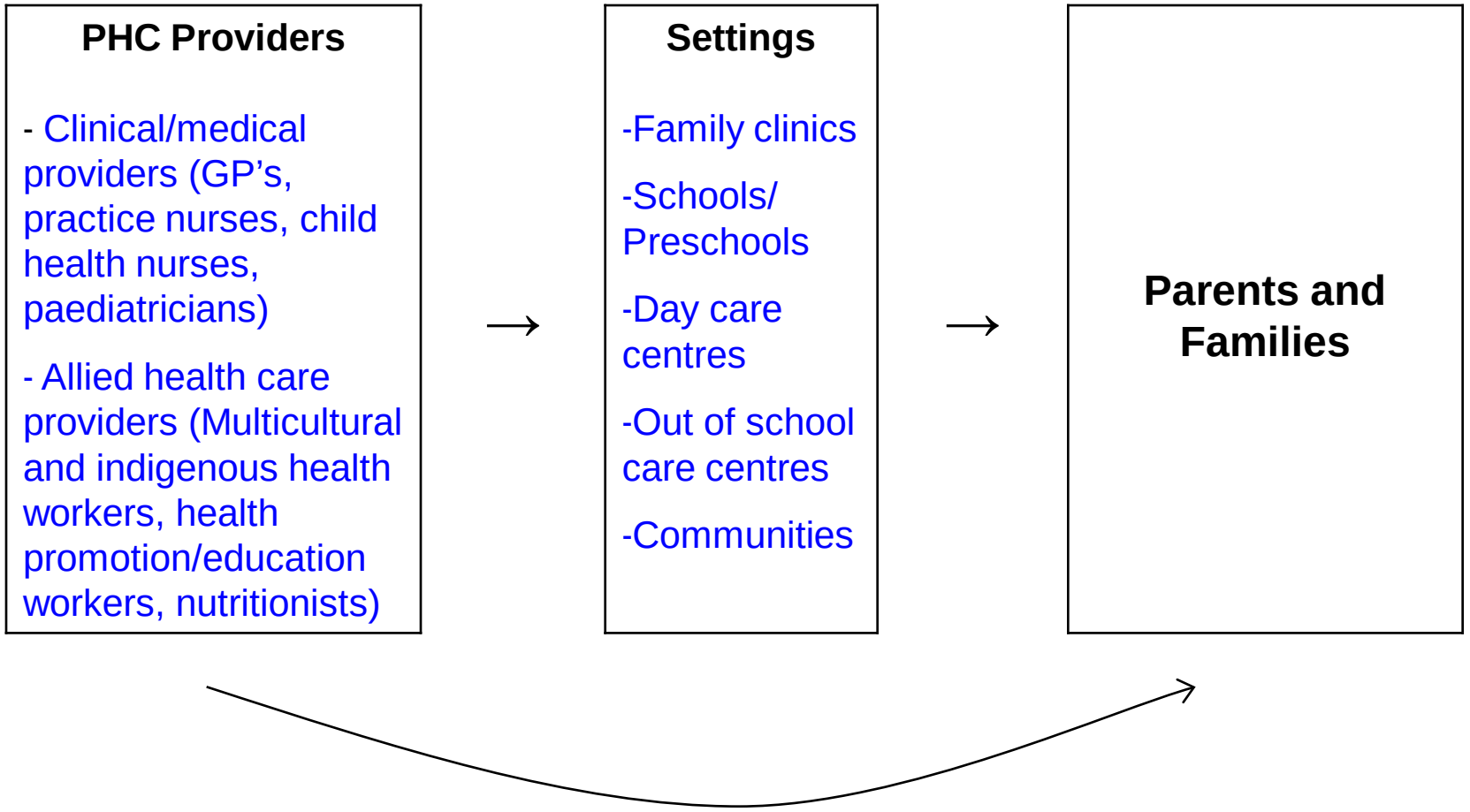
§ Failed to address balance between upstream macro level changes (legislation, environment), meso level changes (communities & families), and micro level changes (to meet individual needs)

§ Not been tailored to particular sub-groups

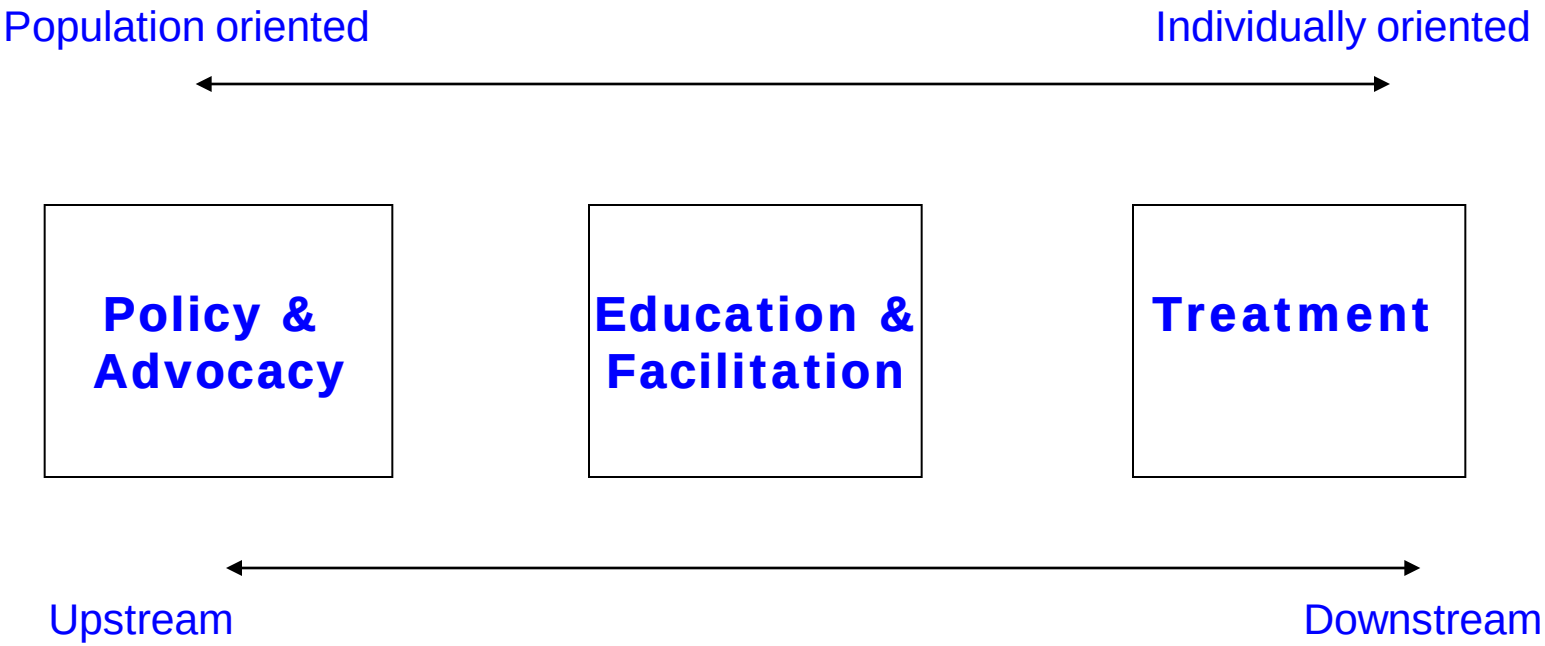
QUESTION: Should the emphasis be on 'who' are the key primary health care providers, and 'how' can we strengthen their capacity to work with parents and families to prevent and reduce overweight?

Research Question 2: Who are the key 'primary health care providers' in preventing overweight and obesity in children aged 2-6 years?

- **What role are they presently playing?**
- **What role should they be playing?**
- **To what extent are they engaging parents in the prevention of overweight and obesity of young children?**
- **What are the key 'enablers' and 'barriers' in strengthening the capacity of PHC providers to work with parents?**


PHC Providers
- Clinical/medical providers (GP's, practice nurses, child health nurses, paediatricians)
- Allied health care providers (Multicultural and indigenous health workers, health promotion/education workers, nutritionists)
Settings
-Family clinics
-Schools/ Preschools
-Day care centres
-Out of school care centres
-Communities
Parents and Families

Role of Primary Health Care Providers:



Source: Adapted from Kumanyika, 2005

Barriers to engaging parents:

- Definitions of overweight and obesity
- Physical, social, emotional impact of overweight on children's health and well-being
- Locus of control

Barriers to engaging PHC providers:

- Prevention of weight gain not perceived as their core business and given low priority
- PHC providers under supervision of different government departments, and are funded at state level
- Child care sector is fragmented & decentralised and therefore requires different interventions, formats and approaches
- Nature of general practice disparate and limited tools for reaching independent practices and to do so is labour intensive
- Lack of empirical evidence has entrenched childhood obesity to the policy level and has limited allocation of funds for interventions

Research Question 3:

What successful or ”promising” interventions exist to strengthen the capacity of PHC providers to work with parents to prevent overweight & obesity among children 2-6 years?

STAGE 1: Search and Identification of Reports
– Wide and Comprehensive -

Covering 13 databases of black literature, 18, grey literature databases, policy papers, hand searches, contacted peak bodies, Internet search, bibliographies of published & unpublished reports.

N= ? thousands

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STAGE 2: Initial appraisal
– Broad and Inclusive –

Any interventions that addressed the interventions:

- Systematic Reviews (n=23)
- Non-systematic reviews (n=26)
- Total interventions (n=975)
- Primary preventive interventions (n=77)
- Involving parents and PHC providers (n=55)

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STAGE 3: Secondary appraisal
- Capture 'Promising' Interventions -

- Level of parental participation
- Extent of engagement by PHC care providers
- Methodological rigour
- Program impact and generalisability
- Level of upstream involvement
- Multi-dimensional approach
- Integration of population focused healthy living strategies

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STAGE 4: Analysis of findings

Inclusion: if scored within top tertile of any four criteria
Analysis: according to relevance for PHC providers & site/settings
Review: of promising models from other public health areas

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FORMULATION OF FINDINGS & RECOMMEDATIONS

Adapted from Flynn et al, 2006

Preventing Overweight and Obesity in Young Children

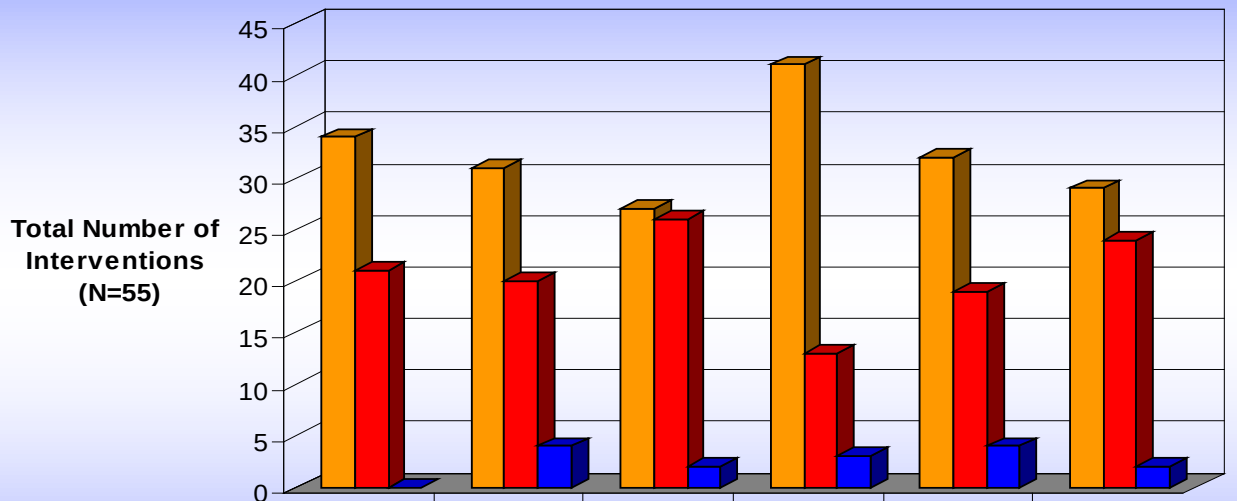
Intervention	Target group	Settings	PHC Providers	Intervention Strategy	Country	Intervention Findings & Conclusions	Strengths	Limitations
Good Food for Children – Food from Home Sangster et al, 2003	**0-5 year old children & their parents** (no descript of children) **N=** 15 centres	Child care: Long day care centres	Parents & Child Care staff	1. Primary, universal prevention2. Pre-test post-test comparison, Ix group only3. Improve nutrition prepared from home4. Needs assessment conducted feedback to centre director; workshops with staff including communication with parents; resources given to staff and parents; lunchbox, food safety and policy checklists provided5. Frequency & duration of workshop not provided, outcome evaluation conducted 3 months post-intervention	AUS	Improvements in the nutrition score of the food provided in lunchboxes, especially in the provision of foods containing iron and calcium, and appropriate drinks and snacks; improved handling of food and content of policies; no change in the levels of staff knowledge of nutrition and food handling practices; power analysis and participation rate not discussed.Conclusions: The intervention was effective in improving food provided to children and food handling practices in this settingMeasurement tools & psychometric information: Food in lunchboxes assessed using a food checklist based on the Caring for Children Checklist; observation of staff food handling practices using a checklist based on current recommendations for child care centres; policies collected and assessed with a checklist based on current recommendations; food safety and nutrition knowledge assessed in a face-to-face interview; process evaluation questionnaires to assess the workshops; all assessments based on assessments used in previous child care studies.	MR: t-tests and McNemar tests conducted, formative, process & impact evaluation conducted, which provided a solid groundwork for improved communication between staff and parents, measurement tools (pre-piloted) used for evaluation, outcome evaluation demonstrated improved nutritional lunches brought from home (3 months post-intervention) & improved food handling policies in the child care centre. UI: briefly discussed the policy development, inter-sectoral involvement to improve primarily nutrition, which involved developing personal skills and building public policy. MA: multiple components	MR: study design: no control group, poor demographic description of sample group, poor psychometric description of measures, no theoretical framework discussed, no long term evaluation (only 3 months), power analysis and participation rate not discussed Frequency & duration of workshop not provided, outcome evaluation conducted 3 months post-intervention with poor increase of knowledge among staff about nutritional needs and the actual food handling practices did not improve. UI: article did not discuss details of developing public policy or in referenced article PP & PHCP: not a significantly long duration or intensity IPHLS: focus primarily on nutrition

SUMMARY OF APPRAISAL CRITERIA
Name of Programme _____

COMPONENTS FOR ASSESSING CRITERIA (each factor per criteria was scored)	**Levels**		
	Low	**Mid**	**High**
Methodological rigour (quantitative and qualitative): Design level; selection bias; information bias; confounding Theoretical framework; sampling; data collection; analysis approach			
Level of Primary Health Provider participation: Duration, intensity, type of participation, and level of involvement.			
Level of parental/carer participation: Duration, intensity, type of participation, and level of involvement.			
Multi-dimensional approach: Single component, diet & exercise counted, multiple components			
Program Impact & Transferability: Size, scope, process, outcome, generalisability, target			
Level of upstream involvement: Policy, education, facilitation, treatment			
Population focus: Individual, family, community, environmental, legal			

(Adapted from Flynn et al., 2006, p.21-23)

Preliminary Results of Interventions Preventing Obesity among Children



Research question 4: How applicable are these to different PHC settings and what do they imply for Commonwealth/state relationships, organisational linkages, cots, etc.?

- Started pulling out some the 'promising' interventions and reviewed these with our steering committee to see if they agreed with scored outcomes
- Looked at gaps in our data – what interventions we haven't included especially international ones
- Incorporated findings from other public health care sectors
- Reviewed the relevance and likely acceptability of these 'promising' interventions within different Australian contexts

APHCRI Stream Five Proposal:

- Develop and pilot a portfolio of interventions for children 2-5 yrs
  - Convening decision-making group to establish context, goals and criteria for selection of interventions
  - Initial appraisal of potential interventions by PHC
  - Detailed appraisal of selected interventions to assess applicability, costs, staff training needs, etc.
  - Triangulation of results into settings-based actions

- Design a portfolio selection guide:
  - Introduce a spectrum of settings-based actions and PHC intervention points, highlighting strengths and difficulties
  - Outline promising or candidate interventions incorporating specific information on relevance to community, costs, capacity building needs, required level of engagement
  - Review process policy makers could use to select optimal mix of interventions (build intensity and breadth)