



JobNut

Public Health Nutrition Intervention Management



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ADDITIONAL COPIES

The complete suite of 18 Public Health Nutrition Workforce Development units developed by the JobNut Project and the related Educator's Guide are available for downloading at the following website:

<http://www.medicine.tcd.ie/nutrition-dietetics/jobnut/>

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Unit 8 - Risk Management and Strategy Prioritisation

Learning Objectives



On completion of this unit, students should be able to:

1. Apply risk management concepts and processes to predict and manage potential positive and negative effects of public health nutrition interventions
2. Understand and explain the importance of risk identification and management in public health nutrition intervention management
3. Apply transparent decision making processes to aid prioritisation of strategies when designing public health nutrition interventions
4. Identify key dilemmas and challenges of strategy prioritisation

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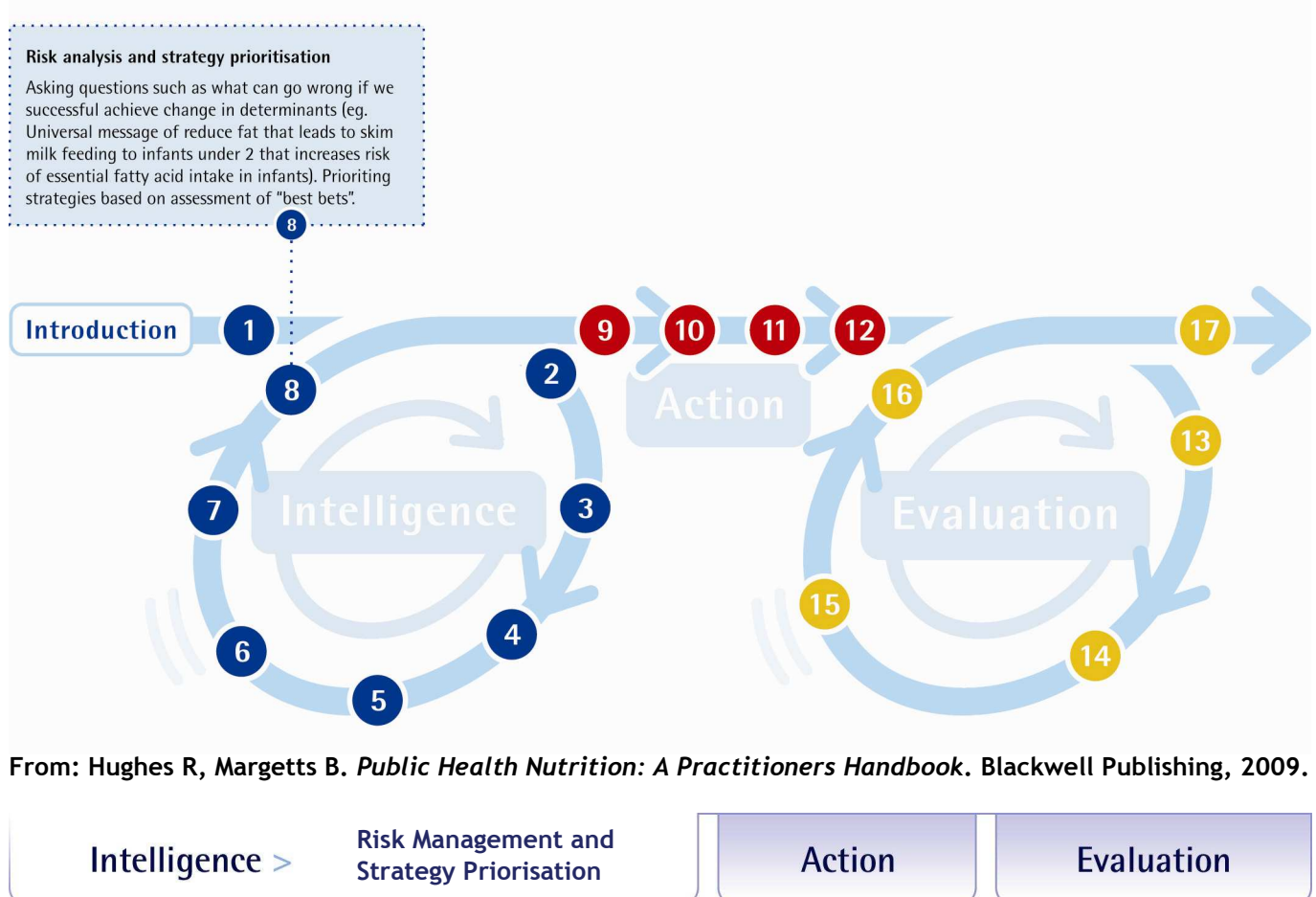
Unit Readings

- Kroke, A., Boeing, H., Rossnagel, K. and Willich, S. History of the concept of 'levels of evidence' and their current status in relation to primary prevention through lifestyle interventions. *Public Health Nutrition*. 2003. 7(2): 279-284.
- Swinburn, B., Egger, G. and Raza, F. Dissecting obesogenic environments: the development and application of a framework for identifying and prioritising environmental interventions for obesity. *Preventive Medicine*. 1999. 29: 563-570.
- Victorian Government Department of Human Services. *ACE-Obesity: assessing cost effectiveness of obesity interventions in children and adolescents - summary results*. 2006. State Government of Victoria: Melbourne.



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Risk Management and Strategy Prioritisation

Preamble

Considering the risks associated with action (and/or inaction) to address public health nutrition issues are a professional and ethical responsibility in practice. The maxim of health care “first do no harm...” applies as much in prevention approaches as it does to clinical intervention. Risk analysis (the initial phase of a process of managing risk) focuses on considering the risks associated first with doing nothing, and secondly the risks associated with the implementation of strategies. Sometimes, the best intentions can lead to other problems that may be greater than those we originally set out to address. Risk assessment enables practitioners to foresee and plan to manage risks as well as clearly identify the anticipated benefits of intervention. If risks outweigh benefits, there is no good reason to persist with the intervention in its current form.

A key challenge in public health nutrition (PHN) intervention management is to prioritise and select the best mix of strategies that address determinants effectively, within context and sustainably. Appropriately selecting and prioritising intervention strategies involves analysing the risks or benefits associated with the determinants being addressed. Whether the determinant becomes a focus of a PHN intervention should be a function of the measurable or estimated risk or benefit associated with that determinant.

Assessing risks and benefits

Decisions about whether a determinant (identified in earlier stages of the analytical stage of this framework) becomes a focus of a PHN intervention, should be a function of the measurable or estimated risk or benefit associated with that determinant (1). While risk and benefit assessment does not represent all the considerations relevant to action on a determinant, it does provide a valuable source of information to be used in strategy prioritisation.

Risk refers to the probability a hazard will result in an adverse health event.

Benefit refers to the probability a protective/ promotive factor will result in a positive health event.

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The decision whether to take action or not depends on:

- evidence linking the determinant to the health issue
- actual or potential size of the impact on health - both the risk and the benefit
- effectiveness of the action and capacity to intervene also need to be considered and are addressed in more detail through the process of strategy prioritisation.

An assessment of the risks and benefits provides information to assist in deciding whether a determinant should be managed and to prioritise between determinants - to later assist strategy prioritisation. Risks and benefits are revealed by considering the nature, likelihood and severity of adverse effects and positive factors on health (1).

The assessment process needs to consider a number of key questions:

- The likelihood of the health risk or benefit
- Which individuals and groups are most at risk or will derive most benefit
- The severity of the anticipated adverse impacts or the size of the expected benefit
- The potential to prevent the effects or to succeed in providing the benefits
- The nature and strength of evidence which supports the conclusion about nature and magnitude of the risk or benefit
- The range of informed views and confidence about the evidence
- Other sources causing the same type of risk
- The distribution of the risk or potential benefit in relation to other risks and benefits in the population
- Impacts besides those on health such as social or cultural consequences (2).

Stakeholders play an important role in providing information for use in risk and benefit assessment, reinforcing the need for ongoing stakeholder engagement outlined in earlier stages of the intervention cycle. Most stakeholders will identify specific concerns of relevance to them, such that perceptions can vary substantially among stakeholders and assessment may be highly controversial, especially when information is lacking. The decision to take action, to manage risks and promote benefits should be based on scientific assessment. However, decisions to act must be taken even if information about the potential risks is lacking or incomplete. Managing risks and benefits should reflect a preference for avoiding unnecessary health risks rather than unnecessary economic expenditures (1).



Case Study



Risk and benefit assessment - national fruit and vegetable intake

Risk and benefit assessment of fruit and vegetable intake can be assessed by reviewing national/local fruit and vegetable consumption data - most populations across the globe are at risk of not eating adequate fruit and vegetables. The population level health risk associated with current intake should be identifiable using estimates from **population attributable fractions** for different diseases as well as estimates of overall contribution to morbidity and mortality of sub-optimum intake.

Research has shown that eating more fruit and vegetables may be the single most important dietary change needed to reduce risk of major chronic diseases, while the risk of adverse effects of increasing fruit and vegetable consumption appear to be small. Increasing fruit and vegetable intake to the recommended levels will displace other less nutrient dense and energy rich foods from the diet and increase exposure to dietary components that reduce disease risk. Levels of pesticide residues and other contaminants (*a potential and perceived risk*) remain well below threshold levels at recommended intake levels. The economic costs to consumers is a concern in some sectors (*a potential barrier and/or risk*), however assessments have shown that consuming more plant based foods and less energy dense foods reduces total food costs.

Increasing population consumption of fruit and vegetables is likely to require increased and improved production and handling of fruit and vegetables, which will have some technological, economic and social impacts, and estimates of potential impact on fruit and vegetable industry should be undertaken (2).

Types of Risks and Benefits

There are three types of risks and benefits to health posed by determinants of the health problem namely:

- **Expressed**- a risk or benefit has a consistent link between the determinant and health issue, and can be measured.
- **Potential** - a risk or benefit that relates to a sporadic, unreported or non-existent health issue such that the prevalence of the determinant can only be estimated.
- **Perceived** - a risk or benefit that occurs when there is strong public perception that intervention is desirable despite the lack of scientific evidence to support action (1).

All three types require consideration and attention in the risk analysis and strategy prioritisation process.

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Practice Note

In practice, people in a community that you engage with may not *perceive* the risk associated with poor nutrition. The community may instead identify immediate issues such as drug abuse, HIV or meningitis as the primary risk they are concerned about rather than *expressed risk* such as inadequate fruit and vegetable intake even though the expressed risk may have a bigger impact on health. Exploring differences between expressed, perceived and potential risks is important because it may influence the sort of strategies required to ensure ongoing community participation.



Exercise 1.

Using the results from your determinants analysis (unit 4) for your selected scenario, assess the risks or benefits of each determinant and identify the type of risk or benefit. Revisit your determinant analysis diagram and label if the determinant is a risk or benefit, and what type (expressed, potential or perceived). Provide a brief explanation for your decision.



Workshop/tutorial option:

Complete the exercise in small groups followed by a whole-class debriefing

CPD option:

Conduct the above exercise in the context of your current work role and a population nutrition issue of relevance.



Strategy Prioritisation

Strategy prioritisation is the decision making task of ordering identified strategies to assist with the development of a strategy portfolio. *Portfolio* in this sense is a word used in much the same way that investors will buy shares on the stockmarket, weigh up the risks and benefits (in this case whether stocks will increase or decrease in value) and decide on the mix of shares to invest in. Resources for PHN interventions are commonly limited (sometimes very limited) and deciding which strategies to use and what strategies to reject in the intervention can be difficult. Hence, strategy portfolio selection, involves practitioners prioritising strategies to identify and select the best buys (the strategies with the best chance of solving the PHN problem and contributing to health improvements).

Strategy prioritisation is best developed through a collaborative decision making process, where key stakeholders consider all the available intelligence on the health problem and the known strategy options/ interventions to address the problem (1). Using criteria with specific definitions can help to standardise and make more objective, what is typically a largely subjective process (3). The choice and definition of each criteria component, and relative weighting scheme, should be based on group consensus, typically agreed by the project team or project management committee, and open to critical analysis and scrutiny by the public and decision makers (1). Allowing public scrutiny and debate of the criteria illustrates transparency of the priority setting and decision making that helps convince non-specialists that the process is not biased or risky.

Challenges and Dilemmas in Strategy Prioritisation

Agreeing on priorities and selecting strategies for an intervention is a complex task that requires practitioners to use their negotiation and collaboration skills. The process of strategy prioritisation and selection is complicated by the:

- **Vast range of strategy possibilities** - There are many possible strategies that could be implemented to address a PHN problem, as identified through the intervention research (step 7). Prioritising these strategies in a systematic, transparent manner can be challenging, particularly when several stakeholders are involved (3). A number of tools are available to assist with analysis of all the information on the problem and situation such that the strategy can be considered in context and prioritised accordingly. Three useful tools, the Assessment Protocol for Excellence in Public Health, Angelo Framework and ACE process are discussed in more detail below.
- **Level of evidence available for prevention strategies** - Ideally, strategy prioritisation should be based upon the highest level of evidence, preferably systematic review of scientific studies that demonstrate a strong link between the strategy and the desired outcome. It is important to recognise however that this level of evidence may be difficult to attain in all cases and should not prevent action from being taken if the sum of all evidence points in one direction and plausible alternative explanations are not present. It is also important to note that strategy prioritisation will consider the evidence of strategy effectiveness in addition to the impact on groups most affected or most at risk, the contextual parameters and the need for a multi-strategy intervention (4).



- **Resource limitations** - PHN interventions are commonly restricted by resource limitations including limited funding, staff capacity and equipment for adequate implementation of identified strategies. Strategy prioritisation needs to match the implementation capacity (5). Results from the capacity analysis (step 6) will assist with indentifying and prioritising within the contextual capacity limitations.

Evidence for PHN Interventions

One of the real gaps in the intelligence base that limits intervention design decision making, is the lack of evidence about intervention effectiveness. The lack of evidence regarding effective intervention strategies is due to a number of factors, including limited evaluation practice and difficulty of evaluating population-based intervention effects. PHN interventions are trying to solve complex problems, in complex communities and involve complex strategy portfolios. This complexity makes PHN interventions difficult to evaluate in well-controlled evaluation studies. The following reading and exercise explore the types of evidence relevant to PHN intervention management.

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Reading

Kroke, A., Boeing, H., Rossnagel, K. and Willich, S. History of the concept of ‘levels of evidence’ and their current status in relation to primary prevention through lifestyle interventions. *Public Health Nutrition*. 2003. 7(2): 279-284.



Exercise 2.

After reading the article by Kroke et al (2003) research the various levels of evidence grading schemes available around the world. Select the scheme you consider to be most useful for your strategy prioritisation process. Explain why this scheme is most suitable for your scenario.

Workshop/tutorial option:

Complete the exercise in small groups followed by a whole-class debriefing

CPD option:

Conduct the above exercise in the context of your current work role and a population nutrition issue of relevance.





The Priority Rating Process

A prioritisation model developed by Pickett and Hanlon (1990) yields relative results that are useful for comparing different and competing strategies to address determinants of a health problem. The model incorporates factors of health problem or determinant including **size**, **seriousness**, **effectiveness** and **contextual appropriateness** of available strategies, to numerically prioritise health needs and interventions (6).

Using the intelligence and data gathered from the previous steps of the intervention management bicycle, the analysis team work together to determine agreed definitions of each of the four components of the model. Each component is scored and then applied to the following formula and the **Basic Priority Rating (BPR)** calculated.

$$\text{BPR} = [(A+B) \times C / 3] \times D$$

The four components of the model include:

1. Size of the problem (A) - total score: 0-10

Size of the problem is scored by the percentage of total population risk of the problem. As many problems defined for very small population groups making incidence /prevalence per 100 000 people at risk a useful approach.

Example scoring scale:	% prevalence	score
	50 000+	10
	5000 - 49999	8
	500 - 4999	6
	50 - 499	4
	5 - 49	2
	0.5 - 4.9	0

2. Seriousness of the problem (B) - total score: 0-20

Defined in terms in four factors:

- **Urgency** - nature of the problem and sense of community urgency
- **Severity** - based off the fatality rate estimates or seriousness of disability
- **Economic loss** - may reflect both community and family/ individual losses
- **Involvement of other people** - most commonly relates to health problems that are rapidly contagious.

3. Effectiveness of strategies (C) - total score: 0-10

Most groups can make reasonably useful estimates based on previous evaluation or research results. As an example, if a strategy reaches only 20% of population and is only 70% effective then the statistical score is 14% - a low rating. Effectiveness is a multiplier in the formula therefore has a powerful impact.

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4. PEARL - propriety, economics, acceptability, resources, legality (D) - total score: 0 or 1

PEARL determines whether an intervention can be carried out given the basic priority rating is a product of the product of a score of either 0 or 1. The score is allocated by considering each element as possible or not. For example are there adequate or inadequate resources to implement the strategy?

The analysis team need to work together to determine the BPR for each strategy using a consistent definition and scoring system for each of the four components. The process will be unique to the situation and should be consistent and transparent (3).

The priority rating process approach to strategy prioritisation was developed for traditional public health problems and has several limitations when applied to PHN primary prevention intervention management including:

- Limited evidence of intervention effectiveness for many PHN strategies
- Relatively small amounts of change/ effectiveness of PHN strategies
- Limited quality of effectiveness measurements of PHN strategies

Practice Note

The above mathematical process may seem overly analytical and pedantic and is actually rarely used in practice. It does however help identify the different considerations required when prioritising the focus of intervention design. Refer to the following case study.



The following abstract illustrates the process that can be used to engage stakeholders in collaborative strategy prioritisation, using a range of assessment criteria and focusing on identifying strategy “best buys”. This process was conducted as part of a community-based intervention targeting nutrition and physical activity promotion amongst young and/or socio-economically deprived pregnant women in a regional population of approximately 500,000 (The Growing Years Project).



Case Study



Strategy feasibility testing as a basis for intervention design for the Growing Years Project

Objective

To engage stakeholders in intervention design decision making and to test a range of strategy options against a suite of assessment criteria; to support intervention portfolio design.

Method

Facilitated group discussions were conducted with two stakeholder/expert groups (Nutritionists n=7 and Nurses Group, n=11) using a process informed by the Nominal Group Method. This involved describing a range of strategy options developed based on earlier formative research. This description involved disclosure of strategy rationale and relevance to the Growing Years Project issues. Participants were invited to discuss the proposed strategy options and this discussion was noted for thematic analysis. At the end of each strategy discussion, participants rated each strategy option against 6 pre-defined criteria adapted from the National Public Health partnerships portfolio planning process.

These criteria included:

Effectiveness: To what extent will the strategy achieve portfolio objectives?

Social acceptability: Extent to which strategy will be acceptable to local community.

Sustainability: To what extent is the strategy likely to continue being effective after initial resources are withdrawn?

Selectivity: To what extent does the strategy reach high-priority population sub-groups?

Timing (effects): How expensive (per unit of outcome) is the strategy likely to be?

Synergistic: Is the strategy complementary with other strategies and agencies? Does it add value to other strategies?

These ratings and the associated discussion themes were used to support an assessment of the utility of intervention options proposed.

Results

Discussions in response to each strategy description provided important information relating to existing interventions and work previously unknown to the project team that has been important to considerations about project and service integration. It also helped clarify the range of key stakeholders in each strategy option and provided insights that have proved useful in intervention design. Results of strategy ratings process suggest most support for the baby friendly hospital initiative, pharmacy based initiative, academic: practitioner partnership and group education strategies. Whilst the BFHI initiative rated highly across most measures, it was considered to be too broad and outside the specific remit of the Growing Years Project, other than as a strategy that could be supported. Physical activity guidance in general practice and fruit and vegetable strategy options rated lower than other strategy options and were not highly supported in group discussions. Discussions from both groups identified the importance of consistent education and advice relating to nutrition and physical activity in the Growing Years period across a range of services and mediums, suggesting the need for a more integrated and multi-strategy approach to health education and guidance at a local level.

Discussion

This process proved effective in helping predict the strengths and weaknesses of strategy options proposed and identified stakeholder support for local interventions based on practitioners' expert opinions. It also helped engage practitioners from outside of the local community/project. Results have assisted the formulation of a strategy/intervention mix for first phase interventions of the Growing Years Project.

Source: (7)

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Methods for Strategy Prioritisation

The following frameworks (Angelo and ACE) are examples of the methods that can be used to assist with transparent and inclusive strategy prioritisation. The method you use will depend on contextual issues, so variations on these approaches can be used (as in the case study).

The ANGELO Framework

The Angelo process is a method for prioritising settings and sectors for intervention. It is linked to the socio-ecological approach to health with a focus on creating supportive environments for making healthy food and physical activity choices which are supported by health education, social marketing and skill development. The environmental approach has shown to be successful at complimenting health education in other public health fields such as smoking reduction and injury prevention and can assist with reducing health inequalities by influencing population groups which are hard to reach by health education strategies such as those with lower educational attainment, lower income and language barriers. Environmental changes can also be more cost-effective, and have more lasting effects on behaviour change because they become incorporated into structures, systems and policies and socio-cultural norms. The Angelo process is specifically designed for obesogenic environments, the sum of influences that the surroundings, opportunities or conditions of life have on promoting obesity in individuals or populations (8).

The Angelo process can assist to identify and prioritise potential behaviours, knowledge/skills/attitudes, and environments for intervention. By systematically considering these attributes of a problem a comprehensive intervention with a mix of strategies for action can be developed. Prioritisation involves the analysis team reviewing the changeability and importance of potential behaviours and related knowledge/ skills and environments (5). The key elements of changeability and importance are outlined below in Table 1.

Table 1. Prioritisation - Changeability and Importance

Prioritisation	Changeability	Importance
	Feasibility	Relevance
	Sustainability	Effectiveness
	Acceptability - by parents, children, professionals, decision-makers etc	Reach
	Affordable	Effects on equity
	Cost-effectiveness	Other positive effects
		Other negative effects

Source: (6)



Task 1 - Prioritising behaviours

After identifying potential target behaviours of relevance to the PHN problem (identified through problem analysis, determinant analysis and intervention research), each behaviour is then individually scored on importance and changeability. A scoring scale of 1-5 is used and it is important to use the full range of the scale to make prioritisation of the behaviours easier. The total score is then calculated by multiplying the importance and changeability score for each behaviour. These total scores are then used to rank the list of potential behaviours. All behaviours must be allocated a single rank such that if scores are equal between two behaviours one must be chosen over the other (5).

Key target behaviours for obesity

Increase

- Active play
- Active transport
- Active recreation
- Fruit and vegetables
- Whole grain cereal
- Water
- Breastfeeding

Decrease

- TV viewing
- Small screen activities
- High fat-sugar-salt snacks
- Fast foods
- High fat meals
- High sugar drinks (including fruit juice)

Task 2 - Choosing related knowledge and skills

List the potential knowledge and skills required for the identified behaviours to occur. When developing the list it may be useful to consider myths and misunderstandings, as well as skill gaps. Once identified, score and rank the knowledge and skills using the same scoring and calculation methods employed for the behaviours (5). Remember when ranking ensure each skill and knowledge is even a different rank.

Key knowledge and skills for obesity (related to priority behaviours)

Knowledge

- Fruit juice - high sugar
- High energy snacks
- Value of whole grains
- Value of drinking water
- Appropriate serving size
- How much TV/ small screen
- How much physical activity

Skills

- Cooking
- Fundamental motor skills
- Traffic safety
- Using food labels
- Monitoring small screen activities
- Introducing and trying new foods



Task 3 - Choosing related environments

The Angelo (*analysis grid for environments linked to obesity*) framework is used to choose and prioritise environments for action. The Angelo grid dissects the environment into environmental size (micro and macro), and environmental type (physical, economic, political, socio-cultural). **Micro** (or local) environment refers to **settings** that individuals interact with such as schools, workplaces, homes and neighbourhoods. **Macro** environments refer to **sectors** which influence local settings such as education/ health/ transport systems, the food industry, local/national governments and society’s attitudes and beliefs. Within these settings and sectors are the types of environments. The **physical environment** relates to what is available - availability of health foods in food outlets, opportunities for physical activity, availability of training, nutrition and exercise expertise, technological innovations and information. The **economic environment** refers to the costs related to food and physical activity - costs to the individual, as well as budget allocations for physical activity infrastructure and cost factors of food production, manufacturing, distribution and retailing. The **political environment** refers to the rules related to food and physical activity - laws, regulations, policies and institutional rules that effect individual and organisational behaviour. The **socio-cultural environment** refers to a community or society’s attitudes, beliefs and values related to food and physical activity - the ‘ethos’ or ‘culture’ of a school, workplace or neighbourhood or mass media/societal view of food and physical activity (8).

The Angelo framework (Table 2) is a useful tool for developing a list of environmental elements for targeting that are related to the priority behaviours. The tool is used with analysis team members asking the four questions in relation to various settings. It is simplest to consider each setting in terms of barriers but there may also be important facilitators or gaps (for example policy gaps).

Table 2. Angelo Framework

Environmental size	Micro - environment (settings)		Macro - environment (sectors)	
	Food	Physical Activity	Food	Physical Activity
Environmental type	<i>What is available?</i> <i>What are the financial factors?</i> <i>What are the rules?</i> <i>What are the attitudes, beliefs, perceptions and values?</i>			
Physical				
Economic				
Policy				
Socio-cultural				

After identifying the environmental elements that should be targeted in related to the identified priority behaviours score and rank these elements using the same process as that used for behaviours and knowledge and skills. Table 3 below is a useful tools for completing tasks 1, 2 and 3. Note that a separate table will be required for each task.





Table 3. Angelo Process Prioritisation Table

List of potential behaviours/skills to target	Score			Rank
	Importance	Changeability	Total (IxC)	
Increase breastfeeding rates				
Increase vegetable intake				

Key: Importance

(How relevant is this factor and how big is the impact?)

1. Not important at all
2. A little important
3. Somewhat important
4. Very important
5. Extremely important

Changeability

(How easy or hard is this factor to change?)

1. Very hard to change
2. Hard to change
3. Possible to change
4. Easy to change
5. Very easy to change

The ACE process

The ACE (assessing cost-effectiveness) process is a systematic method applied to assess the cost-effectiveness of obesity interventions in children and adolescents in Australia. The process involved evaluation of intervention strategies in two phases:

- The first phase involved calculating an incremental cost-effectiveness ratio from the incremental cost (\$) per incremental disability adjusted life year (DALY) saved.
- The second phase involved applying judgement criteria to consider other aspects of the strategy including, strength of evidence, equity, feasibility of intervention, acceptability to stakeholders, sustainability and potential for negative or positive side-effects (9).

The ACE process applied a numerical classification system to assess strength of evidence. A more qualitative approach was applied to assessing the other judgement criteria by listing the considerations under each criteria and achieving a summary position (9, 10). A final overall assessment was then determined for each intervention strategy and assist with prioritisation. Table 4 outlines the criteria used in the second phase of the ACE process.



Table 4. Decision-making Criteria

Criteria	Considerations
Strength of evidence	<p>Three levels:</p> <ol style="list-style-type: none"> 1. Sufficient evidence of effectiveness (effect is unlikely to be due to chance or bias) 2. Limited evidence of effectiveness (effect is probably not owing to chance) 3. Inconclusive evidence of effectiveness (no position could be reached - only few and poor quality studies available)
Equity	<p>Is the strategy selective, does it reach high priority groups?</p> <p>Is the impact evenly distributed, does it have high impact on a few people or a low impact on a lot of people?</p>
Acceptability	<p>Is the intervention strategy politically acceptable?</p> <p>Is the intervention strategy socially acceptable?</p> <p>Who supports/ is against the intervention?</p>
Feasibility	<p>Is there adequate capacity to implement the strategy?</p> <p>Is the strategy feasible in the current context?</p> <p>Are there contextual factors that will interfere with strategy implementation?</p>
Sustainability	<p>What is the sustainability of the action?</p> <p>Is on-going capacity and infrastructure required for the strategy to continue?</p>
Side-effects	<p>What are the positive side-effects of the action?</p> <p>What are the negative side-effects of the action?</p> <p>How do these side-effects weight against each other?</p>

Sources: (1, 9, 10)



While calculating the cost-effectiveness of intervention strategies may not always be feasible in PHN intervention management the consideration of cost as part of the judgement criteria is important. For smaller scale interventions cost may be included as another component in the criteria and some key considerations may include:

- How expensive will the intervention strategy be? Will it save resources overall?
- How are the economic costs and savings distributed? Do they come from the same finance pot?
- Is the strategy affordable?

Table 5 shows the results from the ACE obesity study for the intervention strategy ‘a school-based focused nutrition education intervention to reduce the consumption of sweetened carbonated beverages’, one of the thirteen intervention strategies reviewed in the study.

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Table 5. Intervention strategy appraisal example -‘a school-based focused nutrition education intervention -ACE Obesity study.

Strength of evidence	Equity	Acceptability	Feasibility	Sustainability	Side-effects
Limited evidence of effectiveness: <ul style="list-style-type: none"> One UK RCT that showed statistically significant decrease in prevalence of overweight and obesity but not BMI 2 prospective studies showing significant association of BMI and fizzy drink consumption 	Potential to increase inequality due to: <ul style="list-style-type: none"> Lower SES schools may have lower uptake Location of schools in remote area Higher non-attendance rate at lower SES schools Appropriateness to non-English speaking or indigenous? 	Issues that may arise: <ul style="list-style-type: none"> Uptake by schools may be low due to competing programs Preference of schools for more comprehensive approach, integrated into the curriculum, with delivery by regular teachers Poor acceptance by fizzy drinks manufacturers leading to lobbying the federal government against the intervention 	Issues that may arise: <ul style="list-style-type: none"> Will require high level of cooperation between state and federal governments Availability if adequate workforce Competing programs may effect uptake by schools 	Issues likely to arise: <ul style="list-style-type: none"> Ongoing funding required Whether mean reduction in BMI and consumption of fizzy drinks is maintained beyond one year is unknown Competing programs may affect willingness of school to retain this intervention 	Positive: <ul style="list-style-type: none"> Improvement in dentition due to reduction in dental caries Reduction in household \$ spent on fizzy drinks Negative: <ul style="list-style-type: none"> Potential to increase stigmatisation and bullying of overweight children if poorly implemented Increase and/or exacerbate eating disorders
Any implementation should be carefully evaluated	Significant concerns	Significant concerns	Significant concerns	Issues need to be addressed	Significant wider positive benefits
Policy considerations: The intervention is cost-effective in reducing unhealthy weight gain in children aged 7 to 11 years over a one-year period. Key decision points are: equity, acceptability, feasibility and sustainability. A significant effort would be required to ensure an adequate uptake of the program by schools, particularly in lower SES areas.					

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Practice Note

Setting priorities and making decisions needs to be based on criteria selected and agreed to by the project team or project management committee. The draft criteria then needs open to the public and decision makers for debate and scrutiny. Allowing debate and achieving consensus on the criteria illustrates the transparency of the selection process and helps to convince non-specialist and key stakeholders that the decisions are not biased or risky but rather based on systematic analysis.



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Reading

Swinburn, B., Egger, G. and Raza, F. Dissecting obesogenic environments: the development and application of a framework for identifying and prioritising environmental interventions for obesity. *Preventive Medicine*. 1999. 29: 563-570.

Victorian Government Department of Human Services. ACE-Obesity: assessing cost effectiveness of obesity interventions in children and adolescents - summary results. 2006. State Government of Victoria: Melbourne.



Exercise 3.

After reading the articles by Swinburn et al 1999, and the Victorian Government Department of Human Services, use one of the three processes explained above (priority rating process, Angelo process or ACE process) to prioritise the intervention strategies identified for your given scenario. Establish and a clear definition for each component of the criteria before completing the prioritising process, and use the appropriate tool for your assessment.

Workshop/tutorial option:

Complete the exercise in small groups, where each group member represents a different stakeholder of the scenario. Present your analysis to the broader group.

CPD option:

Conduct the above exercise in the context of your current work role and an identified population nutrition issue.





Assessment



Review the scenario you have selected (from one of four provided). Complete the risk/benefit analysis and strategy prioritisation section of the intervention management template. Limit this section to 300 words and provide analysis calculations and or tables in an Appendix.

CPD option:

Conduct the above exercise in the context of your current work role and an identified population nutrition issue.

Key Points



- To appropriately select and prioritise intervention strategies to address the determinants of the identified population nutrition problem, the risk or benefit associated with the determinant needs to be acknowledged. Whether the determinant becomes a focus of a PHN intervention should be a function of the measurable or estimated risk or benefit associated with that determinant.
- Risk refers to the probability a hazard will result in an adverse health event while benefit refers to the probability a protective/ promotive factor will result in a positive health event. Risks and benefits are revealed by considering the nature, likelihood and severity of adverse effects and positive factors on health.
- Strategy prioritisation is the decision making task of ordering identified strategies to assist with the later development of a strategy portfolio. Strategy prioritisation is best developed through a collaborative decision making process, where key stakeholders consider all the available information on the health problem and the known interventions to address the problem.
- Agreeing on priorities and selecting strategies for an intervention is a complex task with several challenges and dilemmas. A number of tools are available to assist with systematic analysis and prioritisation of the strategy. Three useful tools include: the Assessment Protocol for Excellence in Public Health, the Angelo Framework and the ACE process.

Intelligence >

Risk Management and
Strategy Prioritisation

Action

Evaluation



Additional Resources and Readings

Risk management

- National Public Health Partnership. *A Planning Framework for Public Health Practice*. 2001. National Public Health Partnership: Victoria.
- Tasmanian Government. Chapter 6 Risk Management. *Tasmanian Government Project Management Guidelines Version 6.0*. 2005. Tasmanian Government: Hobart.

Levels of evidence

- Haby, M., Carter, R., Moodie, M., Marwick, A., Magnus, A., Tay-Teo, K-S. and Swinburn, B. A new approach to assessing the health benefit from obesity interventions in children and adolescents: the assessing cost-effectiveness in obesity project. *International Journal of Obesity*. 2006. 30: 1463-1475.
- Evidence for Policy and Practice Information and Coordinating Centre (EPPI-Centre) <http://eppi.ioe.ac.uk/cms/Default.aspx?tabid=61>
- National Institute for Health and Clinical Evidence <http://www.nice.org.uk/>
- WHO Evidence-informed policy network <http://evipnet.bvsalud.org/php/index.php>
- NIHR Health Technology Assessment programme <http://www.nchta.org/index.shtml>



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3. Pickett, G. and Hanlon, J. *Public Health: administration and practice*. 1990. Times Mirror/Mosby College Publishing: Missouri.
4. Kroke, A., Boeing, H., Rossnagel, K. and Willich, S. History of the concept of 'levels of evidence' and their current status in relation to primary prevention through lifestyle interventions. *Public Health Nutrition*. 2003. 7(2): 279-284.
5. World Health Organisation Collaborating Centre for Obesity Prevention. *A comprehensive approach to obesity prevention using the ANGELO framework*. 2002.
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7. Hughes, R., Baillie, E. and Nalatu, S. Stakeholder engagement in intervention design in a community-based nutrition and physical activity promotion intervention targeting disadvantaged mothers in Australia. *Proceedings Dietitians of Canada National Conference, Vancouver June 6-9 2007*.
8. Swinburn, B., Egger, G. and Raza, F. Dissecting obesogenic environments: the development and application of a framework for identifying and prioritising environmental interventions for obesity. *Preventive Medicine*. 1999. 29: 563-570.
9. Victorian Government Department of Human Services. *ACE-Obesity: assessing cost effectiveness of obesity interventions in children and adolescents - summary results*. 2006. State Government of Victoria: Melbourne.
10. Haby, M., Carter, R., Moodie, M., Marwick, A., Magnus, A., Tay-Teo, K-S. and Swinburn, B. A new approach to assessing the health benefit from obesity interventions in children and adolescents: the assessing cost-effectiveness in obesity project. *International Journal of Obesity*. 2006. 30: 1463-1475.