

A COMPETENCY FRAMEWORK FOR PUBLIC HEALTH NUTRITION WORKFORCE DEVELOPMENT



Australian Public Health Nutrition Academic Collaboration

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- To develop competency standards for advanced level public health nutrition training and practice that builds on existing public health competency frameworks, including the PHERP funded National Public Health Education Framework (NPHEF).

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ABBREVIATIONS

APHNAC	Australian Public Health Nutrition Academic Collaboration
CBT	Competency based training
NPHEF	National Public Health Education Framework
IPHERP	Public Health Education and Research Program
PHN	Public Health Nutrition
SIGNAL	The Strategic Inter-Governmental Nutrition Alliance

PREAMBLE

Public health nutrition has been a developing field of public health theory and practice for at least the past 30 years, but it has only relatively recently come into focus in the context of workforce development. This focus has been a gradual response to public health priorities such as non-communicable diseases (particularly cardiovascular disease) and more recently emerging priorities such as obesity, diabetes and preventable cancers. The development of the public health nutrition workforce has been recognised as a priority capacity building initiative in the national public health nutrition strategy Eat Well Australia [1] and State Health Departments have begun to respond through varying levels of investment and development of their public health nutrition workforce. The funding of this project *Advanced-level training in Public Health Nutrition* by PHERP Innovations over the 2002-2005 period, and the subsequent formation of the Australian Public Health Nutrition Academic Collaboration (APHNAC), has been a university sector response to build academic capacity to support public health nutrition.

This document provides the architecture for public health nutrition workforce development in the form of a competency framework. It also includes some of the relevant background literature supporting the application of this framework to public health nutrition workforce development.

This document should be considered as an evolving framework that is responsive to changes in workforce conditions and priorities, and regularly reviewed in this context.

Definition of Public Health Nutrition

The Australian Public Health Nutrition Academic Collaboration (APHNAC) has taken the Public Health Association of Australia's definition of public health and adapted it to focus on the public health aspects of food and nutrition. In the context of this document, the definition of Public Health Nutrition is defined by APHNAC as:

Public Health Nutrition is the organised effort by society in the areas of food and nutrition to promote and protect the health of the population

A synopsis of the competencies movement and its relevance to public health nutrition

Competencies, competency standards and credentialing are all variations on a world-wide movement within the education, training and professional sectors. Competency based training (CBT) has been embraced by government and industry in Australia as a result of the economic rationalistic drive for efficiency since the 1980's. This movement is based on the premise that people need to be taught knowledge, skills and attitudes required in the workforce and that these are observable and assessable. This is supported by an argument that CBT would enhance the education sector's responsiveness to the economy and produce reliable outcomes [2,3]. Competency standards are defining statements about a profession or work role that can be used to assist credentialing. Credentialing is the establishment of a self-regulatory process instituted by the relevant profession to determine and acknowledge that an individual has demonstrated competence to practice [3].

There is now a considerable literature debating the merits and limitations of the competencies movement [3-8]. This debate has been mostly related to the broader training and education environment rather than specifically applied to nutrition or public health, but it is worth considering in any deliberation about the value of competency development for public health nutrition. Differences in the theoretical and philosophical underpinnings of the competencies movement have been the basis for this disagreement and debate.

The *behavioralist approach*, which has its origins in the efficiency movement [9], sees competency as the ability to complete discrete behaviours. This conception tends to atomise tasks, making them easier to measure, but makes training and assessment task focused, which is reductionist rather than holistic. A preoccupation with tasks ignores underlying attributes such as the ability to make judgements and perform multiple tasks simultaneously, overlooking the complexity of performance in the real world [3]. In contrast, the *holistic or integrated approach* draws from the progressive education movement [9] and is concerned with teaching attributes such as critical thinking under the assumption that they will be applied in the workplace in specific contexts. This view is concerned with the way knowledge, attitudes, values and skills are used in combination, in particular situations. In this perspective, competencies are relational, involve reflective practice and place importance on context [3].

CBT has aroused much controversy, especially amongst educationists with a commitment to preparing people as citizens in society rather than just for the workforce who argue that an overemphasis on competencies can mean that people only become skilled in relation to a particular occupation [10]. Advocates of the CBT approach see it as a countervailing force against education producing people who know but cannot do [10]. A summary of the arguments in favour and against CBT is provided in Table 1.

Table 1 Summary of the arguments for and against competency based training

Arguments in favour of CBT	
Role clarity and delineation	Competency standards aim to define the work and performance of the profession and therefore help define and delineate roles. Preventing overlap between professions may improve efficiency and this has been a compelling argument in favour of competencies.
Accountability and credibility	Standards help define the nature of the work of a profession and help communicate the complexity of work which may increase the credibility of the profession amongst the community.
Education	Competencies provide clearer goals for educators, learners and assist with curriculum design and assessment.
Consistency	Competencies can assist universities produce graduates with consistent minimum competencies because they provide a common ground for discussion between teachers and the profession.
Equity	Competency measurement can increase equality between people from different backgrounds. i.e. assessed based on ability to perform rather than academic path or course completed.
Cross profession movement	The common language of competencies that are consistent between professions can enable transfer across disciplines or overseas recognition.
Arguments against CBT	
Reductionism	The tendency of competencies and competency assessment to isolate components of performance ignores the complexity of work.
Efficiency does not mean effectiveness	A more competent worker does not necessarily lead to a more effective worker.
Control and sameness	Competencies and the use of competencies as a basis of credentialing can constrain workforce construction and behaviour leading to lack of innovation and diversity.
Checklists	Competency assessment can become complicated leading to a simplistic use of competencies as checklists. Skills performance without knowledge and context can be life threatening in the health sector.
Towards mediocrity	Competencies prescribe minimum standards that might discourage excellence by reducing everything to the lowest common denominator.
Teaching to the test	Competencies may encourage a belief that if something is not measurable as a competency it is not worth doing or learning and threatens learning processes.
Questionable reliability	There is no evidence to support CBT as a reliable measure.
Reduced liberal education	The tendency of competencies to be reductionist may reduce elements of liberal education such as experimentation, attributes like learning how to learn and problem solving.

From: [3-8, 10]

Literature addressing competencies in fields related to public health nutrition

Public health workforce development scholarship over the last few years has emphasized the importance of developing a competent public health workforce as a precursor to increasing societal capacity to protect and promote the public health [11-15]. As a result, there has been an emphasis on developing competency standards to provide the architecture for workforce development in public health [16, 17], preventive medicine [18, 19], health promotion [20, 21] and health education fields [22]. It has also been of interest to public health nutrition scholars internationally [23-27]. In Australia, the development of a National Public Health Education Framework (NPHEF) has provided a competency framework for the public health workforce[28]. Many of the competencies identified in this literature[11-28] are similar with considerable overlap across fields.

Public health nutrition competencies scholarship in Australia

The limited scholarship relating to nutrition and dietetic workforce development published in Australia up until the early 2000's, has focused on entry-level dietetics competencies [29] and the training needs associated with the developing work roles of dietitians [30]. Public health nutrition specific workforce scholarship in Australia has been limited to the work of the Public Health Education and Research Program (PHERP) funded Specialty Program in Public Health and Community Nutrition in the mid 1990's [31] and an unpublished community nutrition workforce survey conducted as part of a masters research project [32]. This work and more recent reviews of entry-level dietetic competencies [29] have identified a need for public health nutrition specific competencies and systems for continuing competency development.

Traditionally most competency standards are aimed at entry-level competence (eg. Dietitians Association of Australia) [33], although some focus on defining experienced practitioners [4]. The mid 1990's work by the PHERP funded Specialty Program in Public Health and Community Nutrition, and funding of APHNAC in 2002-2005, identified and recognises the need for competencies to inform advanced-level workforce development.

Recently there has been a concentrated research effort to explore competency requirements specific to public health nutrition practice in response to a recognition of the need for competency-based workforce development [31] and the mandate for workforce development provided by the National Public Health Nutrition Strategy (Eat Well Australia) [1]. These different research projects are summarised in Table 2 to provide a context for the triangular analysis that has informed the drafting of a framework of public health nutrition competency units and elements in this report.

Table 2 Summary of recent public health nutrition related competency scholarship in Australia, 2001-2003.

Year conducted	Authors	Method description	Data type/use	Reference
2001	Coveney and Mackerras	Stakeholder interviews (n=7) in key state and federal agencies including South Australian Department of Human Services, New South Wales Department of Health, Australian Government Department of Health and Aged Care, ANZFA, AIHW, ABS, AFGC ¹ . Content analysis of interviews.	Attitudinal data reported as aggregated themes from stakeholder interviews with respect to areas identified for knowledge and skill development. Reflects opinions of officials (employers/senior technocrats) in 7 key organisations relevant to public health nutrition.	[34]
2001	Hughes	Qualitative analysis of semi-structured interview transcripts from 41 advanced level public health nutritionists (ALPHNs) employed in academic or senior technocratic position in state and federal health systems.	Attitudes from ALPHNs about competencies (skills, knowledge and attitudes) considered as necessary for effective public health nutrition practice.	[35]
2001/2	Hughes	Cross-sectional national public health nutrition workforce survey (WFS) amongst 240 practitioners (87% RR) from each state and territory. Self-completing questionnaire with items asking respondents to rate opinions against a list of competency items summarised from the literature and informed by earlier qualitative study[35]	Practitioners' attitudes about the: <ul style="list-style-type: none"> • the importance of, • confidence in own ability and • training needs Against 37 pre-defined competency items.	[36]
2002/3	Hughes	Qualitative content analysis of job descriptions obtained from a sample of the known community and public health nutrition workforce in Australia and collation of positions descriptions advertised in the February 2002-August 2002 period. Job descriptions acting as a proxy of employer or organisational expectations.	Descriptive qualitative data about employer's expectations of the core functions, competencies and credentials of community and public health nutritionists, as expressed by position descriptions.	[37]
2002/3	Hughes	Modified 3 round Delphi study amongst a 20 member international expert panel to assess and develop consensus on competencies for effective public health nutrition practice.	International agreement on essential competencies and competency levels required by different tiers of the public health nutrition workforce.	[38]
2003	Lloyd	Mix of literature review, telephone interview survey with 24 employer organisations, review of structure and content of public health training programs, one-day disciplinary competency drafting workshop and alignment with core function statements.	"Off the cuff" opinions of employers (Director and Managers of state health departments, NGOs and area health services) regarding skills and knowledge of MPH graduates. Academics analysis and construction of competency framework from discipline area input.	[28]

¹ANZFA; Australian & New Zealand Food Authority. AIHW; Australian Institute of Health & Welfare. ABS; Australian Bureau of Statistics, AFGC; Australian Food & Grocery Council

Why not use the competency framework developed for public health (NPHEF) rather than develop a specific set for public health nutrition?

This is a question that has been recently posed within the APHNAC membership and is based on the viewpoint that public health nutrition practice is public health practice that addresses nutrition issues. The definition of public health nutrition adopted by APHNAC, as stated previously, is consistent with this view.

There are a number of arguments why a specific competency framework for public health nutrition is required. Consultation with advanced-level PHN practitioners in 2001 identified that there was broad agreement amongst interviewees that;

- public health nutrition competencies are consistent with generic public health competencies, but with a consistent qualifier that the public health nutrition workforce requires additional competency units in nutritional sciences.
- public health nutrition is a specialisation within public health and that a tendency towards generalising the workforce was counterproductive to developing workforce effectiveness [35].
- training and experience in nutrition was critical to competency development in public health nutrition [39].

Many of the areas of knowledge and skill identified in a 2001 consultation with public health nutrition stakeholders as a prelude to the formation of APHNAC [34] have a food and nutrition specific emphasis, reinforcing practitioners' views in a later consultation about the importance of content and contextual aspects of practice[35].

The importance of the contextual applications of public health practice relevant to public health nutrition workforce development is summarised by the following quote from one of the practitioner interviews conducted in 2001/2.

"I think it is difficult for a public health graduate without nutrition training to be effective...it's like an epidemiologist without nutrition background doing nutrition studies that produce odds ratios based on dietary exposures that are ridiculous...understanding of the nutrition science is crucial" (from [35])

Reliance exclusively on the NPHEF as the competency framework, without consideration of the additional or specialty competency elements required for effective public health nutrition practice is therefore problematic. It should also be recognised that the compilation of the NPHEF has been generic to the core disciplines to be taught in all Master of Public Health degrees and does not include or cover areas of specialisation or elective study.

What are the functions of competencies for public health nutrition?

Competencies serve an overarching function of providing the architecture for workforce development by codifying the knowledge, skills and attitudes necessary to effectively practice or work (perform) in the field. These provide a structure for:

- Curriculum design and evaluation - by ensuring competency development through teaching and learning corresponds with agreed competency needs (the primary rationale relevant to APHNAC),
- Credentialing - by providing standards that can be used as benchmarks for practitioner recognition or registration (eg. Nutrition Society PHN Registration system[40])
- Performance review - by providing standards which enable employers and practitioners to review practises and development needs
- Recruitment - by providing a framework for articulating the competency and qualification expectations in position descriptions (duty statements, selection criteria)[37], and
- Career planning - by providing direction for individual practitioner's consideration about further development needs.

At what levels do the competencies target (individuals, work groups or the workforce)?

One of the conceptual difficulties with assessing the importance of competencies relevant to public health nutrition identified in an international Delphi study conducted in 2002/3 [38] related to a question of *"are we referring to an individual practitioner or the broader workforce or work group?"* The concept of competencies is increasingly being used to define the required knowledge, skills, attitudes and experience of work groups, ranging from small teams through to the collective workforce. This conceptualisation of competencies is similar to the notion of organisational competencies described briefly in the NPHEF [28]. Considerations about competency requirements of the public health nutrition workforce amongst Australian advanced-level practitioners[35] and international experts [38] have been based on this broader application of competencies.

The large and varied range of competencies listed from the analysis in this document (and this broader view of competency applications) suggest that it may be unrealistic to expect an individual practitioner to have proficiency in all the competency units identified, emphasising the need to develop work teams that ensure a competency mix required for effective work effort. This view is consistent with earlier views about the need for inter-disciplinary

approaches to public nutrition [26,27,35] and the multi-disciplinary composition of public health nutrition workforces [31, 35].

Despite this view, the reality is that the composition of the public health nutrition workforce (at least those employed in designated positions with a mandate for preventive nutrition action) in Australia has been, and is still, largely uni-disciplinary[41]. Self-reports from the last national public health nutrition workforce study conducted in 2001/2 indicates that this workforce infrequently collaborates outside the health sector and practices in a way that does not necessarily reflect the core functions for public health or on issues identified as priorities in Eat Well Australia[42]. Competencies therefore should reflect the work needed rather than reinforce the practices (work) that currently exists.

Basic assumptions underpinning this competency framework

The discussion so far leads to the following summary assumptions that underpin the competency framework detailed in the following sections.

- Public health nutrition practice is public health practice that addresses food and nutrition issues.
- The generic competency framework of the NPHEF inadequately presents the nutrition specific competency requirements for advanced-level public health nutrition practice, but does codify many of the core competencies needed. A PHN specific competency framework is needed to specifically inform advanced-level PHN workforce development which is aligned with the NPHEF[43].
- Competencies refer to the workforce or workgroups rather than a specific individual or professional group (*Note that this is different from many competency frameworks that are designed to inform individual practitioner development and evaluation*).
- Different tiers of the workforce will require different levels of competency, depending on roles, responsibilities and jurisdictions.
- There are a core or essential set of competencies consistently required for effective PHN practice regardless of jurisdiction or context.

How this competency framework was drafted

The competency framework for public health nutrition workforce development presented here is based on consensus developed via an international Delphi study [38] and a fusion of existing competency frameworks in the fields of public health in Australia [43], the United States [17] and the United Kingdom [16]. It also cross-references to competency standards developed in the fields of health promotion [44] and advanced-level practice in dietetics [45]. The framework was then been reviewed by the membership of the Australian Public Health Nutrition Academic Collaboration. The basic structure of the competency standards is consistent with the first 3 levels of the Australian National Training Authority competency structure (unit of competency, element and performance criteria).

A PUBLIC HEALTH NUTRITION COMPETENCIES FRAMEWORK

FOUNDATION AND THEORETICAL KNOWLEDGE AND SKILLS

A1: THE CONTRIBUTION OF THE BIOLOGICAL SCIENCES TO UNDERSTANDING THE HEALTH OF POPULATIONS

Competency Element	Performance criteria	Source
Biological determinants of health	Interprets the biological factors that determine the health status of individuals and populations.	[43]
Models of disease causation	Compares basic models of disease causation for communicable and non-communicable disease.	[43]

A2: THE CONTRIBUTION OF ENVIRONMENTAL SCIENCES TO THE HEALTH OF POPULATIONS

Competency Element	Performance criteria	Source
Environmental determinants of health	Identifies environmental determinants of health and disease and describes how these factors might be addressed to improve nutrition and disease prevention in populations.	[43]
The risk framework	Appraises the contribution of epidemiology, toxicology and ecology to environmental risk assessment and risk management and identifies the principles of risk assessment, risk management and risk communication.	[43]
Paradigms of environmental health	Compares paradigms pertaining to the discipline of environmental health (eg transition from traditional through industrial to ecological systems approaches) and describes the relevance to nutrition.	[43]

A3: THE CONTRIBUTION OF THE BEHAVIOURAL SCIENCES TO UNDERSTANDING THE HEALTH OF INDIVIDUALS AND POPULATIONS

Competency Element	Performance criteria	Source
Behavioural determinants of health	Examines evidence regarding factors that influence individual health behaviour, health status and utilization of health services.	[43]
The individual in a social environment	Examines social and cultural factors, including the mass media, which influence the health behaviour of individuals.	[43]
Behavioural theories	Applies theories of individual behaviour and behaviour change to public health practice.	[43]

A4: THE CONTRIBUTION OF THE SOCIAL SCIENCE DISCIPLINES (SOCIOLOGY, ANTHROPOLOGY, POLITICAL SCIENCE) TO UNDERSTANDING OF THE HEALTH OF POPULATIONS

Competency Element	Performance criteria	Source
Social determinants of health	Analyses the social and cultural factors that influence individual dietary behaviour, health status and utilisation of health services.	[43]
Theoretical foundations	Compares the sociological, anthropological and political science underpinnings of health leading to these determinants.	[43]
Social context	Critiques the role of cultural and social factors in communities, organisations and policy arenas.	[43]

A5: THE CONTRIBUTION OF ECONOMIC CONCEPTS AND PRINCIPLES TO PUBLIC HEALTH

Competency Element	Performance criteria	Source
Key economic concepts	Interprets and applies principles of opportunity cost, marginal analysis, efficiency and equity and identifies how these are applied in public health programming.	[43]
Financial incentives	Identifies how financial incentives promote or create barriers to health at individual and institutional levels.	[43]

A6: SPECIALIST KNOWLEDGE AND SKILLS IN NUTRITION SCIENCE AND THEIR APPLICATION TO PUBLIC HEALTH PRACTICE

Competency Element	Performance criteria	Source
Assessment of dietary intakes	Develops dietary assessment protocols for population level dietary assessment using various methods appropriate to context, resources and purpose.	[38]
Food composition	Applies knowledge of food composition to relevant aspects of practice.	[38]
Food guidance	Uses contemporary and evidence-based food guidance devices to promote optimal population dietary behaviour.	[38]
Nutritional requirements	Applies knowledge of dietary requirements across age-groups, gender and health states to effective public health practice.	[38]
Nutrition intervention strategy options	Uses critically assessed intelligence about intervention options to develop effective public health nutrition interventions.	[38]
Food science	Incorporates knowledge of food science to inform public health nutrition practice.	[38]
Nutritional physiology and biochemistry	Applies knowledge of nutritional physiology and biochemistry to public health nutrition analysis and practice.	

ANALYTICAL SKILLS [38]

B1: GENERIC ANALYTICAL KNOWLEDGE AND SKILLS FOR PUBLIC HEALTH [43]

Competency element	Performance criteria	Source
Research paradigms	Discriminates between deductive and inductive reasoning and identify the strengths and limitations of different research paradigms.	[43]
Information on determinants of health	Locates, evaluates and interprets information about the key determinants of health.	[43]
Information on theory, assessment and intervention	Locates, evaluates and interprets behavioural and social science theories and models relevant to public health activity, and current paradigms for assessment and intervention.	[43, 44]
The role of data	Identifies how data illuminates ethical, political, scientific, economic and overall public health issues.	[17, 43, 44]
Reading critically	Identifies ideas and evaluate arguments in texts relevant to public health and applies understanding to various aspects of public practice.	[43, 44]
Community research partnerships	Partners with communities to attach meaning to collected quantitative and qualitative data.	[17]
Problem analysis and needs identification	Applies information and intelligence from various sources to analyse public health issues and identify specific intervention needs.	[16, 38, 44]
Critical appraisal	Integrates information from descriptions of research activities (eg. journal article, report etc) to assess issues that affect interpretation of results (eg. data quality).	[43, 44]
Presentation of data	Given a study question and relevant data, chooses appropriate forms of presentation of the data for an oral or written report to summarise the information relevant to the study question, to various audiences.	[43, 44]

B2: FOUNDATION BIOSTATISTICAL METHODS APPLIED TO FOOD AND NUTRITION ANALYSES [43]

Competency element	Performance criteria	Source
Statistical concepts	Correctly interprets results involving confidence intervals, significance tests and power showing an understanding of the role of random variation and the effects of sample size.	[43]
Comparison of two groups	Conducts a statistical analysis of data from two groups (independent or matched) where the measurements are either categorical or continuous, and presents the results in a report that includes an interpretation of the findings and a discussion of their strengths and limitations.	[43]

The relationship between two variables	Investigates by graphical and simple linear regression models the relationship between two continuous measurements and presents the results in a report that includes an interpretation of the findings.	[43]
Sample size and power estimates	Obtains the information required to estimate sample size or power, carries out the calculations and report the findings taking into account the practical implications for implementation of a study, involving one or two groups.	[43]
Statistical Software	Uses a statistical software program, for example SPSS, including defining data types, selecting appropriate forms of analysis and interpreting the output (to support other competencies).	[43]

B3: EPIDEMIOLOGICAL METHODS AND THEIR APPLICATION TO FOOD AND NUTRITION PROBLEMS

Competency element	Performance criteria	Source
Routine data collection	Uses health and nutrition-related data collections appropriately to describe the food and nutrition related health situation and trends in populations, identify possible determinants, and monitor progress toward population goals.	[43]
Morbidity and mortality	Describes the major causes of diet-related and all-cause mortality and morbidity in Australia at present and identify trends over the last 50 years, and the projected trends among sub-groups including age, sex, ethnicity and socio-economic status.	[43]
Study design (health status)	Selects and uses appropriate designs to collect data for assessing population health status and the determinants of health.	[43]
Study design (causality)	Selects and uses appropriate study designs to investigate causal factors (personal or environmental) for diet-related diseases (acute and chronic) and to evaluate the effects of public health interventions on these diseases or their determinants.	[43]
Measures of frequency and association	Calculates and interprets measures of disease occurrence (e.g. incidence), measures of association between exposures and disease (e.g. relative risk) and measures of public health impact (e.g. population attributable risk) and states the designs for which the various calculations are appropriate.	[43]
Study bias	Assesses how the three major types of bias (selection, information and confounding) may arise in a study using any of the principle designs and describe what impact they have on interpreting the results.	[43]
Chance and significance	Interprets the role of chance on the measure of effect and distinguish between statistical significance and public health/clinical significance.	[43]

Confounding and effect modification	Discriminates between effect modification and confounding.	[43]
Calculation of mortality and morbidity rates	Calculates age-adjusted rates using the direct and indirect methods and interpret the result.	[43]
Diagnostic test evaluation	Assesses the validity of a diagnostic test for nutritional status by calculating the sensitivity and specificity, describing its relative usefulness in various populations (positive predictive value) and describing the necessary criteria for determining the usefulness of a population screening program.	[43]

B4: METHODS OF QUALITATIVE INQUIRY AND THEIR APPLICATION TO RESEARCH, PLANNING AND EVALUATION IN PUBLIC HEALTH NUTRITION

Competency element	Performance criteria	Source
Qualitative inquiry	Compares different approaches to qualitative inquiry and identify their theoretical foundations.	[43]
Qualitative data collection	Demonstrates competence in at least one qualitative data collection technique. Identifies appropriate uses of qualitative information for research, planning and evaluation in public health nutrition.	[43]
Qualitative data analysis	Describes the range of data analytic techniques and demonstrate competence in at least one.	[43]
Interpretation	Categorises the range of data interpretation methods and models and interprets an analysis.	[43]
Software for qualitative research	Competently use a qualitative data management and analysis software program, for example NUD*IST or Ethnograph.	[43]

B5: METHODS AND EVIDENCE FOR NUTRITION POLICY, PROGRAM PLANNING, EVALUATION AND MANAGEMENT.

Competency element	Performance criteria	Source
Using information	Demonstrates appropriate uses of information for decision-making and collects, summarises and interprets information relevant to policy, planning, management and evaluation of programs.	[43]
Applied quantitative and qualitative methods	Applies quantitative and qualitative research methods in policy, programming, evaluation and management.	[43]
Evidence	Identifies the role of evidence in developing health policies and programs, and appropriately applies evidence to these tasks.	[43]
Performance monitoring and program evaluation	Describes methods of performance monitoring and program evaluation and is able to develop mechanisms to monitor and evaluate programs for their quality, implementation, and effectiveness.	[43]

Economic evaluation	Identifies the value of economic evaluation to evidence required to select interventions. Distinguish the methods of health economic evaluation and identify their appropriate application.	[43]
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B6: FOOD AND NUTRITION MONITORING AND SURVEILLANCE

Competency element	Performance criteria	Source
Diet-related disease surveillance and monitoring	Identifies the contribution of disease surveillance and monitoring to policy and program planning and evaluation.	[43]
Disease and exposure monitoring and surveillance	Demonstrates familiarity with the procedures undertaken by public health units to investigate and control an outbreak of communicable disease, such as food borne diseases.	[43]
Levels of Prevention	Analyses a health problem and identifies the appropriate level/s at which to target the disease, condition or determinant, and population groups to be targeted.	[43]
Risk factor surveillance, including food and nutrition data	Identifies and understands the role of risk factor surveillance to inform analysis of diet-related problems. Utilises data from monitoring and surveillance to describe trends in risk factors for diet-related disease, among key population groups.	

PUBLIC HEALTH SYSTEMS KNOWLEDGE AND SKILLS [38]

C1: HEALTH SYSTEMS KNOWLEDGE

Competency Element	Performance criteria	Source
Set priorities	Contrasts and uses various approaches for setting priorities regarding problems and population groups to target health and nutrition service development and investment, and nutrition-related research.	[43, 44]
Understands health system structures and the drivers of health system change	Describes the structure and dynamics of the health system and the key dimensions of health system performance.	[43, 44]
Health system development	Describes the major trends in health system development and identifies their implications for society.	[43]
Healthcare financing	Describes financing arrangements and mechanisms for funding health services.	[43]
Public health functions	Identifies and defines the core functions of public health and identifies the individual and organisational responsibilities within health and other sectors that fulfil these functions.	[43]

Public health history	Describes the historical development of public health and assesses the implications of historical developments for current practice.	[43]
Public health in a system	Describes the interaction of public health with social and bureaucratic systems (including the health care system) to promote the health of populations.	[43]

C2: FOOD AND NUTRITION SYSTEMS KNOWLEDGE

Competency Element	Performance criteria	Source
Key players	Identifies key stakeholders in the food and nutrition system.	[38]
Understands food and nutrition system structures and the drivers of system change	Describes the structure and dynamics of the food and nutrition system and the key dimensions of system performance.	[38]
Food and nutrition system development	Describes the major trends in food and nutrition system development and identify their implications for society.	[38]
Food and nutrition as business	Describes the mechanisms and impact of corporate profit motives and strategies that impact on food and nutrition.	[38]

C3: PROGRAM PLANNING, ORGANISATION AND MANAGEMENT

Competency Element	Performance criteria	Source
Intervention Planning	Applies the principles of public health intervention planning and develops a plan for a specified population, including the evaluation of objectives.	[43]
Intervention design	Designs a health promoting intervention for an individual, community or organisation using theory and evidence to guide the selection of strategies and the identification of outcomes.	[43, 44]
Health promoting strategies	Describes the range of health promoting strategies and methods, and for each strategy and method, defines appropriate groups for whom the strategy or method is designed.	[43, 44]
Theoretical applications	Applies relevant behavioural and social science theories to a selected health promotion intervention, and reviews and evaluates the adequacy of the approach(es) selected for practice.	[43, 44]
Implementation planning	Identifies training needs and resources and organisational and agency needs that would allow an intervention to be effectively implemented.	[43]

C4: BUILDING CAPACITY FOR PUBLIC HEALTH ACTION

Competency Element	Performance criteria	Source
Capacity building principles	Applies the principles of capacity building to enhancing public health effort and outcomes.	[43]
Determinants of capacity	Describes the determinants of community and organisational capacity as it relates to public health action.	
Capacity assessment and evaluation	Describes methods of evaluating community, organisation and system level capacity to address public health nutrition issues.	
Intersectoral action	Establishes linkages with key stakeholders.	[17]
	Applies the principles of effective intersectoral action and apply to population health activity.	[43]
Organisational development	Demonstrates knowledge of organisational development and change.	[43, 44]
	Recognises that organised effort at a population level is required to achieve improved health outcomes.	
	Identifies individual and organisation responsibilities for promoting public health.	[17]
Workforce development	Identifies and develops key workforce components (individuals, groups, units) with a stake in public health nutrition effort.	
Partnership development	Describes the key determinants of effective partnership development and applies strategies to support sustainable and effective collaboration.	[17, 43]
Community development	Identifies community assets and available resources.	[17]
	Involves communities as active partners in all aspects of public health nutrition effort.	[16]
	Applies community development processes and principles in public health nutrition practice.	[44]

SOCIO-POLITICAL KNOWLEDGE AND SKILLS [38]

D1: IDENTIFY THE POLITICAL AND INSTITUTIONAL CONTEXT OF POPULATION HEALTH

Competency Element	Performance criteria	Source
Systems and institutions	Describes the structure and dynamics of the political and bureaucratic systems and identify the roles of various institutions (government and non-government) in shaping health policy.	[43]
Government and legislation	Critically analyses how structures, contexts and processes of government and legislation impact on health programs and policies, including international contexts.	[43]
Global factors	Compares the ways in which global institutions and relationships shape the conditions for health.	[43]

D2: HEALTH, WELFARE, FOOD AND NUTRITION POLICY ANALYSIS

Competency Element	Performance criteria	Source
Policy analysis	Identifies and communicates the health, fiscal, administrative, legal, social and political implications of policy options.	[17]
	Describes and apply the components and processes of a major policy analysis using epidemiological, economics and social science tools.	[43]
Determinants and theories	Considers biological, behavioural, social/cultural and environmental factors and relevant models and theories in policy analysis.	[43]
Presents policy options	Articulates policy options and states the feasibility and expected outcomes of each policy option.	[17, 43]

MANAGEMENT AND LEADERSHIP KNOWLEDGE AND SKILLS [38]

E1: MANAGEMENT

Competency Element	Performance criteria	Source
Policy implementation	Describes and applies the procedures involved in translating policy into organisational structures and plans.	[43]
Human resource management	Describes human resources principles for organisational development, conflict resolution, and motivation of personnel.	[43]
Financial management	Describes financial management for health programs, including budgeting.	[43]
Change management	Recognises and manages change taking into account educational, cultural, social, technical, economic and political considerations.	[45]
Risk management	Effectively identifies, estimates potential implications and manages risk as it applies to public health nutrition practice.	[45]
Project resource management	Manages project resources achieving and reporting progress within budget and on time	[44]

E2: LEADERSHIP

Competency Element	Performance criteria	Source
Advocacy and lobbying	Applies the principles of advocacy and lobbying appropriately to garner support for action on nutrition problems of public health significance.	[17, 43, 44]
Decision-making	Uses analytical, critical thinking, and problem-solving skills to make decisions effectively.	[43]
Teamwork	Coaches, develops and motivates team members and evaluates their performance.	[45]
	Facilitates group/team work and operate effectively as a member of a group or team.	[17, 43, 45]
Leadership in practice	Accepts leadership roles in organisations and committees to promote nutrition and health.	[45]
	Uses leadership styles to inspire and motivate others to promote nutrition and health.	[45]
	Manages complex relationships and competing interests of the various stakeholders in the food and nutrition system.	[45]

PROFESSIONAL & COMMUNICATION KNOWLEDGE AND SKILLS [38]

F1: COMMUNICATION

Competency Element	Performance criteria	Source
Communication	Demonstrates effective written and oral communication in a range of contexts.	[43]
Cultural awareness	Considers the need to communicate effectively across social groups in diverse cultures and sub-cultures and understands cultural obstacles to effective communication.	[43]
Information literacy	Collects, evaluates and interprets information from a variety of traditional and new technology sources.	[43]
Information technology	Uses information technology to effectively communicate, locate information and analyse data.	[43]
Interpersonal skills	Applies interpersonal skills (negotiation, team work, motivation, conflict resolution and problem solving skills).	[44]
Grantmanship	Identifies and applies for funding to undertake research and evaluation to inform public health problem resolution.	[45]
Media utilisation	Uses the media, advanced technologies and community networks to communicate information.	[17]
Consultation	Solicits input from individuals, organisations and community groups.	[17]
	Listens to others in non-biased manner, respects points of view and promotes the expression of diverse opinions and perspectives.	[17]
Cultural competency	Utilises appropriate methods for interacting sensitively, effectively and professionally with persons from diverse backgrounds, ages and preferences.	[17]

F2: PROFESSIONAL ATTITUDES AND VALUES

Competency Element	Performance criteria	Source
Values	Identifies the values and principles that underlie public health nutrition policy debates, organisational practices, and program planning and evaluation.	[43]
Capacity building	Critiques the central function and role of public health nutrition practitioners as instruments for capacity building.	
Ethics	Prepares ethics /evaluation proposals relating to aspects of public health nutrition research and evaluation.	[44]
	Applies ethical principles to the collection, maintenance, use and dissemination of data and information.	[17]
	Gives prominence to promoting equity in approaches to improving nutrition in populations.	
Commitment to better practice	Demonstrates consistent reflective practice.	[45]
	Prioritises professional development to meet learning goals.	[45]
	Committed to life long learning.	
Commitment to practice improvement	Contributes to the evidence base relating to effective public health nutrition practice and actively communicates this information.	[38, 45]

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