



PILLAR 1

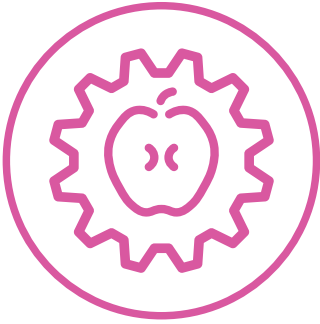
SOCIETAL DETERMINANTS

Nutrition in context

NATIONAL COMMITTEE FOR
NUTRITION



Insight	Aspiration	Actions	Impacts	Metrics
Insight 1.1 If followed more broadly, existing evidence-based dietary guidelines would lead to substantial health improvements in Australians	Aspiration 1.1.1 The factors that prevent Australians from following dietary guidelines are understood Aspiration 1.1.2 Effective interventions targeting these factors are implemented	Action 1.1 Broaden nutrition science to encompass and prioritise research into factors that influence dietary behaviour and identify effective interventions	Impact 1.1 Improved Australian diet quality	Metric 1.1 Greater adoption of the principles of dietary guidelines
Insight 1.2 Competition between health objectives and commercial interests impacts negatively on the quality of Australian diets and health	Aspiration 1.2 A culture shift in Australia sees consumer demand and industry capability increase the market competitiveness of healthy alternatives to unhealthy processed foods	Action 1.2 Develop and test behavioural economic models to identify factors that influence consumer demand for healthy products over unhealthy processed foods	Impact 1.2 A new generation of agrifood products that retain the benefits of food processing without negative health impacts	Metric 1.2 Reduction in the preponderance of unhealthy processed foods that displace healthy alternatives
Insight 1.3 Substantial negative impacts on diet and health derive from ‘spurious uncertainty’, where legitimate debate among nutrition experts is exaggerated or twisted to undermine evidence-based knowledge. This is called the ‘tobacco control playbook’, as it is the modus operandi of the tobacco industry for undermining the scientific evidence associating its product with disease	Aspiration 1.3 The Australian nutrition science community has a trusted and authoritative voice representing the best scientific evidence. This does not preclude scientific debate, which is essential for scientific progress, rather, it: i. authoritatively delineates information around which there is consensus in nutrition science from information that is subject to varying degrees of uncertainty ii. exposes cases where these categories are disingenuously conflated for self-interest, such as financial or ideological motives iii. acts as a point of evidence collation for government consultation and advocacy to government and other groups	Action 1.3 Establish structures to enhance cohesion of nutrition and related sciences in Australia	Impact 1.3.1 The nutrition science community is unified around a solid foundation of well-established evidence-based information on the links between diets and health Impact 1.3.2 Hypotheses and equivocal facts are clearly delineated from those sufficiently well established to inform nutrition messaging, policy and commercial strategy	Metric 1.3.1 Improved public perception of the nutrition science community Metric 1.3.2 Enhanced clarity and transparency on what is evidence-based fact, what is conjecture and what is misinformation in nutrition
Insight 1.4 Misinformation about the links between diet and health has the potential to be a serious public health hazard	Aspiration 1.4 There is a culture of accountability that moderates unconstrained and self-serving claims in the public arena about links between diet and health. No such restraint applies in other arenas, including media, diet book industry, internet bloggers, etc	Action 1.4 Encourage the scientific community to be proactive in exposing diet messaging based on ideology and other ulterior motives, including financial gain	Impact 1.4 A shift from the postmodern diet culture in which unqualified and conflicted views are considered on par with evidence-based nutrition	Metric 1.4 Greater clarity in public messaging around what is opinion and what is evidence-based information
Insight 1.5 Societal influences on dietary behaviour are extraordinarily complex and difficult to manage. They are nested within a web of conflicting attitudes, perceptions and motives, which inevitably will demand that compromises, rather than pure solutions, are achieved	Aspiration 1.5 An expanded nutrition science that encompasses multidisciplinary and cross-sectoral expertise to tackle these complex issues	Action 1.5 Found a national nutrition collective, representing all stakeholder groups, that will establish approaches for modernising nutrition science and practice in Australia.	Impact 1.5.1 An unparalleled capacity for efficiently tackling the burden of malnutrition by targeting the most effective interventions Impact 1.5.2 Increased common purpose among different stakeholders through pursuing solutions that are mutually beneficial, such as processed foods that are both profitable and healthy	Metric 1.5.1 Improved Australian dietary patterns Metric 1.5.2 Better food options in retail outlets and restaurants Metric 1.5.3 Increased quantity and quality of scientific outputs Metric 1.5.4 New directions for growth in the food industry



PILLAR 2

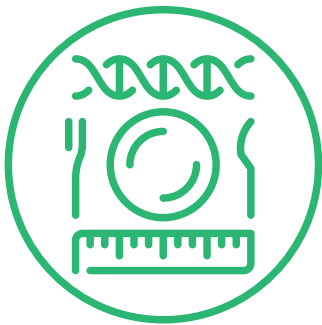
NUTRITION MECHANISMS

From epidemiology to cause-and-effect relationships

NATIONAL COMMITTEE FOR
NUTRITION



Insight	Aspiration	Actions	Impacts	Metrics
Insight 2.1 A new science of nutrition is needed that moves away from a focus on single nutrients and commodities to consider the <i>interactions</i> between multiple nutrients and the biological mechanisms that define health outcomes, and in turn relates these to dietary patterns as the drivers of human health, wellness and productivity	Aspiration 2.1 Australia integrates its expertise in biological, medical and other sciences to play a major role in discovering the mechanisms by which nutrients and dietary patterns promote health, wellness and productivity	Action 2.1.1 Identify the science of nutrition as a national research priority Action 2.1.2 Enhance the profile of nutrition through increased NHMRC and ARC research funding success rates Action 2.1.3 Position the science of nutrition as a priority for the MRFF Action 2.1.4 Ensure that fit-for-purpose conceptual and experimental frameworks, facilities, measurement tools and modelling capabilities are available	Impact 2.1 Australia plays a major role in the global effort to define the mechanisms underpinning healthy diets and dietary routes to combatting all the major non-communicable diseases	Metric 2.1 New knowledge generates outcomes that are integrated into patient care at primary and tertiary levels
Insight 2.2 Conventional nutrition science methodologies will be enhanced and integrated with web-based citizen science data collection methods and complex data analyses	Aspiration 2.2 Datasets on food intake and health, wellness and biomarker outcomes from the national capability for nutrition data are combined with laboratory and controlled clinical trials to propose, test and refine systems-level cause-and-effect mechanisms between diet and health/wellness	Action 2.2.1 Identify data collection approaches that can be connected to and analysed by a national capability for nutrition data Action 2.2.2 Harness methods to analyse complex and diverse data using shared national facilities	Impact 2.2 A greater efficiency of nutrition data collection, analysis and linkage across scales, from experimental to population level	Metric 2.2.1 Evidence of increased usage and linkage of data from existing and new sources Metric 2.2.2 Demonstrated consilience of evidence from different sources being used to shape nutrition policy
Insight 2.3 The combined responses of metabolic, immune, microbiome, neural, endocrine and other systems to combinations of nutrients and dietary patterns represent the next great challenge in systems biology	Aspiration 2.3 The ways that diets interact with human physiology and biochemistry are defined sufficiently to identify and demonstrate opportunities for nutrition to enhance wellness and productivity	Action 2.3.1 Articulate the challenge of integrating across diverse physiologies to define program and project opportunities Action 2.3.2 Provide training to higher degree research students and early- and mid-career researchers in the science of nutrition to build human capacity Action 2.3.3 Ensure that fit-for-purpose facilities, measurement tools and modelling capabilities are widely available	Impact 2.3 A systems understanding of diet and health that: • enables precision and personalised nutrition programs to prevent and manage chronic diseases and optimise health against multiple criteria across the life course (see pillar 3) • informs the design of food production and manufacturing systems to take account of health outcomes, equity, and economic and environmental sustainability	Metric 2.3.1 Australia is a leading nation in the science of precision nutrition (see pillar 3) Metric 2.3.2 Evidence that measures of health, equity and sustainability are key currencies in the design and optimisation of the national food and nutrition system
Insight 2.4 Australia is a producer of all components in healthy diets. Nutrition credentials can provide the route to achieving premium product value, particularly for exports	Aspiration 2.4 Recognition as a leader in the science of nutrition provides Australia with a market advantage in the high-value foods export sector	Action 2.4.1 Plan and obtain support for measurement and communication of nutritional attributes of premium Australian foods Action 2.4.2 Identify and realise opportunities for premium products (foods, meals, diets) of Australian origin	Impact 2.4.1 Australian food is associated with nutritional quality that can be tracked through the supply chain, as well as clean/green production practices Impact 2.4.2 High nutritional-value foods with distinctively Australian attributes provide a boost to the agrifood sector	Metric 2.4.1 Increase in value of exports as a result of their nutritional credentials and marketing Metric 2.4.2 Increase in value of farmgate production as a result of measurable nutrition credentials



PILLAR 3 PRECISION AND PERSONALISED NUTRITION

Targeted responses to foods and diets

NATIONAL COMMITTEE FOR
NUTRITION



Insight	Aspiration	Actions	Impacts	Metrics
Insight 3.1 Recent and future technological advances will allow the determination of a wide range of data about an individual's genetic and biochemical makeup, as formed by their genes, life stage, health status, environment and lifestyle—at an increasingly lower cost. These data can be applied to help people live longer and better lives by changing the way we prevent, diagnose, treat and monitor both illness and wellness	Aspiration 3.1 A high-level nutrition policy and implementation plan provides the capacity, capability and infrastructure needed to support integration of nutritional genomic technology into the national health system	Action 3.1.1 Incorporate nutritional genomics into a national nutrition policy framework Action 3.1.2 Incorporate nutritional genomics and precision nutrition in nutrition, health professional and medical training within educational institutions Action 3.1.3 Research the cost-effectiveness of nutritional genomics and precision nutrition	Impact 3.1 Australia becomes a global leader in precision nutrition and health genomics, resulting in improved wellbeing, greater productivity and more cost-effective disease prevention and management for Australians, as well as exportable technologies and programs that generate economic benefit	Metric 3.1.1 Number of national and state policies in precision health that incorporate nutrition Metric 3.1.2 Proportion of educational institutions that incorporate nutritional genomics and precision nutrition in health professional and medical training Metric 3.1.3 Number of evidence-based, cost-effective precision nutrition treatments and programs translated into the health sector
Insight 3.2 A plethora of genetic, biological and phenotypic data requires technology tools to synthesise and realise the potential of precision and personalised health and nutrition in improving wellbeing and reducing and treating diet-related disease	Aspiration 3.2 Australia is a world leader in cutting-edge nutrition data science and technology that turns data into action and improves the quality and cost-effectiveness of treatment, disease prevention and health optimisation	Action 3.2.1 Increase literacy in the use of the tools of information technology (such as the Internet of Things, artificial intelligence and machine learning) in nutrition and health education programs Action 3.2.2 Increase literacy in genetics, genomics and bioinformatics from secondary education onwards Action 3.2.3 Incorporate nutritional genomics as a core subject in tertiary nutrition health professional programs Action 3.2.4 Foster cross-disciplinary research with areas such as computer science, information science and technology, engineering and health economics	Impact 3.2.1 Nutrition researchers develop innovative methods and tools in data analytics, research design, health informatics and bioinformatics Impact 3.2.2 Tertiary nutrition education teaches integration of systems biology with non-biological systems Impact 3.2.3 Researchers and health professionals are proficient in mainstream and state-of-the-art point-of-care biological and behavioural measurement tools that provide data at individual and population levels	Metric 3.2.1 Australia's ranking and growth in numbers of peer-reviewed precision and personalised nutrition publications Metric 3.2.2 Citation ranking of Australian researchers in precision and personalised nutrition in international information technology journals
Insight 3.3 Participation in self-health management by consumers and patients is a rapidly growing feature of a more democratised health system, where the person is better informed through greater health and nutrition literacy and demands more control of decisions relating to their health and wellbeing	Aspiration 3.3.1 Australia has achieved ethical, legal and socially just precision and personalised nutrition solutions Aspiration 3.3.2 The ethics of precision and personalised nutrition is a core competency in all fields of nutrition training and education	Action 3.3.1 Ensure that researchers and ethical boards prioritise keeping abreast of technological shifts in digital tools and genomics to maintain the ability to guard privacy and confidentiality and maintain trust Action 3.3.2 Encourage researchers to actively engage the public in precision and personalised research and discourse Action 3.3.3 Develop professional policies regarding human–subject research, data privacy, clinical practice standards and public health goals in precision and personalised nutrition Action 3.3.4 Embed cross-disciplinary ethical analysis (for example, between law, social science, humanities, political science and the public) into collaborations from inception	Impact 3.3.1 High level of literacy in information technologies and biological applications relevant to precision and personalised nutrition, leading to ethical, legal and socially just research ethics applications and approvals Impact 3.3.2 The Australian public has a high level of engagement, trust and literacy in precision and personalised nutrition and data privacy Impact 3.3.3 Effective multidisciplinary and public collaborations inform future research, foster public trust and engagement and develop responsive law and policy regarding emerging technologies	Metric 3.3.1 Number of research projects that engage consumers in the planning process Metric 3.3.2 Number of nutrition training programs that address the ethics of precision and personalised nutrition Metric 3.3.3 Number of nutrition training programs that incorporate data privacy in research methodology
Insight 3.4 Private investment in individual and population health and wellness technologies is growing, with a wide range of tech investors and venture capitalists making significant contributions. Australia has the opportunity to capture the health and economic benefits of a rapidly growing precision and personalised nutritech sector	Aspiration 3.4 Australia is a global leader in evidence-based precision and personalised nutritech products and services that improve individual and public health and safety, for both Australian and international markets	Action 3.4 Cultivate evidence-based responsible research and innovation to best serve public safety and health through: i. fostering training and research in precision and personalised nutrition ii. ensuring ongoing independent evaluation and synthesis of commercial precision and personalised nutritech products iii. promotion of commercial and science partnerships to foster innovation in evidence-based precision and personalised nutritech products iv. developing sustainable and independent precision and personalised nutrition science platforms that assess and synthesise data on an ongoing dynamic basis v. ensuring researcher transparency by disclosing conflict of interests of all involved parties vi. ensuring decisions are informed by scientific evaluation of the available evidence in cases where insurance coverage of precision and personalised nutrition products services is proposed	Impact 3.4.1 Australian researchers have a high level of literacy in the science and commercialisation of precision and personalised nutritech research Impact 3.4.2 Increased number of funded research projects related to precision and personalised nutrition and nutritech applications Impact 3.4.3 Increased number of researchers in the science and commercialisation of precision and personalised nutrition and nutritech research Impact 3.4.4 Increased number of evidence-based precision and personalised nutrition products Impact 3.4.5 Health and economic evaluation of commercialised evidence-based precision and personalised nutrition and nutritech products	Metric 3.4.1 High level of literacy in the science and commercialisation of precision and personalised nutritech research Metric 3.4.2 Increased number of researchers in precision and personalised nutritech fields Metric 3.4.3 A science platform established with ongoing evidence-based precision and personalised nutritech products Metric 3.4.4 Increased numbers of evidence-based precision and personalised nutritech products with business models that achieve positive health and economic outcomes Metric 3.4.5 Increase in products and commercial revenue from evidence-based nutritech products Metric 3.4.6 Numbers of successful nutritech businesses with domestic and/or global reach



PILLAR 4

EDUCATION AND RESEARCH TRAINING

NATIONAL COMMITTEE FOR
NUTRITION



Insight	Aspiration	Actions	Impacts	Metrics
Insight 4.1 There are many and varied groups that provide a ‘cacophony of noise’ from which consumers must synthesise the ‘truth’ about food and nutrition	Aspiration 4.1 Nutrition professionals, supported by a national trusted voice, are the source of food and nutrition advice	Action 4.1.1 All professional nutritionists undertake competency-based education Action 4.1.2 All nutrition courses adopt a code of ethics and their graduates are fit to practice	Impact 4.1 The public can easily identify nutrition professionals and have confidence in their fitness to practice and scope of practice	Metric 4.1 Statutory title for nutrition professionals with a single code of conduct
Insight 4.2 There is a need to communicate the complexity of nutrition with a unified voice	Aspiration 4.2 The general public has a greater understanding of the complexity of nutrition science and its impact on their food choices and dietary patterns	Action 4.2 Harness the scope and reach of social media, the internet and other mass communication channels to enable nutrition professionals to communicate to the public effectively and efficiently	Impact 4.2 Greater unity and impact achieved through understanding consumer behaviour and improved engagement with consumer groups and sub-groups	Metric 4.2 Nutrition professionals measure their engagement and effectiveness by changes in the public’s diet quality
Insight 4.3 Nutrition education for the whole, broader population is required	Aspiration 4.3.1 Every Australian has a basic understanding of cooking skills, nutrition and how their food choices and dietary patterns impact their long-term health and that of their family Aspiration 4.3.2 The public have a greater understanding of the complexity of nutrition science and its impact on their food choices and dietary patterns	Action 4.3 Integrate nutrition education, including food skills, across all formal education (early childhood, school, TAFE and tertiary)	Impact 4.3 The public has a basic knowledge of nutrition and greater skills in synthesising and applying this knowledge to their food choices	Metric 4.3 A high level of food literacy and food skills in the population
Insight 4.4 Upskilling nutrition professionals is required in emerging research areas that impact on practice and public understanding of the science of nutrition	Aspiration 4.4 Researchers actively engage the public in nutrition research and discourse	Action 4.4 Ensure evidence-based teaching, including societal determinants and the ethics of precision and personalised nutrition, as core competencies in all accredited and professional development courses	Impact 4.4 Nutrition professionals engage and influence the public with messages about evidence-based nutrition	Metric 4.4 All accredited courses include learning outcomes that reflect new nutrition research methodologies, including societal determinants, nutritional genomics and complex data analysis
Insight 4.5 The number of nutrition professionals in Australia is small. Career pathways appear limited and lack clarity	Aspiration 4.5 Australia is seen as the leader in the education and training of nutrition researchers, educators and public health nutritionists for the Asia-Pacific region	Action 4.5.1 Develop clear career pathways and opportunities in research, public health and advocacy roles Action 4.5.2 Develop a training framework of competency from basic to advanced levels in line with these career pathways	Impact 4.5 There is a greater number of nutrition professionals trained and retained in the workforce	Metric 4.5.1 Increased proportion of nutrition professionals with higher degrees and demonstrable competence in research and/or public health Metric 4.5.2 Increased number of nutrition professionals with nationally awarded competitive fellowships
Insight 4.6 Leadership paradigms are changing from residing in single disciplines and individuals to leadership as a collective, multidisciplinary process throughout networks of people. Leadership training, capacity development and ongoing support networks are necessary features of a strong nutrition workforce	Aspiration 4.6 A network of nutrition leaders skilled in complex and adaptive thinking, with foresight, broad vision and who work collaboratively across disciplines and sectors to positively influence food systems and nutrition	Action 4.6 Incorporate leadership training in professional development courses by leveraging existing nutrition leadership platforms, such as the Oceanic Nutrition Leadership Platform	Impact 4.6 Enhanced ability to operationalise nutrition policies and strategies that will impact health and wellbeing for all	Metric 4.6.1 Increased number of nutrition professionals in leadership positions Metric 4.6.2 Increased number of outputs/outcomes from collaborative activities Metric 4.6.3 Increased number of multi-disciplinary/multi-sector collaborations (such as working groups, coalitions, etc.)