

**National Food and Nutrition Strategy:  
Health Systems Issues**

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## **ACKNOWLEDGMENTS**

The Health Economics Unit of the CHPE is supported by Monash University.

The Program Evaluation Unit of the CHPE is supported by The University of Melbourne.

Both units obtain supplementary funding through national competitive grants and contract research.

The research described in this paper is made possible through the support of these bodies.

## **AUTHOR(S) ACKNOWLEDGMENTS**

This paper was developed as part of a research program with Deakin University, to derive a Food and Nutrition Strategy for The Commonwealth Department of Health and Family Services, Public Health Division. The support of Deakin University is acknowledged and in particular helpful comments on draft material by Mr Colin Sindall of the Health Strategies Unit.

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# National Food and Nutrition Strategy:

## Health Systems Issues

### 1 Scope of the Paper

This paper has been prepared as a contribution to strategy development for the second phase in implementation of Australia's Food and Nutrition Policy. It is focused on health system issues. The implementation of a national food and nutrition policy for Australia, will require the application of resources, and also has the potential to influence resources allocated to health. It is reasonable to presume that if changes in eating habits are to be achieved which will translate into improved health outcomes, substantial resources will need to be allocated to food and nutrition program elements and/or appropriate incentives will need to be applied to yield desirable resource shifts.

Major changes in behaviour, such as those that have contributed to the observed reduction in cardiovascular disease, the reduction in the incidence of lung cancer in men, and containment of the predicted exponential growth in AIDS, have been achieved only through a commitment at the regulatory and organisational level, as well as through a substantial budget commitment. These diseases have been tackled with multilevel campaigns/strategies which simultaneously tackle the broad population level, the community level and patient level services. The modification of behaviours to incorporate healthier eating habits is perhaps one of the most challenging behaviour change tasks. Substantial progress cannot be expected without resource shifts and mechanisms which ensure an appropriate supply response is maintained. A brief review of the distortions imposed by current health funding and delivery arrangements suggests that health system issues must be addressed, if enduring progress in the adoption of healthier food choices is to be realised. A structure for a possible Pilot for a comprehensive food and nutrition strategy which would address the health system issues forms the concluding section of this paper.

## 2 Role for Food and Nutrition in Health

Nutrition has a direct impact on morbidity and mortality in the major disease areas of CVD, many cancers, diabetes, and it has a pervasive influence on survival and vulnerability to illness. Circulatory diseases and neoplasms were responsible, in 1994, for 89,090 deaths, accounting for 70% of all deaths in Australia, and responsible for an estimated 400,000 life years lost to age 75 (see Table 1).

**Table 1 Mortality and Estimated Expenditure by Major Disease Grouping, 1994**

\$ Million (a)		Annual Deaths (b)	
		Number	Percentage
CHD etc <sup>(1)</sup>	}	42,048	33
Stroke		12,838	10
Neoplasms	1,495	34,203	27
Other		37,611	30
Total		126,700	100

**Source:** a) AIHW/CHPE 1997  
ABS Deaths Australia, Cat No 3302.0 AGPS 1995

**Notes:** (1) Ischaemic heart disease, other heart disease and other circulatory

The importance of food and nutrition in the health status of the community cannot be overstated. The role of food and nutrition in health status is pervasive. It is pertinent to the healthy population, being central to healthy development and quality of life; it is relevant to those at elevated risk of disease and for those with evidence of disease, through the influence on disease incidence and disease progression. Food and nutrition is also relevant to those with advanced disease, aiding recovery from major events and potentially reducing the rate of further complications. Food and nutrition strategies can potentially be applied across all disease stages, as described below and illustrated in Figure 1.

### i) Primary Prevention: Population

There is evidence of the role of nutrition in the incidence of many non-communicable disease, notably coronary heart disease, non-insulin dependent diabetes (NIDDM), stroke, colorectal cancer. Disease prevention is possible through the adoption of a more healthy diet, and other healthy lifestyle attributes. The mechanisms seem to be multiple, and relate both to risk factor reduction (cholesterol, blood pressure, abdominal obesity), as well as via direct impacts of micronutrients etc. The role of nutrition in healthy development is also recognised as critical, and of most relevance to pregnant women and young infants.

What constitutes a healthy diet, while still the subject of on-going study and debate, seems in broad terms, to be virtually identical in all disease groups as well as for healthy development. A diet high in fruit and vegetables and fibre and low in saturated fats

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(combined with an active life), has been established as protective in relation to a wide range of diseases and supportive of a good quality of life.

**ii) Primary Prevention: In Persons at High Risk**

Those at high risk of CVD, colorectal cancer, diabetes etc, can potentially gain greatest benefit from nutrition advice. Such groups may also be more inclined to change their behaviours, as the risk can be readily personalised. For instance, weight loss and exercise programs targeted at overweight persons with impaired glucose tolerance (and thus at substantially elevated risk of NIDDM) may be more successful, in terms of adoption of healthier behaviours and weight loss, but also in terms of impact on disease incidence, than a more general population based strategy (Eriksson et al 1994).

**iii) Secondary Prevention/Management**

Persons with evidence of CVD and diabetes, are able to reduce the rate of disease progression and progression of complications through adoption of a healthier diet. For instance there is published evidence that persons with diabetes can revert to normal glucose tolerance, signs of heart disease can be reversed and blood pressure normalised through diets high in fibre and low in saturated fats and red meat, especially if combined with exercise and weight loss. (Kanders et al 1989; Helmrich et al 1991; Reid et al 1993).

**iv) Rehabilitation/Recovery**

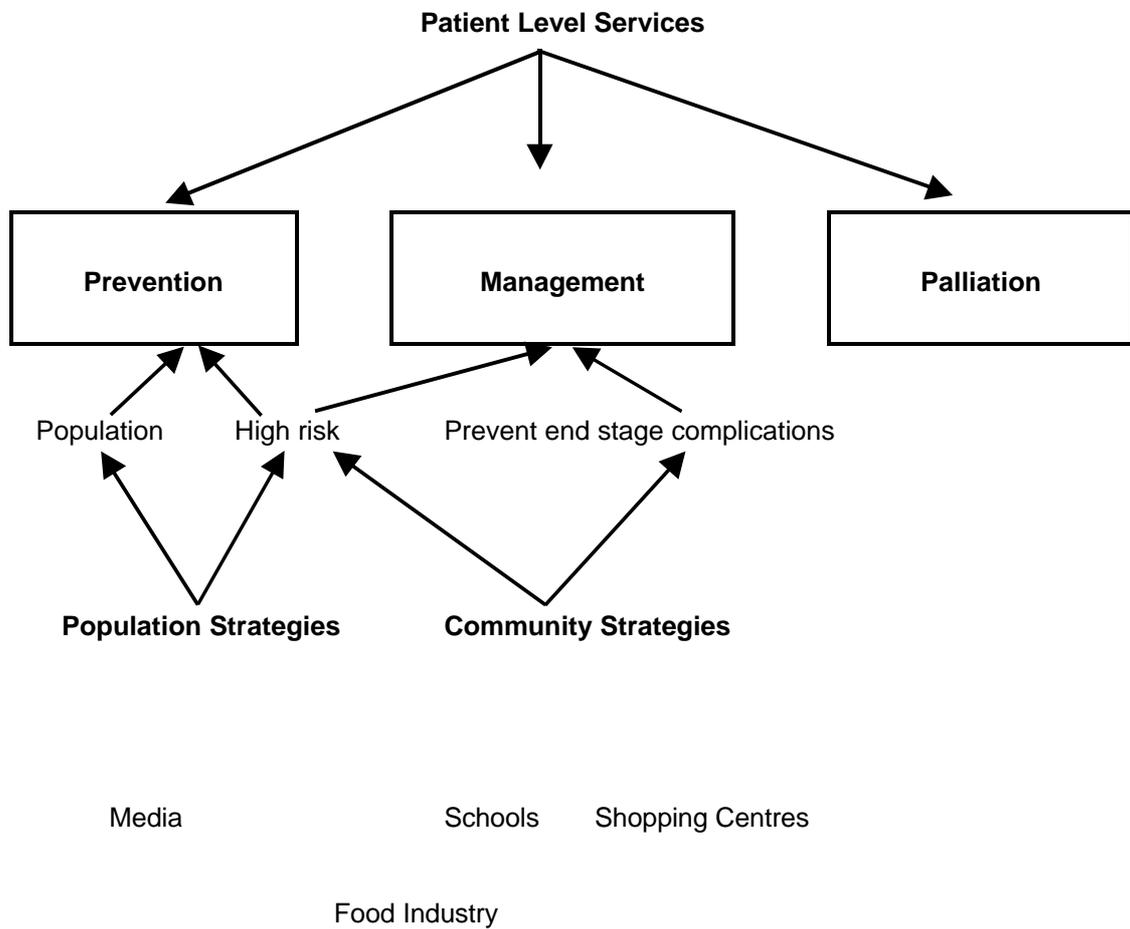
Cardiac rehabilitation is recognised as desirable to speed recovery and reduce likelihood of repeat events. An important component of a best practice cardiac rehabilitation program, is a focus on the adoption of a healthy lifestyle including a healthy diet.

**v) Health Status for Normal Development: Children, the Elderly**

Depleted nutrition status is a major risk factor for illness. It increases the risks of complications with surgery and impedes recovery, it is predictive of poor outcome for persons in renal failure. Under/inadequate nutrition can be a major problem with certain groups such as the elderly, young infants in deprived circumstances, alcoholics. It is also associated with certain chronic disease states and may contribute to a general decline in health status and reduced independence.

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**Figure 1      Role for Food and Nutrition Initiatives by Disease Stage**



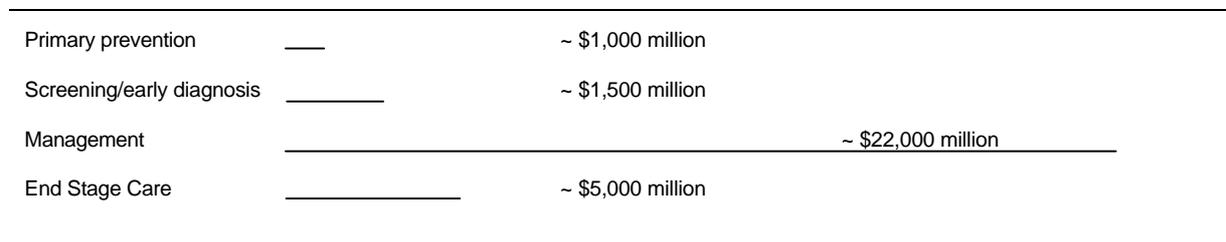
### 3 Food and Nutrition Policies and the Health Budget

The resources allocated to food and nutrition programs cannot be readily identified from health budget information. If we look at CVD and cancers, diseases for which a healthy diet and lifestyle are known to be relevant and are a recommended component of best practice management, and the basis of primary prevention, for 1993-94 approximately \$5,000 million was allocated to the management of these disease groups (AIHW/CHPE 1997) (see Table 1).

Health expenditure on the management of CVD and cancers, represents less than 20% of the total health budget, with the vast majority allocated to hospital, medical and pharmaceutical services.

In 1992-93 an estimated \$1,651 million, of the total health budget was allocated to all community and public health programs, representing 5% of the total health budget (Table 2). Food and nutrition initiatives are likely to represent a small share of this, plus a far smaller share of medical and hospital services and a part of the services of other health professionals. While the allocation of health care resources between disease stages is not known, from an analysis of the published data, it is clear that few of the communities health resources are allocated to primary prevention. An indicative attribution of total health resources between disease stage is presented in Figure 2.

**Figure 2 Health Budget by Major Disease Stage: Indicative**



**Table 2 Health Expenditure: Allocation Between Health Delivery Setting 1992-93**

	\$ Million	%
Community and public health	1,651	5.0
Medical and dental	8,131	24.9
Other health professional	1,397	4.3
Hospitals*	12,413	38.0
Pharmaceuticals	3,432	10.5
Nursing home	2,644	8.4
Research	500	1.5
Other	2,540	7.8
<b>Total Health Expenditure</b>	<b>32,708</b>	<b>100</b>

Source: AIHW 1995

Notes: \* Public and private inpatient and outpatient

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Despite overwhelming evidence of the role of nutrition as a major determinant of health and wellbeing and more limited evidence that nutrition interventions can be highly cost-effective, or even possibly resulting in net savings (through projected savings in downstream health care costs due to reduced morbidity being less than initial program costs), (Segal et al 1996), resources allocated to food and nutrition services is small. It is thus implausible that the optimal level of resources is now being allocated to food and nutrition initiatives, such that a simple redirection of these resources between different nutrition programs would represent an adequate response. Rather the redirection of resources away from other intervention approaches, towards food and nutrition services, most probably has the potential to enhance health gain, within current total resourcing for health.

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## 4 Inefficiencies Generated by Health Funding and Delivery Arrangements

The conclusion that too few resources are allocated to public sector food and nutrition programs is also suggested by consideration of Australia's health funding and delivery arrangements and the distortions created in health resource allocation. Australia's health funding arrangements promote a medical approach to health care. The health care system is predominantly reactive, in that health services are largely designed to respond to symptoms and disease with little capacity to promote wellbeing. There are aspects of health funding and delivery arrangements, which consistently mean too few resources will be directed to nutrition services, relative to the capacity of these services to contribute to health gain.

The distorted incentives responsible in large part for the misallocation of health resources arise through:

- i) **Program based funding and multiple budgets** - which restrict the possibility of resource shifts between programs and thus between health delivery settings, mode of intervention and stage of disease. Program budgets reflect neither efficiency nor equity objectives, tending more to reflect historical precedent and influence of vested interests;
- ii) **Third party fee-for-service payment for services of prescribed types** – reimbursement through the Commonwealth Medical Benefits Schedule, only covers nominated services, directly favouring medical services (general practitioner, medical specialists, and investigative procedures – radiology/pathology etc), delivered through direct one-on-one patient service. The complementary Commonwealth Pharmaceutical Benefits Schedule reimburses the use of pharmaceuticals;
- iii) **Multiple levels of government and agencies** – mean that health services are delivered through shared funding and shared delivery arrangements. This means that no one agency or funder has clearly defined responsibility for the health status of a community. This inevitably encourages a focus on financial outcome for the agency and funder the cost shifting, which encourages inefficiencies. It encourages a focus on short term service delivery to individuals to meet immediate needs, rather than a longer term response to the general health status of individuals and the community;
- iv) **Disempowerment consumers** – consumers as patients and communities, lack information and the support to define and express their health needs. They also have no control over the budget for health services they utilise and thus have difficulty in participating effectively in health service priority setting, at the community level, or in relation to the services they access. Demand for health services are in large part provider driven.

These distortions in the health sector arise from attributes intrinsic to health as a commodity (such as the complexity of the relationship between health services and health gain), and government's response, and can be classified as:

- 1 Supply side attributes: resulting in an inflexible and non-competitive supply system, with providers limited in the types of services that can be offered (and will be paid for) in meeting the health needs of individuals and the community);
- 2 Demand side attributes: reflecting the lack of empowerment of consumers, as both individuals and communities, which limits the capacity of consumers to determine their

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health needs, to establish the appropriate mix of services to meet those needs, and to communicate those needs to providers and to redirect payments to elicit the required supply response.

In classical economics, the traditional market will achieve the optimal distribution of health resources where supply is contestable, (competing providers are able to respond creatively to consumer preferences) and where consumers are informed and able to give effect to their preferences. When both apply, the consumer is sovereign, and able to drive supply, to maximise consumer wellbeing. Market failure is characterised by the absence of these conditions. (A number of other attributes define the perfect market model, which are in part subsumed under the above). Recognition of the sources of market failure and attempting to address them, is often a role taken on by governments as a means for achieving greater efficiency, defined as greater wellbeing for resources allocated. (A more complete description of this argument is presented in Segal L 1997).

In relation to the health sector, there is evidence of market failure on both the supply and demand sides. On the demand side, consumers find themselves disempowered, with decision making invariably in the hands of providers, acting ostensibly on the consumers behalf. A genuine agency relationship would require providers to understand, to accept and act upon the value position of the consumer (patient), which they would be entitled to seek to influence. As an agent their advice should reflect a dispassionate review of the available evidence, and not be influenced by the professional allegiance or personal values of the provider. Furthermore, consumers would ideally require control over the budgets allocated for their health care. Such circumstances do not exist.

While the issue of supply side inefficiencies in the delivery of health care, is increasingly acknowledged, with schemes being developed to address these problems (such as the various versions of managed care), the importance of consumer empowerment as a complementary element of market failure and a fundamental contributor to inefficiency has received little attention. While there is a large literature on empowerment, this is largely concerned with the implication of program effectiveness at the individual service delivery/patient level, particularly, where self efficacy is a central component of management and where individual behaviour is central to outcomes.

This is commonly the case in chronic disease management and illness prevention, but also pertinent to general health related quality of life as noted by Syme (1996) and can also be pertinent in critical care. The role of empowerment in health outcomes is increasingly accepted as part of best practice care in the fields of disability (as part of the recognition of the importance of independence and self reliance), and in chronic diseases management such as in asthma and diabetes.

Thus both demand and supply side attributes of the health care market create distortions which in total will tend to discourage the resourcing of nutrition programs. The logical consequence of health funding arrangements is the under-provision of primary prevention and non-medical approaches to management. So that, despite the central role of nutrition in health status, the resourcing of programs to promote healthier food choices remains marginalised.

Examples of the impacts of these perverse incentives are numerous. Just a few examples are provided below to illustrate:

**i) Public sector services to address weight loss**

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Despite the high and increasing prevalence of obesity in our community, and the associated health risks, access to specialist public sector behavioural based weight loss services is extremely limited. Obese patients can obtain a stomach stapling operation at public expense, at an average of ~ \$9,674 per person (DRG309) or \$16,152 (DRG310), or visit their GP as often as they wish for nutrition advice (cases of on-going weekly visits are not unknown). But these patients are often unable to access a public sector dietitian, due to restricted funding for such services. The provision of multi-disciplinary weight loss/nutrition advice services for those needing such a service are extremely limited. In Melbourne, (with an estimated 150,000 obese adults), the public sector provides (to my knowledge) just two half day multi-disciplinary weight loss clinics.

**ii) Access to diabetes education/dietitian services restricted to those with evidence of disease.**

Some diabetes education services have indicated that, due to funding restrictions, they are only able to offer education/dietitian services to persons with diabetes, explicitly excluding persons with impaired glucose tolerance (for whom a healthy lifestyle can reduce the risk of developing NIDDM and associated morbidities). It is neither equitable nor efficient to require progression to diabetes, with associated morbidity before suitable services can be accessed. Recent evidence that better management of NIDDM reduces mortality, with the effect greater in those with less pre-existing morbidity supports earlier rather than later intervention (Hellman et al 1997).

**lii) Screening and management of colorectal cancer**

The role of screening for colorectal cancer is on the current policy agenda. There is an expectation that screening for colorectal cancer in a suitable age cohort is likely to be recommended. This would result in substantial medical costs for FOB testing, for sigmoidoscopy and colonoscopy. (The latter at ~ \$560/procedure in the public sector and closer to \$1,500 per procedure if performed in the private sector.)

Numerous studies report a relationship between nutrition and the incidence of colorectal cancer, with an Australian based intervention trial also reporting a significant reduction in large adenomas through a high fibre/low fat diet, (MacLennan 1995). The provision of a dietary and lifestyle (activity) advice service as a complement to any screening program would seem to be highly desirable, both to potentially improve outcomes and reduce the required rate of repeat colonoscopy. However, special funds would have to be made available for such a service, while pathology and procedures for screening and colonoscopy are funded under standard fee-for-service Medicare payment arrangements. In theory public sector services could adopt a greater role for food and nutrition, but the experience in recent years, particularly with the adoption of casemix funding is of a reduction in allied health staff.

**iv) Children with renal failure and growth retardation**

Children with cystic fibrosis and renal failure usually experience stunted growth. Many children have been given growth hormone therapy to promote growth, at substantial cost (over \$10,000/annum) and at risk, while the possibility of a more direct nutrition response was overlooked. This illustration reflects in part funding incentives, but more the professional bias in favour of medical interventions, with scant regard for the possible role for nutrition in medical management.

**v) Empowerment: Management of hypertension**

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In Australia over \$500 million was spent in 1995-96 on anti-hypertensive medications., (diuretics, ACE inhibitors, calcium antagonists and beta blockers etc), mostly for the management of high blood pressure. Over several decades, evidence has been gathered through controlled trials, that lifestyle factors, particularly nutrition and physical activity affect blood pressure. It has been found, consistently, that withdrawal of blood pressure medication for persons who are well controlled (and with no contra-indications), a sizeable proportion will maintain good control without recommencement of drug therapy for several months, through appropriate lifestyle advice and support.

In a small Australian study (Reid C et al 1993 & 1995), based in the Western suburbs of Melbourne, substantial resistance was identified amongst GPs to a trial withdrawal of blood pressure medication in well controlled patients, despite the literature supporting this as an acceptable form of management. In contrast, the same study found a great interest in patients in the opportunity to become drug free, through adoption of an alternative lifestyle. In this trial, at the 9 month follow up, 71% of patients for whom blood pressure medication had been withdrawn, achieved adequate blood pressure control without recommencement of drugs. The current management of hypertension seems to reflect more the preferences of clinicians than patients, and the ease of access to drugs compared with lifestyle support, resulting in a mix of health services which arguably generates less health gain for the resources allocated.

**vi) Empowerment: Role of medical practitioner in use of empowerment in the management of chronic disease.**

The importance of self-efficacy in achieving good control in diabetes and other chronic disease is acknowledged, with a growing literature on the role for patient empowerment and education in achieving this. It is recognised that medical professionals are often poorly equipped by virtue of their training to facilitate self-efficacy. (This may improve over time with some medical schools incorporating patient communication within their curriculum). Tight scheduling of appointments common within medical practices and a traditionally paternalistic model of care, may limit the capacity of physicians to promote patient self-efficacy. A recent study in which views about the important attributes of outpatient services were elicited from patients (n=814) and medical practitioners (n=74), found that patients identified information (specifically the effective communication of health-related information) as the second most important issue after clinical skill, while clinicians ranked information 6<sup>th</sup> in importance (of a total of 9 fields) (Laine et al 1996).

A health system in which the medical practitioner is placed in the pivotal role, as the primary care contact, the source of referrals and of scripts, and in which health educators are not funded as part of core Medicare services, cannot be expected to promote an empowerment approach to care.

These illustrations highlight the influence of health system structure on the health service mix and hopefully help to explain the inadequate resourcing of programs to address nutrition. They also highlight the need to address health system issues, in relation to service delivery at the patient as well as the community/population level and at all disease stages.

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## 5 Implications for Components of a Food and Nutrition Strategy

In devising and implementing a food and nutrition strategy, it is clear that the strategy must cover not only, priorities and administrative and organisational elements, but also some means for addressing health system/resource use issues. The first two elements are covered in the report by Health Strategies, Deakin: Implementing Australia's Food and Nutrition Policy, for the Commonwealth Department of Health and Family Services. The health system issues are covered in this paper.

A comprehensive food and nutrition strategy should include consideration of:

**i) Priorities for Intervention:**

It is desirable that a process be established so that over time, agreement can be reached about health services and programs most likely to improve food choices and enhance health. The process would need to incorporate evidence about the possible role for nutrition in health status and documented ways to influence behaviours. Ideally the priority setting process would cover all disease stages and encompass population based, community level and patient level options; to reflect the best available evidence on cost and effectiveness. This implies a research agenda to develop/collate an information base from which priorities can be reviewed and adjusted.

**ii) Administrative and organisation arrangements in relation to the food and nutrition strategy:**

This is the major focus of the interim report prepared by Health Strategies, Deakin; Implementing Australia's Food and Nutrition Policy, for the Commonwealth Department of Health and Family Services (which also covers priorities).

**iii) Health system and resource issues:**

- a) Review resource implications of strategy and consider how the strategy can be funded.
- b) Consider desirable resource shifts, and how they can be achieved. This will require an understanding of the perverse incentives created by current funding arrangements.
- c) Consumer empowerment, which is both a health system issue, as well as relevant in terms of best practice delivery of individual services and community based programs. This needs to be addressed at both levels.

These three elements will be critical to a successful strategy which can realistically be expected to have any real impact on food choices and health status. Some broad options are identified here, that range from the more comprehensive and radical, to the more limited. At the conclusion of this paper, a Pilot to address health system issues as part of a comprehensive food and nutrition strategy are detailed. If this were of interest, it would require the formation of a team to progress the conceptual development.

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## **6 Broad Options for Health System Change**

### **1 Consolidate health funding and delivery at the regional level**

Consolidation of health funding and delivery at the regional level represents the most comprehensive response to the problems enunciated above. The broad proposal would be establishment of a single funding source at regional level, with the regional health authority having a clear responsibility for the health status and health budget of a designated population. Total health funds would be set on the basis of a population based risk adjusted formula.

State and Federal governments would be responsible for broad policy guidelines, for national and state level programs, and health services research and support. Regions would be encouraged to set priorities on the basis of the cost-effectiveness of interventions, through the establishment of task forces or planning committees which would determine strategies to address broad health problems, one of which would be food and nutrition. The region would also have responsibility for empowerment of individuals and communities, to be monitored by active involvement in decisions about health service mix at a community and personal service level. (New Zealand has adopted a regional model for health promotion, but with the initiative to determine the impact.)

### **2 Extension to Medicare to include access to nominated nutrition related services**

A less radical option would be to extend reimbursements under the Commonwealth medical Benefits Schedule to include access to dietitian services and other nominated specialist nutrition services. Service access could be restricted to persons in nominated high risk groups (such as persons who are obese, with a history of gestational diabetes, those with impaired glucose tolerance, or NIDDM, or with CVD, a history of adenomas of the colon etc). This would improve access to specialist nutrition related services, and also potentially contribute to empowerment of individuals, depending on the philosophy of care of the allied health service providers.

### **3 Provision of dedicated funds for health promotion/adoption of healthy lifestyle**

One aspect that may need to be considered alongside any other initiative is the question of total funding to food and nutrition. It is agreed that insufficient resources are currently allocated to food and nutrition programs, the choices are to redirect resources from other program areas, or seek to raise additional revenue specifically to be allocated to health promotion, including the implementation of a food and nutrition strategy.

Redirection of existing resources is always problematic. A suitable vehicle for raising additional revenue for health promotion might be a public health/health promotion Medicare levy of 0.1%, which would raise ~ \$335 million.

### **4 Participation in existing trials**

A number of pilots are currently being implemented which are testing alternative health funding arrangements. These initiatives are designed to explore possible means of achieving a more flexible and responsive supply system. The major initiative is the joint commonwealth/State Coordinated Care Trial. This trial is testing a model which incorporates funds pooling based on historic health service use (and thus presumes budget neutrality), care coordination and an enrolled client group (who meet eligibility requirements defined around complex care needs). While the Trial Guidelines refer to

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consumer involvement, the Trial has not been established with consumer empowerment as an integral component, nor is the centrality of consumer involvement to efficiency acknowledged.

Another model is the joint Commonwealth/NSW/GP division, diabetes integrated care trial. This trial is testing the capacity of implement best practice care through GP training, introduction of standard data collection system and public sector provision of allied health services necessary for best practice care for persons with diabetes.

Measure and Share is another program designed to shift the health service mix. Under this program it is possible to negotiate the redirection of health care resources to an alternative program area, if a net saving in health care costs can be demonstrated (or predicted).

The Commonwealth's General Practice Program Grant Scheme is designed to improve integration of care and quality of care offered by GPs to enhance primary care. In practice, the Program has funded the extension of allied health services (particularly diabetes educators and other nurse educators), a response to the inadequate public sector supply of these services. Services are only available to health care card holders. The projects funded under this scheme are dependent on submissions received, resulting in a relatively arbitrary mix and distribution of services. Grants are for one year, with no mechanism for mainstreaming successful programs. The GP Program Grant Scheme, thus represents a partial and ad hoc response to health system problems. (Few dietitian services have been funded through this initiative.)

While features of these various programs and pilots are potentially relevant to food and nutrition, their focus on persons with established disease, and patient level services, suggests they could not provide a complete model. The exception is the coordinated care trials being developed in a number of Aboriginal and Torres Strait Islander (ATSI) communities which have a broader population focus, and a concern with population health as well as patient management. Furthermore, unlike the other coordinated care trials some additional funds are to be made available to these Trials. However, the capacity to extrapolate from the ATSI trials, which are more pertinent in that they have a community focus, is limited as they relate largely to remote communities and a population not typical of other communities.

Thus, we cannot be confident that any of the current pilots (which do not have a specific focus on food and nutrition), will enable conclusions to be drawn about alternative health system arrangements to facilitate the adoption of healthy food choices. This suggests the need to establish a specific pilot to address the health system issues pertinent to a food and nutrition strategy. The principle elements of a possible pilot are outlined below.

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## **7 A Possible Regional Nutrition Pilot: To Explore Health System Issues**

### **7.1 The Primary Research Question**

The essential research question for the Pilot is:

*How can health system reform be introduced, so that food and nutrition can become an integral part of the response to morbidity and premature mortality. Specifically what elements will simultaneously address the failure of inflexible supply response (the supply side problem) and empowerment (the dominant demand side issue).*

The requirement is to develop an initiative which would:

- 1 Increase supply choices and encourage a shift in health resources towards more cost-effective options, with a focus on the role for nutrition related interventions, and
- 2 Empower consumers as individuals and communities to take a greater role in health maintenance and in decisions about the mix of health services, they access as individuals and a community.

Some ideas concerning the desirable elements of an Integrated Nutrition Pilot, with a specific focus on health system issues have been prepared. The detailed elements of the Pilot would need to be carefully developed in consultation with health policy makers, nutritionists and others. Nutrition can have both short and longer term impacts, be focused on those with existing illness, at high risk and at the general population. A pilot incorporating a range of elements and target groups would best capture the diverse role of nutrition and enable exploration of several research questions.

An important question is whether a Pilot should have a population or patient focus. The proposal developed below, presumes a population/regional level focus, combined with the targeting of specific sub-groups. Nutrition has an important place in general health promotion and illness prevention, in normal development as well as in the management of existing disease. Thus a comprehensive nutrition pilot would ideally relate to the total population, those who are well, those at high risk, those with evidence of disease and those with advanced disease. The health status of a community, is then the ultimate test of the model, not just what happens to persons when they are ill. The region would logically be the focus for funding, priority setting, delivery and accountability. The aim would be to achieve a redirection of health resources applied within the region, specifically focusing on food and nutrition, to enhance health outcomes for the population as a whole (which includes those at high risk and those with established disease). A long term view is also presumed, but with the potential to combine short term target initiatives.

### **7.2 Components of a Possible Pilot**

The components of a comprehensive nutrition pilot could include:

- 1 **Definition of a region within which to pilot a comprehensive approach to nutrition.**

A region would need to be selected in which to implement the pilot (with the possible requirement for a control region as well). Attributes pertinent to selection may include: an expressed interest at the state, regional, community level, evidence of the role for a food and nutrition (and related lifestyle) strategy, distinct regional boundary.

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## **2 Specification of population focus and target sub-populations.**

It is expected that the focus of the Pilot would be the entire population of the region, combined with nominated high risk sub-groups most likely to benefit, from the adoption of healthier food choices. Ideally some sub-groups could be identified where capacity to demonstrate gain (in health outcome), is achievable in the short to medium term. The population focus would encourage broader health promotion activity and activities for healthy development (mental and physical). It would be expected that different program components would be required at the population level and for the nominated target groups.

Possible target sub-groups would include:

- persons with impaired glucose tolerance or non-insulin dependent diabetes;
- persons with evidence of heart disease, and to support cardiac rehabilitation post major heart event/heart surgery;
- persons with high cholesterol;
- persons on anti-hypertensive medication;
- persons who are obese (eg as measured by BMI>30 or waist measurement above x cm for women and y cm for men);
- persons at high risk of colorectal cancer, eg as evidenced by finding of adenoma of the colon.

## **3 Develop and implement a mechanism to identify health service priorities and to achieve desirable resource shifts.**

For example, establish a regional task force incorporating representatives from public health, acute health, rehabilitation, aged care, developmental (infant welfare, maternity etc), to jointly establish priorities in provision of nutrition related services, identifying the relevant contribution from each sector.

Identify both long term population strategies as well as options for budget neutral shifts, (or where there is the possibility for resource savings in the short to medium term). This may apply to some cases with established disease, where nutrition/lifestyle support would be an alternative to conventional management, or would be expected to reduce the rate of disease progression and need for down stream care. This may include the use of non-drug management of hypertension, with potential savings of over \$300/year/person on anti-hypertensive medication. It could also include nutrition/lifestyle advice for those at high risk of colorectal cancer, which may reduce the progression to cancer and attendant costs but also reduce the frequency of colonoscopy, (an unpleasant procedure with a definite morbidity), an expensive procedure. Cardiac rehab, incorporating lifestyle advice, has also been found to substantially reduce the risk of repeat events.

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#### **4 Extend access to best practice nutrition education services.**

Ensure extension of access to best practice nutrition education to support adoption of healthy food choices and a healthier lifestyle. The nature of services that are most needed and the level at which they should be provided would need to be determined (as part of work or regional task force). With provision designed to support best practice protocols for the management of the targeted high risk groups. The types of services that may justify expansion, would be expected to include dietitians, multidisciplinary nutrition service (staffed by dietitian, nurse educator, endocrinologist, psychologist, ethnic/cultural adviser).

Decisions would need to be made about whether nutrition education/support services would be available as primary care, that is through self initiation, or via referral. One option would be for dietitian services to be accessed as primary care and multidisciplinary team via referral from a dietitian.

#### **5 Payment/funding**

Suitable funding arrangements would need to be devised. A new approach may be taken to the funding of all health services within the region, for instance with the adoption of a risk adjusted population based formula, or to reflect historic expenditure, but desirably to pool funds contributed by the HIC, hospital, HACC, aged care, disability and community services.

Alternatively status quo funding, may be retained with specific funding identified for specific nutrition services. The net impact on total health service use could be monitored to establish net resource effect. The hypothesis is that over time, some reduction in use of traditional medical services would occur, through the direct replacement of medical management with nutrition based management. In the longer term, resource shifts would be expected, with savings in medical and hospital costs through a reduction in disease progression and associated costs of management, with the adoption of more healthy food choices and lifestyle behaviours and empowerment of individuals and the community.

Status quo funding, but with specific trade-offs, for example as provided through the Measure and Share Program, with nutrition services funded in anticipation of projected reduction in use of other health services, is another option, which explicitly relies on the expected resource shifts between health service type.

Regardless of the broad funding model decisions would need to be made about means of payment for nutrition services. This could be on a fee-for-service basis; with service defined by a visit, a time based fee, or number of clients. It may be desirable to define what associated performance criteria would be.

#### **6 Training for primary health care providers (especially GP's)**

A training and accreditation program for specialist nutrition services, as well as for associated health professionals particularly GP's is another possible program element. Training would ideally cover the role of food choices in disease incidence, development of complications and recovery, elements of a desirable diet and other healthy lifestyle attributes and information on specialist nutrition services that could be referred to. A training program may also need to cover behaviour change philosophy and models, with a particular emphasis on empowerment, as a means to support behaviour change, and as a direct influence on health outcomes and wellbeing.

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## **7 Mechanism for empowering individuals and communities to support improved self efficacy and positive lifestyle change.**

Possible mechanisms for empowering individuals and communities may include, training of health professionals (see above), community based empowerment programs, greater access to allied health staff more likely than medical practitioners to support an empowerment philosophy.

## **8 Community level interventions.**

A range of community/regional level initiatives would be developed, which may include publicity, programs to support empowerment, work with the food manufacturing and retail industry etc.

A simpler pilot, with a focus on supply options, would be to extend Medicare coverage for professional services to cover also dietitian services available through the CMBS. Access could be restricted to eligible groups deemed at highest risk from illness for which nutrition is an established modifiable risk factor. This would be designed to allow the nominated clinical sub-groups to access best practice care through Medicare funded services. To extend such services for instance to those with identified cardiovascular disease, diabetes, obesity, would cover a sizeable proportion of the adult population.

### **7.3 Monitoring/Evaluation**

A commitment to evaluation would be important, to ensure lessons were learned from the Pilot. The primary research questions are:

- What is the effect on elements of behaviour, such as food choices, other aspects of lifestyle, involvement in decisions making about health and lifestyle;
- What is the effect on clinical parameters, quality of life, morbidity and mortality (consider, short term, medium term and longer terms impact);
- What is the impact on health service use, what are the nature of resource shifts between program types and what is the impact on total health service use;
- What is the role of individual and community empowerment;
- What elements contribute to and inhibit a successful outcome.

In short, a comprehensive Pilot would ideally provide through the evaluation and monitoring program evidence about how to structure, implement and deliver a successful food and nutrition strategy.

An appropriate evaluation methodology would need to be devised. This is far from straightforward. A randomised control group design is not possible if the Trial were to be implemented at the regional level. More generally the larger the number of changes being made the more difficult to isolate the impact of particular features. Evaluation methods to explore comprehensive community/individual initiatives are not well developed.

If there is a view that a comprehensive food and nutrition Pilot may be a way to proceed, then a program development phase would need to be supported. The purpose of the program development phase would be to develop the key elements of the Pilot, to establish the extent of support at regional, state and commonwealth level, and across program areas, design elements.

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