A STUDY OF THE PRESENT AND POTENTIAL CONTRIBUTION OF DIETITIANS TO HEALTH CARE IN AUSTRALIA

by

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ABSTRACT

This study was undertaken to determine the present and potential contibution of dietitians to health care in Australia. Data were collected from three separate surveys conducted over a 15 month period from September 1984 to December 1985. The first survey, a National Workforce survey, provided a profile of the demographic and employment characteristics of the dietetic profession in Australia. The second survey was undertaken to determine the role of the dietitian as perceived by dietitians themselves and in the third survey a group of general practitioners was surveyed to determine what they perceived to be the role of the dietitian and to what extent they utilised the services of dietitians.

Results of the surveys suggest that dietitians in Australia are not realising their full potential contribution to health care. Firstly, there are too few dietitians in Australia and it is unlikely, despite the best intentions, that the profession will be able to meet consumer need and demand for nutritional care and education. There was considerable disparity between what dietitians considered to be their ideal role versus their actual role. Role disparity among dietitians was highest for professional development, education and research activities and low or moderate for nutritional care activities. A lack of time was most frequently cited as the major deterrent preventing dietitians performing activities which they perceived to be part of their ideal role.

The results of the third survey indicated that in general, the doctors surveyed had favourable opinions of dietitians but that they held rather traditional views of the role of the dietitian, expecting them to be more involved in food preparation and service than dietitans expected to be. This general lack of awareness of the role and expertise of dietitians and their potential contribution to health care is likely to lead to an under-utilisation of the full range of services provided by dietitians as evidenced by this study.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

CHAPTER 1

INTRODUCTION

1.1 STATEMENT OF THE PROBLEM

It is generally accepted that nutrition has a major impact on health. While the exact nature of the linkages between nutritional factors and health are not fully understood for some conditions, there is a broad consensus that diet, nutritional status and eating habits are significantly related to health status (Tolpin, 1980). The Better Health Commision (1986a) noted the relationship between diet and a number of diseases and conditions such as coronary heart disease, hypertension, stroke, diabetes mellitus, gallbladder disease, osteoporosis and some forms of cancer. Unlike third world countries where frank malnutrition exists as the main nutritional problem, the major nutritional problem of Australia today is one of over-nutrition, or excessive consumption.

The cost of poor nutrition is high, both in terms of human suffering and health care expenditure. In this country, hospital and medical costs associated with diet-related diseases were estimated to be $3300M and $1400M respectively during 1983-1984 (Commonwealth Department of Health, 1985). Nutrition is recognised as one of the key factors in promoting health and wellness. Estimates by the U.S. Senate Select Committee on Nutrition and Human Needs (1977) indicated that improved nutrition might cut that nation's health care costs by one third. Applying the U.S. estimates to the estimated 1984-1985 Australian health expenditure, an improvement in nutrition would have resulted in a savings of approximately $5 billion in the cost of health care. A figure which, as the Nutrition Task Force of the Better Health Commission (1986b) pointed out, was coincidentally equivalent to the nation's total projected deficit for the 1985-1986 financial year.

Along with the recognition by the scientific and medical communities of the importance of nutrition in relation to health, consumer interest in nutrition has soared. Unfortunately, this consumer interest is not always fuelled with reliable information. To combat the confusion created by the nutrition misinformation disseminated by so called "nutrition experts", the Nutrition Task Force of the Better Health Commission (1986b) identified the need of all Australians to have access to nutrition education.

Dietitians have a major contribution to make to the health of the Australian population and the potential to significantly reduce health care costs. They are members of the only profession whose primary concern is the nutritional health of people. By virtue of their unique training they are the experts in nutrition and are the profession best suited to the task of providing nutrition care and education. However, despite the best efforts of the profession, it is unlikely that consumer need and demand for nutrition education will be able to be met by the existing dietetic workforce, now, or in the near future.

The dietitian is a recognised and respected member of the Health Care Team. However, comparison of the number of dietitians employed per million population with other Allied Health Professions, both within Australia and between Australia, Canada and the United States, indicates that the dietetic profession is under-represented in this country (Table 1.1).

Table 1.1

Distribution of Allied Health Professions

	Aust (1978)	Can (1978)	USA (1978)
	(No. per 1 000 000 population)		
Dental therapists	56	147	149
Dietitians	32	132	138
Occupational therapists	89	60	98
Pharmacists	377	674	640
Physiotherapists	185	134	135
Podiatrists	77	11	34
Speech pathologists	35	55	113

Source : Binns, C.W. (1983)

While there has been some improvement in the dietitian to population ratio in recent years, there is still a gross under-supply of dietitians in Australia today. There are approximately 1000 qualified dietitians in this country which means there are still fewer dietitians per million population than in other Western countries with comparable diet-related health problems. A recent survey (Dietitians Association of Australia, 1984) revealed the following figures: Australia had 51 dietitians per million population; New Zealand, 115; Canada, 140 and the United States, 220 . Furthermore, as a result of uneven geographic population distribution, some rural areas are disadvantaged even further.

The small number of dietitians practising in Australia is a matter for concern given the recognised importance of nutrition in the area of health promotion.

1.2 SIGNIFICANCE OF THE STUDY

This study was undertaken to determine the present and potential contribution of dietitians to health care in Australia. To achieve this aim it was first necessary to conduct a National Workforce Survey of all qualified dietitians in Australia. Results from this survey were used to provide a profile of the demographic and professional characteristics of the dietetic profession in Australia. With the exception of basic membership statistics collected on a yearly basis by the Dietitians Association of Australia, no similar data had previously been collected in Australia.

Similar data relating to the dietetic profession in the United States were first published in 1962 (American Dietetic Association, 1962). The stated purpose of that survey was "to know more about our membership so that program planning on both the national and state levels could be carried out". Since this time, membership data has been collected by the American Dietetic Association at regular intervals to provide a basis for planning legislative initiatives and further research as well as information on trends in the profession (Baldyga, 1983).

In order to determine the contribution of dietitians to health care in Australia it was first necessary to establish the role of the dietitian. Over the past 10-15 years a number of studies have emerged from North America related to the role of the dietitian and their contribution to the health care team (Calvert et al, 1982; Schiller, 1984; Schiller and Vivian, 1974a, 1974b; Schwartz, 1981, 1984 and Spangler, 1974). The major purpose of these studies had been to determine the activities, responsibilites and qualities which comprise the role of the dietitian.

As there was no similar information concerning Australian dietitians, there was a need to survey the profession in Australia. A second, smaller group of dietitians was surveyed to determine what they perceived to be the ideal and actual role of the dietitian in Australia. In addition, they were asked to indicate any obstacles which they considered prevented them from performing their ideal role. A group of General Practitioners was also surveyed to determine what they perceived to be the contribution of dietitians to the Australian health care system and to what extent they used the services of qualified dietitians.

1.3 DEFINITION OF TERMS

Dietitian : A professionally qualified person who applies nutrition knowledge in the treatment and prevention of human illness, in accordance with scientific principles (Dietitians Association of Australia, 1985b).

Dietetics : A profession concerned with the science and art of human nutritional care which includes the extending and imparting of knowledge concerning foods which will provide nutrients sufficient to health and during disease, and the management of group feeding (Dietitians Association of Australia, 1985b).

Nutrition: The science of food, the nutrients and other substances therein, their action, interaction and balance in relation to health and disease and the process by which the organism ingests, absorbs, transports, utilises and excretes food substances, together with a study of the social, economic, cultural and psychological factors which affect nutritional status (Council on Foods and Nutrition, American Medical Association, 1963).

Nutrition education: A multidisciplinary process that involves the transfer of information, the development of motivation and the modification of food habits where needed (Leverton, 1974, p17).

Workforce: The total number of workers (i.e. qualified dietitians) engaged in, or available to work in the profession (The Oxford Paperback Dictionary, 1979).

1.4 ABBREVIATIONS

ADA: American Dietetic Association

ABS: Australian Bureau of Statistics

DAA: Dietitians Association of Australia

NHF: National Heart Foundation

CHAPTER 2

REVIEW OF THE LITERATURE

2.1 EVOLUTION OF DIETETICS IN AUSTRALIA

The term "dietitian" was first coined in 1899 in the United States. This term was applied to a person who specialised in the knowledge of food and diet therapy (Johnson, 1977). The "cooking schools" were the training ground for the early dietitians, who were concerned primarily with proper food preparation and the feeding of the sick. With the advent of World War I greater emphasis was placed on therapeutics and the feeding of hospitalised soldiers and people under wartime conditions. By this time the profession of dietetics was firmly established in North America with most large hospitals employing dietitians.

Victoria during the late 1920's was the first state in Australia to realise:

> "the growing need in hospitals for separate diet kitchens and for people with specialised knowledge of food and food service to supervise these kitchens."
>
> (Dietitians Association, Victoria, 1960)

McNaughton (1985) in a review of dietetics in Victoria suggested that the catalyst for this interest was a visit to Melbourne in March 1924 by a group of American doctors who were holidaying in New Zealand and Australia. Their leader was William Mayo of the Mayo Clinic. Two other members were Dr Franklin Martin and Dr Malcolm MacEachern of the American College of Surgeons. This group visited the major hospitals in Melbourne making comments on administration to the State Government and to medical staff. The group obviously made an impression as Dr MacEachern was later appointed by the Government to act as a consultant for a short period from 12 December 1925 to 31 January 1926. During this time he once again visited the major

hospitals in Melbourne and made a number of recommendations for improving hospital management. One of which was the recommendation that each general hospital should employ at least one qualified dietitian to every 100 hospital beds.

Dr MacEachern was already the champion of dietitians in America. Johnson (1974, p609) even went so far as to describe him as the father of administrative dietetics, "for his encouragement gave dietitians the will to demand and fulfill their total responsibilities in the administration of the hospital food service".

The House Committee of Alfred Hospital acted immediately on Dr MacEachern's recommendation and on 3 February 1926 decided to create a position for a dietitian. However, as MacNaughton (1985) pointed out, the committee did not appear to be in a hurry to appoint the dietitian and it was not until early 1930 that the position was actually filled. As dietetics was a new field in Australia, it was necessary to "import" a dietitian from America. Later dietitians employed in Victoria were Australians with either a nursing or domestic science background who completed in-service training in America.

Other states were quick to follow the example of Victoria and a dietitian was next employed in Tasmania (1933) followed by New South Wales (1936), Western Australia (1939), Queensland (1943), South Australia (1947), the Australian Capital Territory (1951) and the Northern Territory (1953) (Craig 1981, cited Rogers 1983, p 34).

These first dietitians were generalists and their responsibilities included food service administration and nutrition education, with the emphasis on the education of nurses. Following World War II, as the science of nutrition

advanced, there was a shift to a greater emphasis on clinical nutrition and therapeutics.

The first hospital-based training course was introduced in Victoria in 1931, a little later in New South Wales in 1936 and in Western Australia in 1947 (Dietitians Association of Australia. Personal Communication, 1986). At this stage the education and training of dietitians varied from state to state and students mainly had a nursing or domestic science background. While these students were described as hard working, there was some concern that their training in both sciences and administration had been too elementary (MacNaughton, 1985). However, it was not until 1953 that there was a move by the Australian Dietetic Council to standardise minimum training standards on a national basis. A degree from a recognised university including basic science, physiology and biochemistry was prescribed as this standard. However, not all Australian dietitians could achieve this (Rogers, 1983; Wood, 1986). Professional training remained with the hospitals and the issue of standards of training was divisive in the profession until 1975 when the training of all dietitians was transferred to the Universities and Tertiary Colleges (Wood, 1986). At this stage training courses were introduced in Queensland in 1975 and South Australia in 1976 .

The name dietitian was traditionally given to someone who worked in a hospital. However, as the dietitian's role has evolved over the last 50 years or so, the type of positions which are held by dietitians have multiplied. Rogers (1983) considers that dietetics in Australia evolved in four distinct stages. Stage one was the 1930's which saw the recognition of the need for dietitians and the employment of the first dietitians.

The second stage occurred in the 1940's and 1950's, which saw "increased affluence, less concern about undernutrition and the expansion of clinical nutrition and nutrition education" (Rogers, 1983, p34). Then, as now, there was a severe shortage of dietitians and many dietitians relinquished their role as food service administrators. While some dietitians were appointed to the New South Wales and Commonwealth Departments of Health in public health positions, emphasis was on therapeutic dietetics.

Stage three was set in the 1960's and 1970's, which saw the number of dietitians grow. Not only was there a growth in the hospital role but the 1970's saw a new emphasis on community health with several community positions being created for dietitians (Craig, 1983). As evidence emerged supporting the role of optimal nutrition in health promotion, the community was recognised as an appropriate arena in which dietitians should work. However, no definition of professional responsibilities or relationships to other health professionals were provided and dietitians were expected to fit in with regionalisation of health care. According to Craig (1983) the result was fragmented services, where dietitians were expected to 'cope with contingency problems'. While many of these positions subsequently lapsed there has been a recent resurgence in interest in community nutrition in some states (Reynolds, 1986).

Other areas of employment were also opening up during this stage and the first food industry positions were created in the late 1950's and early 1960's (Stone, 1986). Dietitians were also being employed in tertiary education, research positions and establishing themselves in private practice as consultants in the clinical field or as writers and educators.

During this time the leaders of the profession recognised the need for a national association of dietitians to represent the profession nationally and internationally. In 1950 the Australian Dietetic Council was formed which, for a number of years, acted as a link between the States. However, in 1967 a move was begun for the formation of a national association which actually came into being in 1975. At first this was called the Australian Association of Dietitians but, the States continued to have separately incorporated State associations. In 1983 the name was changed to the Dietitians Association of Australia at which time State associations were dissolved and incorporated as branches of the Dietitians Association of Australia (Clements, 1986).

Stage four, the late 1970's and early 1980's saw the dietetic profession take on a more political role. For example, members of the profession were instrumental in developing, with the Commonwealth Department of Health, the Dietary Guidelines for Australians, which were announced in 1979. Wood (1986) saw this as being a professional milestone but unfortunately the profession did not market this achievement effectively and received little recognition for it. In 1982 the Australian Association of Dietitians drafted a discussion paper - "A statement of the need for a national nutrition education policy and program" which was widely distributed in an attempt to ensure that individuals and groups received adequate nutrition education.

The 1980's saw the profession lobby the Health Insurance Funds for the provision of a rebate for clients referred to private practising dietitians for nutritional care. These efforts were successful and by 1984 almost all Health Funds were providing such a rebate. Medicare was also introduced by the

Government in 1984 and once again the profession lobbied the Government to recognise the benefits of nutrition and provide for dietetic services under their scheme (DAA, 1985c).

Since the employment of the first dietitian in 1930 to today, a period of less than 60 years, a number of significant changes have occurred in the dietetic profession in Australia. The traditional role of the dietitian as a food service administrator with responsibilities for feeding the hospitalised patient has multiplied and diversified. A work shop held by the Australian Dietitians Association in 1980 (AAD, 1982b) identified a much wider variety of roles for the dietitian which included nutrition education, consultancy, research, nutrition planning, administration and management and advocacy. In addition the definition first used to describe the dietitian must be expanded. Today's dietitian, in addition to a knowledge of food and diet therapy, must possess education, communication, managerial, political, research and evaluation skills.

2.2 DIET, NUTRITION AND HEALTH

"Nutrition is concerned with what we eat and how this relates to our state of health. A nutritious diet which supplies a balanced intake of food energy and nutrients is

. essential to good health;

. a key factor in both the prevention and recovery from illness;

. essential for satisfactory growth and development and successful pregnancy and lactation; and

. a major factor affecting quality of life."

(Commonwealth Department of Health, 1985, p83)

Evidence continues to mount which implicates faulty diet and nutrition as having a major impact on morbidity and mortality in the Australian population (Hetzel,1983; McMicheal, 1985; Truswell, 1979 and Zimmet et al, 1986). It is widely accepted that diet-related disease accounts for approximately 60 per cent of deaths in the Australian population (Commonwealth Department of Health, 1985). This figure was originally calculated from the percentage of deaths caused by diseases which have been positively linked to diet. These included :

ischaemic heart disease,
some malignant neoplasms,
cerebrovascular disease,
diabetes,
cirrhosis of the liver,
alcoholism and
specific nutritional diseases.

Table 2.1 summarises the major causes of mortality and morbidity in Australia today and their known immediate risk factors. It can be seen that diet and alcohol are implicated in the majority of conditions. Other diet-related conditions not shown in Table 2.1 include obesity, constipation, haemorroids, dental caries and various eating disorders, liver cirrhosis and some mental disorders caused by the excessive consumption of alcohol (Better Health Commission, 1986a).

Table 2.1

Major causes of mortality and morbidity and their associated behavioural and environmental risk factors

Cause	Factors influencing risk
Coronary heart disease	Smoking, hypertension, blood lipid levels, **diet**, exercise, relative weight
Stroke	Hypertension, **diet** (?), smoking (?), oral contraceptives plus smoking (young women)
Lung cancer	Smoking, occupational exposures
Breast cancer	Reproductive history, body weight, **diet**
Malignant melanoma and skin cancers	Patterns of sunlight exposure
Motor vehicle accidents	**Alcohol** consumption, driver's skill, vehicle safety, road conditions
Other accidents, poisoning and violence	**Alcohol**, social and psychological factors, environmental conditions at home, work amd leisure
Suicide	Social and psychological factors
Chronic lung disease (bronchitis,emphysema)	Smoking, occupational exposure to dusts, fumes etc
Diabetes Mellitus	**Diet**, relative weight, physical inactivity
Gallstones	**Diet**, reproductive history, oral contraceptive usage
Osteoporosis (occurs mainly in women)	**Dietary calcium deficiency, other dietary imbalances**, physical inactivity
Infertility, pelvic infection	Casual sexual activity by men or women

Source: Better Health Commission, 1986a, p31

2.2.1 Cardiovascular Disease

Cardiovascular disease accounts for approximately 50,000 deaths a year or 50 per cent of total deaths in any one year and is a major cause of unnecessary and premature deaths. Most Australians are at an unacceptably high risk of developing cardiovascular disease, particularly coronary artery disease.

Certain factors are known to increase the risk of heart and blood vessel disease. Of greatest preventive importance are:

raised blood cholesterol level

cigarette smoking

high blood pressure

overweight

physical inactivity

The first three factors are the most powerful independent contributors to cardiovascular disease. Overeating and physical inactivity contribute to overweight and overweight people, in turn, tend to have high blood pressure and high blood cholesterol levels (Better Health Commission, 1986a).

Poor eating habits that lead to overweight and high blood lipids are therefore risk factors. Various studies have implicated dietary fats, fibre and alcohol as determinants of blood lipids and total energy intake, salt, fats, alcohol and other factors as determinants of blood pressure (McMichael, 1985).

While Australia has, in the past 15 years, experienced a dramatic decline (by almost 40 per cent) in mortality from ischaemic heart disease and myocardial infarction (Leeder and MacMahan, 1985), a large proportion of the Australian population is at risk of developing cardiovascular disease.

The 1983 Risk Factor Prevalence Study, conducted by the National Heart Foundation in association with the Commonwealth Department of Health, revealed that 42.6 per cent of males and 35.1 per cent of females aged 25-64 years were overweight or obese (NHF, 1983). These conditions usually increased with age. At 35 years there was a noticeable increase in the prevalence of men who were overweight or obese. On average 49 per cent of men this age were overweight or obese and the prevalence of obese men almost doubled after 40 years of age. In women the prevalence of overweight and obesity increased with age to a plateau of 50 per cent between 50 and 64 years with approximately 12 per cent of women between the ages of 40 and 64 years being obese.

The problem of obesity is not confined to the middle-aged Australian. Recent studies conducted across Australia would suggest that the problem may have its origins in childhood or adolescence (Binns and Caffin, 1980; Coy, 1980; Dugdale and Lovell, 1981 and Simons et al, 1982). As many as 10-25 per cent of children and adolescents may be overweight or obese.

The 1983 Risk Factor Prevalence Study reported that 19 per cent of men and 21 per cent of women (not taking the contraceptive pill) had plasma cholesterol levels at or above 6.5 mmol/l, a level at which treatment is recommended (NHF, 1983). The risk of coronary heart disease can be shown to rise as cholesterol levels rise. The effect however, is not linear with the greatest rate of increase in risk occurring above a blood cholesterol level of about 5.7 mmol/l. High intakes of saturated fat and of dietary cholesterol increase the blood cholesterol while polyunsaturated fats, plant sterols and some viscous types of dietary fibre lower it.

The 1983 Risk Factor Prevalence Study also showed that one in six men and one in eight women had high blood pressure. Of these 50 per cent of men and 32 per cent of women were not currently being treated for their hypertension (NHF, 1983). Not only is hypertension a major independent risk factor in the development of coronary heart disease but it is also a primary cause of cerebrovascular disease (stroke). Cerebro-vascular disease in Australians aged 30 to 64 in 1980 was responsible for 7.3 per cent of all deaths (NHF, 1982). High salt intakes and obesity have been implicated in the aetiology of hypertension and cerebrovascular disease (Hetzel, 1983 and Zimmet et al, 1986).

2.2.2 Cancers

Malignant neoplasms (cancers) are the second leading cause of death in Australia, causing approximately 22 per cent of total deaths (Armstrong, 1985). Over the past 10 years diet has been increasingly implicated in the aetiology of cancer. While the consumer is concerned with contaminants and additives in the Western diet, these have relatively little influence on carcinogenesis and it is dietary imbalances, particularly excesses, which appear to be of the greatest concern. McMichael (1979) estimates that 65 per cent of cancer in women and 40 per cent of cancer in men is related to diet. Overnutrition, specifically dietary fats, highly salted and pickled foods and diets low in vitamins A and C and fibre have been correlated with major cancers such as breast cancer and gastrointestinal cancers.

2.2.3 Diabetes Mellitus

Approximately three per cent of the adult Australian population suffers from diabetes mellitus (Better Health Commission, 1986b). While a primary aetiological role for specific nutrients, particularly carbohydrate, in the

production of diabetes is unlikely (Mann, 1982), dietary factors may have a role in precipitating diabetes in a genetically susceptible person.

There is general agreement that obesity is a strong risk factor in the development of Type 2 or non-insulin dependent diabetes (NIDDM). According to Hetzel (1983) 90 per cent of diabetes is associated with overweight. While several studies support a cause-effect relationship between obesity and NIDDM, this is not the case in all the populations studied. The impact of obesity as a risk factor appears to vary among different populations and between sexes within populations (Zimmet et al, 1986).

Recently there has been renewed interest in the report by Vague in 1956 (Cited in Zimmet et al, 1986, p257) that diabetes is associated with android obesity. In android obesity, adipose tissue is deposited primarily around the trunk region. Vague's theory is supported by a recent prospective study from Sweden which has shown a significant association of abdominal adipose tissue with the risk for diabetes that is independent of the degree of obesity. According to Zimmet et al (1986) it would appear that obesity is not always associated with the development of diabetes but that obesity precipitates NIDDM in certain high risk subgroups such as those individuals with abdominal obesity as well as those who are genetically susceptible to diabetes.

2.2.5 Obesity

The fact that approximately 50 per cent of adults over the age of 40 years of age are overweight or obese is a cause for concern. Not only is obesity directly associated with the risk of cardiovascular disease but obesity is a risk factor for both hypertension and diabetes and may therefore also mediate indirectly its effect as a risk factor for cardiovascular disease (Zimmet et al, 1986). Obesity also contributes to a number of other major disorders namely,

gallbladder disease, psychosocial disability and musculoskeletal disorders (particularly those involving the weight bearing joints). Van Itallie (1979) listed an extensive number of other conditions associated with obesity which include renal disease, liver disorders, ventilatory defects, venous stasis and thromboembolism, gout and (in obese women) endometrial and possibly breast cancer. In addition, obese persons are believed to sustain a greater than normal risk from surgery, anaesthesia and accidents and to exhibit abnormally high rates of employee absenteeism. Obese women have a higher than normal incidence of menstrual irregularities and obstetrical complications.

2.2.5 Alcohol related disorders

Australia has the dubious distinction of being the heaviest consumer of alcohol outside Western Europe and the heaviest amongst the English speaking countries in the world (Hetzel, 1983). A number of health disorders are related to alcohol consumption including cirrhosis of the liver, fetal alcohol syndrome (FAS) and permanent brain damage. The rate of deaths from cirrhosis of the liver, more than half of which are believed to be related to alcohol, increased by 72 per cent in the 10 year period 1965 to 1974. This steep increase reflects the increasing level of alcohol consumption over the same period.

Numerous clinical, epidemiological and experimental studies have implicated alcohol as a teratogenic agent (Hetzel, 1983). Early pregnancy is the period of particular risk to the fetus. Characteristic developmental defects observed in infants born to mothers who had been drinking heavily during their pregnancy include growth retardation, microcephaly, physical and mental retardation and typical facial anomalies (Collins and Turner, 1978). The frequency of children with FAS born to chronic alcoholic mothers is considered to be approximately 40 per cent.

2.2.6 Diseases of the large intestine

Diet was first implicated in the aetiology of certain disease of the large intestine when Painter and Burkitt (Cited in Mann, 1982, p1) postulated that a number of diseases common to Western civilisation were caused by a lack of fibre in the diet. The list of diseases included diverticular disease of the colon, constipation, haemorroids and varicose veins, appendicitis, hiatus hernia and also obesity, diabetes and coronary heart disease.

Constipation due to lack of fibre in the diet is one of the commonest of health disorders, especially amongst the elderly. This group in particular are heavy users of laxatives. The 1977-1978 Australian Health Survey revealed that 15 per cent of people over the age of 65 years used laxatives regularly (ABS, 1979). Constipation is a major problem in geriatric wards and nursing homes and laxatives are in constant use. A high fibre diet, or simply treatment with bran relieves most cases of constipation and reduces the need for laxatives and thus associated costs (Royal College of Physicians, 1980).

In Western countries, diverticula start to appear in 30 year olds and by old age they affect 50-70 per cent of the population (Heaton, 1983). The condition is still rare in developing countries. Colonic diverticular disease is an accompaniment of the aging process but is of no concern itself. When complicated by constipation it is called symptomatic and a high fibre diet or coarse wheat bran, 15-30 g a day, will decrease symptoms (Eastwood and Passmore, 1984).

This discussion of the relationship of nutrition to the health of the Australian population has been confined to those major diet-related diseases which affect a large proportion of the population. It is not within the scope of this paper to discuss at length those groups which have been identified as being nutritionally

vulnerable - infants and children, pregnant and lactating women, the elderly and socioeconomically disadvantaged, migrant and aboriginal populations. These groups constitute special sub-groups in the Australian population who are at nutritional risk and as such add to the strain on the health care system.

2.3 DIETETIC MANPOWER

Manpower is one of three basic resources in health services - the other two are physical facilities and technical knowledge. In Australia, only minimal formal attention has been given to the manpower resources of the health services or rather, interest has been focussed on the other resources, physical facilities and technical knowledge (Sax, 1975). Yet it is the available health manpower as a resource that more often determines what health services are available. It has long been assumed that increasing health manpower will increase availability and accessability of health care and thus the overall health of the nation. While research does show that the amount of health care consumed by society and consequently costs does depend on the number of health practitioners they may in fact have no effect on the health outcome to the patient.

The number of health professionals employed in Australia has expanded markedly over the last 20 years or so. The rapidity of this growth far exceeds the rate of population growth (Health Manpower Studies Group, 1978). This group in studies of a number of health professions showed that the rate of increase of these professions through successful completion of the educational program exceeded professional attrition. This increase in manpower also occurred without an apparent increase in productivity. That is, over this same time period hospital bed numbers had not increased significantly and the occupied bed days per 1000 population had only increased marginally. However, while these results suggested that there was no apparent increase in productivity there may have been an improvement in quality of care. Given

that wages form a major portion of the health care budget, careful consideration must be given to health manpower supply and demand.

Most research into health manpower has focussed on distribution and not needs and demands. This is easily understood as it is far easier to collect data on supply from professional registration boards and associations than it is to determine and predict community needs for health care. Forecasting requirements is complicated by health care expectations, technological advances, the incidence of disease and disability and changes in income and lifestyle (Barker, 1980).

Nevertheless, health manpower statistics are vital to health planning. Education authorities need to have indication of the probable numbers and types of health personnel that will be required and of the extent to which their future work roles will change. Health service administrators must have some knowledge of the likely availability of manpower for present and future health planning and they must be aware of the factors that influence untilisation. Professional associations and bodies must have knowledge of the types of positions held by their members and their responsibilities so that continuing education needs of members can be planned for.

Dietetic manpower information is scarce and often sketchy. A search of the professional literature from 1966-1986 uncovered few articles dealing with this topic, the majority of which originated from the United States. With the exception of membership statistics collected on a yearly basis by the Dietitians Association of Australia, no comprehensive workforce study had been conducted in Australia at the time that this study was initiated. Since this time some additional information has been published (Boyce and Jackway, 1985) or become available (DAA , 1986a). This data is still of limited value as it

deals only with current dietetic staffing levels in Australian hospitals and does not consider the needs of, or provision of services to, other areas of the health care system, specifically community and private health services.

In 1973 the Committee on Health Careers (Personnel and Training) was established by the Commonwealth Minister for Health with the following terms of reference:

> To make recommendations to the Hospitals and Health Services Commission on:
>
> . the manpower requirements of Australian health care delivery systems;
>
> . the range, nature and location of the training appropriate to the health care careers required in Australian health care delivery systems.
>
> (Sax, 1975)

The Committee made recommendations for interim manpower targets for several allied health professions (Table 2.2).

Table 2.2

Allied Health Professions Manpower Ratios: Interim Targets

	Interim Target per 10 000 population
Pysiotherapists	2
Occupational therapists	1
Optometrists	1
Chiropodists	0.7
Speech pathologists	0.5

Source: Sax, 1975

While no such interim target was set for dietitians recent figures quoted by the Dietitians Association of Australia (1984) fall far short of targets for most of the other health professions. In 1983 there were estimated to be 51 dietitians per million population or just over 0.5 dietitians per 10 000 population.

The Committee found that in general, major hospitals in State capital cities were well staffed with dietitians but smaller metropolitan and country hospitals suffered considerably from lack of staff and relied in many instances for dietetic services on part-time or relieving staff or on advice from larger hospitals. Relatively few dietitians were employed in Public Health Services or in Community Health activities.

In the hospital setting a staffing ratio of 1 dietitian per 100 acute general beds and one dietitian per 200 long-stay beds was adopted by the Committee as a provisional target and at that time could be achieved from existing personnel and those undergoing training. The number of staff required for dietetic services other than in institutional settings could not be assessed until the degree and nature of their involvement had been established.

At this point of time, in 1987, little has changed, a ratio of one dietitian per 100 general hospital beds is still being recommended as a desirable staff:patient ratio. This is the same staffing ratio recommended by Dr MacEachern to the Victorian government in 1926. A 1982 position paper by the American Dietetic Association refers to a 1935 textbook by MacEachern on hospital management and organisation : "It is believed that to supervise and direct the food service of a hospital it is necessary that there be a ratio of one dietitian to every 100 patients." It is unclear and unlikely that this recommendation includes an allowance for nutritional assessment and counselling of patients. However, as Boyce and Jackway (1985) pointed out, what is clear is that

dietetic practice and the responsibilities of dietitians have grown dramatically in the 50 years since this recommendation. They contended that this figure has never been subjected to critical appraisal but has now acquired a life of its own through constant repetition.

Boyce and Jackway (1985) conducted a survey of dietitians within Australian general hospitals to determine the current staffing patterns and the perceived staffing needs. Regression analysis of their data showed that the national staffing figure was one dietitian per 111 beds. However, their study also showed that 83 per cent of hospital dietetic departments were unable to provide even a 'basic level of service' with their present level of staffing. If these departments were to obtain the staff required to provide basic services, an additional 210 dietitians would be required nationally, and the new staffing level would become one dietitian per 84 hospital beds.

Even using the ratio of one dietitian per 100 beds as a tentative desirable staff ratio very few hospitals meet this recommendation. A report by theDietitians Association of Australia's Workforce Committee (1986a) revealed that of 97 hospitals reviewed only 36 per cent had a dietitian:bed ratio of 1:100 or better (Table 2.3). Teaching hospitals with 400 or more beds tended to have better dietitian:bed ratios with 46 per cent having a ratio less than or equal to 1 dietitian per 100 beds.

Table 2.3

Dietetic staffing levels in Australian hospitals

Diet:beds	NSW	VIC	SA	QLD	WA	ACT	NT	TAS	TOTAL
< 1:50	-	1	1	-	1	-	-	-	3
1:51-1:100	16	14	2	-	-	-	-	-	32
1:101-1:150	13	6	3	3	3	2	1	-	31
1:151-1:200	4	3	1	1	-	-	-	1	10
1:201-1:250	2	2	-	3	-	-	-	-	7
1:251-1:300	1	-	-	-	2	-	-	-	3
1:301-1:350	-	1	-	-	-	-	-	-	1
1:351-1:400	-	-	-	1	-	-	-	-	1
>1:401	-	3	2	3	-	-	-	1	9
Total	36	30	9	11	6	2	1	2	97

There is little available information on dietetic manpower levels for areas of employment outside of the hospital setting. The most recent membership statistics available from the Dietitians Association of Australia (1986b) indicated that just over 10 per cent of members were employed in community health positions and a further 12 per cent in private practice. No recommended staffing ratios have yet been set for either of these areas of employment in Australia. The literature search uncovered only one article from the USA by Kaufman et al (1986), who cited the publication *Personnel in Public Health for the 1980's* which recommends a staffing ratio of one public health nutritionist per 50,000 population. To achieve this ratio in Australia an additional 200 Community Dietitians would be needed nationally, with more needed in some States than others.

As previously discussed, it is difficult to provide quantitative and qualitative estimates of the demand for health services. The estimation of health workforce requirements is not an easy undertaking as no single method for measuring requirements has proved entirely satisfactory or universally

acceptable. A review of the literature revealed only a few studies from North America which had attempted to estimate either the demand for dietetic services in all areas of employment (Fitz et al, 1983 and Fitz and Baldyga, 1983) or optimal staffing levels in hospital departments (American Dietetic Association, 1981; Casey, 1977; Gobberdiel, 1986; Hubbard and Donaldson, 1968 and Somers and Mulroney, 1983).

The Amercian Dietetic Association's Dietetic Manpower Demand Study (DMDS) (Fitz and Baldyga, 1983) was designed to provide qualitative and quantitative estimates of the demand for dietetic practitioners and to identify areas of potential development for the profession. A professional judgement approach was selected for the DMDS. This method is designed to estimate ideal or "professionally" acceptable standards of care, which through employment of manpower-to-population ratios, are translated into workforce estimates. Three scenarios, suboptimal, probable and optimal, were designed to provide a context in which demand estimates could be developed.

A panel of technical experts then developed qualitative estimates of demand in the period 1985-1990 by professional activities and type of employer. Within the suboptimal scenerio, demand for most professional activities was expected to decrease or remain the same. There was also a decline in demand for dietitians in most sites of employment. The demand situation for the probable scenario was more mixed with an expected increased demand for dietitians in industry, nutrition education and direct clinical care activities and for dietitians employed by nongovernment-owned health care facilities, practices owned by other dietitians or other health providers and commercial firms. The optimal scenario projected a general increase in demand for all dietetic activities and by all types of employers. Overall the Panel predicted a slow, steady growth in the total number of dietitians employed from the time of the study to 1990.

Other studies have considered strategies for estimating and justifying staffing levels. A variety of formulae have been developed to estimate needs which incorporate factors such as hospital bed numbers, patient diagnosis and clinical activity. Conventional methods for measuring and justifying appropriate dietetic staffing frequently focus on maintaining a given level of clinical activity rather than identifying actual need for dietetic service. Levels of clinical activity are frequently measured as a product of two factors - the number of clinical activities performed and the amount of time to perform them. The total number of labour hours derived is used to justify staffing to maintain this activity level.

According to Gobberdiel (1986), one major disadvantage of this approach is its inability to compare calculated levels of activity with documented need or demand for such activity in a given population. Few (if any) standards exist to evaluate level of staffing for appropriateness based on measured needs.

While no study has been conducted in Australia to quantitatively determine the demand for dietetic services, the Nutrition Task Force of the Better Health Commission (1986b) recognised that there is a shortage of dietitians in Australia today. Within the profession dietitians are heavily aggregated in the hospital sector of the health services. However, to disseminate nutrition information and practical advice about healthy eating in Australia the Better Health Commission recognised the need for more community dietitians.

The provision of "adequate nutrition training courses for nutrition specialists and other groups working in the area of food and nutrition" was recognised as being essential for the development of effective nutrition services to improve health. In particular the Nutrition Task Force felt that the ratio of dietitians per million population should be raised to at least a figure equivalent to that of New Zealand, namely 120. Within this increase the present number of community dietitians should be doubled i.e., to 160, in Australia.

2.4 SUMMARY

The literature review has identified that:

. dietetics is a relatively new health profession in Australia which has evolved dramatically over the last 60 years;

. diet and health are integrally related;

. diet-related diseases contribute significantly to the health costs of Australia;

. dietetic services are an important and effective component of health care;

. the dietetic profession is under-represented in Australia.

CHAPTER 3
METHODOLOGY

This study is concerned with the role, supply and demand for the services of dietitians and their contribution to health care in Australia. The study was undertaken as three separate surveys over a 15 month period from September 1984 to December 1985.

3.1 Survey 1 - The National Workforce Survey

The first survey conducted was a national workforce survey. The objective of this survey was to provide a profile of the demographic and employment characteristics of the Dietetic Workforce in Australia.

3.1.1 Subjects

Attempts were made to survey all qualified dietitians in Australia. To achieve this a membership mailing list was obtained from the Dietitians Association of Australia (DAA). Questionnaires were initially distributed to 830 members of the DAA. This population did not include student members of the DAA.

DAA members were in turn asked to identify any known qualified dietitian who was possibly not a DAA member and therefore would not have received the original questionnaire in the first round. A second round of questionnaires was then sent to a further 101 dietitians identified in this manner. Thus, a total of 931 questionnaires were sent to qualified dietitians in Australia. Of these 15 dietitians could not be contacted as they were either overseas or an insufficient address had been provided. Another three persons declined to participate as they were honorary members of the DAA but not qualified dietitians. This left a survey population of 913 dietitians.

A total of 623 questionnaires were returned, achieving a response rate of 69 per cent. This response rate compared favourably to the 67 per cent response rate achieved by the American Dietetic Association (ADA) (Hekeler, 1980) in its most recent Dietetic Manpower Demand Study.

3.1.2 Procedure

Data were collected in September 1984 by a self-administered questionnaire. The 12 page questionnaire, consisting of 81 variables was divided into six sections:

A. Personal information

B. Professional education

C. Employment history and responsibilities

D. Job satisfaction

E. Attitude to working in a country area

F. Continuing education

The questionnaire was pretested by a group of dietitians and modified accordingly to ensure that it was comprehensible to the respondent population and that it would provide vaild information.

Questionnaires were initially distributed to DAA members via the DAA Newsletter in late September 1984. The covering letter explained the purpose of the survey and requested that members return their completed questionnaire by 31 October 1984. A follow-up letter was sent to all non-respondents in late October reminding them of the survey and again requesting their cooperation.

Questionnaires were mailed to non-DAA members who had been identified by DAA members. Again a covering letter was sent explaining the purpose of the survey and that they had been identified as a qualified dietitian by a colleague.

They were requested to return their completed questionnaire within three weeks of receival. All data were collected by 30 November 1984.

3.1.3 Statistical Analysis

Responses were computer coded for statistical analysis using the Statistical Package for Social Sciences (SPSS-X). Frequency distributions were computed for each item in the survey. Chi square was used to determine if job satisfaction levels and respondents' attitudes to working in country areas were significantly affected by demographic variables such as age and marital status.

3.2 Survey 2 - The Dietitians' Role Survey

Specific study objectives were to survey dietitians to determine:

a) activities perceived to be part of the dietitian's ideal role;

b) those activities actually performed as part of their role;

c) role disparity, or the extent of difference between their ideal and actual role; and

d) obstacles or deterrents perceived as responsible for role disparity.

3.2.1 Subjects

The dietitians studied consisted of 200 dietitians randomly selected from the mailing list of the Dietitians Association of Australia. Of these, four could not be contacted and another three declined to participate in the survey. This left a survey population of 193. A total of 102 questionnaires were returned, achieving a response rate of 53 per cent.

3.2.2 Procedure

Data were collected by a self administered mail questionnaire in late August, 1985. A covering letter explained the purpose of the survey and requested that completed questionnaires be returned by 30 September 1985. All data were collected by 31 October 1985.

An inventory of 40 typical dietetic activities previously used by Schwartz (1981) in a survey of dietitians in British Columbia in Canada was adapted for use in this survey. Approximately half of the activities dealt with provision of nutritional care, often viewed as the traditional role of dietitians, while the remainder were related to the professional development, education and research roles of dietitians, which included a number of progressive roles. The inventory was pretested by a group of dietitians and modified accordingly to ensure that it was applicable to the Australian situation and that it would provide valid information.

Respondents were asked to reply to three questions for each of the forty activities. For the first question a six-point Likert-type scale ranging from 'definitely should be part of role' to 'definitely should not be part of role' was used to determine whether each activity should ideally be part of the dietitian's role. For the second question a similiar six-point scale ranging from 'always performed' to 'never performed' was used to determine if each activity was actually part of the dietitian's role. For the third question, respondents were asked to choose one of nine common deterrents to determine obstacles or major problems responsible for role disparity.

Several open ended questions were included to allow respondents to make personal comments on what they perceived to be the professional image of dietitians and what changes to the profession they would like to see occur.

3.2.3 Statistical Analysis

The Statistical Package for Social Sciences (SPSS-X) was used in the analysis of the results. Frequency distributions were calculated for each item in the survey. Sample variance was used to measure role consensus with a variance of less than 0.5 reflecting high consensus, greater than 0.5 but less than 1.0 reflecting moderate consensus, greater than 1.0 but less than 1.5 reflecting low consensus and greater than 1.5 reflecting dissensus.

Role disparity was determined by measuring the difference between ideal role and actual role. For each item a mean of the difference and standard deviation were calculated and t-distribution was used to estimate the confidence interval for each mean. Each item was then classified according to the mean of the difference into one of three levels of disparity. Low disparity (least level of incongruity between ideal and actual role) was assigned to means between zero and one, and moderate and high disparities for means one to two and two or more, respectively.

3.3 Survey 3 - The General Practitioners' Survey

The objectives of this study were to survey a group of doctors to determine:

a) activities which they expected or perceived to be part of the dietitian's role;

b) how frequently they saw patients with diet-related conditions;

c) how frequently they referred patients with diet-related conditions to a dietitian for dietary management ; and

d) their opinion of the contribution of dietitians to the management of their patients.

3.3.1 Subjects

The doctors studied consisted of 103 members of the Western Australian branch of the Royal Australian College of General Practitioners and a further 100 doctors in general practice randomly selected from the Perth telephone directory.

General practitioners were selected as the study population as they frequently see patients with diet-related conditions which are amenable to dietary management but do not necessarily require hospitalisation. The survey was confined to Western Australia as firstly, it was felt that this would result in a higher response rate and secondly, that the sample population was representative of the profession in general.

3.3.2 Procedure

The eight page questionnaire, along with a covering letter explaining the purpose of the survey was sent to the survey population in July, 1985. Completed questionnaires were requested by 31 August 1985 and all data were collected by 30 September 1985.

The questionnaire requested information regarding the respondent's level of nutrition education, current sources of nutrition information as well as details of referral patterns to dietitians. An inventory of 40 typical dietetic activities, previously used in the Dietitians' Role Survey, was used to determine what doctors expected or perceived to be the role of the dietitian. In addition several open-ended questions were included to allow the respondents to make personal comments on what they perceived to be the professional image of dietitians and what changes to the profession they would like to see occur.

Questionnaires were sent to a total of 203 doctors. Of these 4 could not be contacted and a further 8 declined to participate as they were no longer practising in the area of general medicine. This left a survey population of 191. A total of 100 questionnaires were returned, achieving a response rate of 52 per cent.

3.3.3 Statistical Analysis

All data were coded and the results analysed using the Statistical Package for Social Sciences (SPSS-X). Sample variance was again used to measure role consensus. Spearman's ranked order correlation co-efficient was used to determine if there was a correlation between the frequency with which general practitioners treated patients for specific diet-related conditions and the frequency with which they referred patients to dietitians for management of specific diet-related conditions.

CHAPTER 4

DIETETIC WORKFORCE SURVEY

4.1 PRESENTATION OF DATA

4.1.1 Demographic Data

The demographic characteristics of the responding population are presented in Table 4.1. Most notable from the results is that the dietetic profession in Australia is predominantly female (94.4 per cent of the sampled population) and over-represented by women under 30 years of age (46 per cent) (Figure 4.1). The first finding is consistent with the profession's traditional association with women, while the second possibly reflects an increased recognition of the importance of nutrition in health care, resulting in increased employment opportunities.

Figure 4.1
Age and sex distribution of Australian dietitians

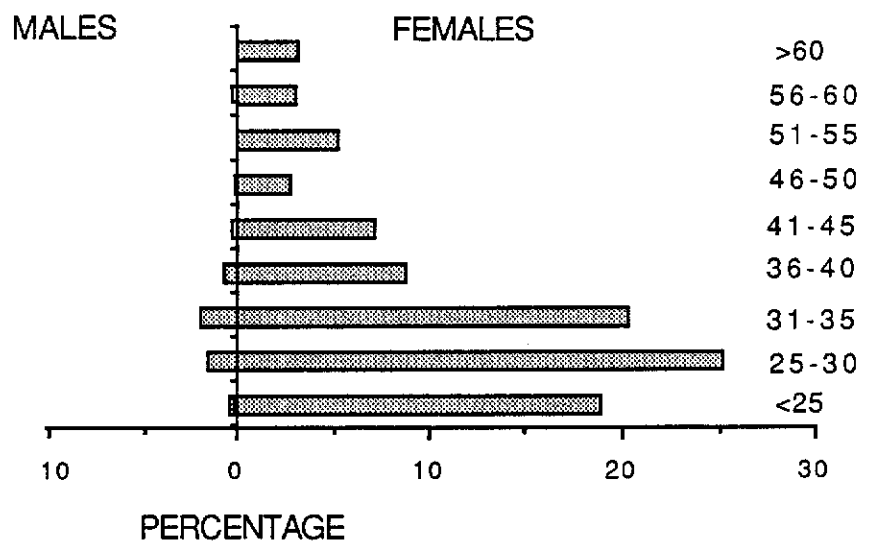


Table 4.1

Age, sex and marital status of Dietitians

1) Age	Total No.	(%)
< 25 years	122	19.6
26 - 30 years	166	26.6
31 - 35 years	139	22.3
36 - 40 years	60	9.6
41 - 45 years	46	7.4
46 - 50 years	18	2.9
51 - 55 years	32	5.1
56 - 60 years	20	3.2
> 60 years	20	3.2
Total	623	100.0
2) Sex		
Female	588	94.4
Male	35	5.6
Total	623	100.0
3) Marital Status		
Married	374	60.0
Widowed	7	1.1
Divorced	25	4.0
Single	217	34.8
Total	623	100.0

With such an age structure and the prevailing social trend of delayed marriage (Australian Bureau of Statistics,1984, p38) it was interesting to find that 60 per cent of the respondents were currently married and that a further five per cent had been married.

Similarly, in the Dietetic Manpower Demand Study conducted by the American Dietetic Association (Hekeler,1980) the majority of members were under 30 years of age (almost 40 per cent), female (almost 90 per cent) and were, or had been married (almost 80 per cent), indicating that Dietetics is a youthful, predominantly female profession both nationally and internationally.

Table 4.2

Total number of dependants

	All respondents Total No.	(%)	Employed respondents Total No.	(%)
0 dependants	378	60.7	330	64.5
1 dependant	96	15.4	68	13.3
2 dependants	92	14.8	71	13.9
3 dependants	42	6.7	32	6.3
4 dependants	12	1.9	9	1.8
5 dependants	3	0.5	2	0.4
Total	623	100.0	512	100.0

Almost 40 per cent of all dietitians surveyed indicated that they had dependants (Table 4.2). The majority of respondents (36 per cent) having young children in the pre-primary or primary age groups (Table 4.3). Of the employed respondents, 35 per cent had dependants, with 16.8 per cent and 13.7 per cent having children in the pre-primary and primary age groups respectively, illustrating a prevailing social trend for women to combine a career with motherhood.

Table 4.3

Number of dietitians with dependants in each category

	All respondents		Employed respondents	
	Total No.	(%)*	Total No.	(%)*
Pre-school	135	21.7	86	18.8
Primary	89	14.3	70	13.7
Secondary	55	8.8	49	9.6
Tertiary	32	5.1	31	6.1
Employed living at home	10	1.6	9	1.8
Spouse	4	0.6	4	0.8
Other	6	1.0	5	1.0
No dependants	378	60.7	330	64.5

* Respondents may have had dependants in more than one category.

4.1.2 Professional education

Respondent dietitians were asked to indicate the year in which they gained their basic dietetic qualification. Table 4.4 shows that approximately 40 per cent of the respondents had been qualified for less than five years and 60 per cent for less than 10 years, again indicating a youthful and expanding profession.

Table 4.4

Number of years qualified as a dietitian

	Total No.	(%)
< 2 years	56	9.0
2 - 5 years	185	29.7
6 - 10 years	137	22.0
11 - 15 years	82	13.0
16 - 20 years	53	8.5
21 - 30 years	54	8.7
31 - 40 years	40	6.4
>40 years	16	2.6
Total	623	100.0

As would be expected, the survey showed that the largest numbers of dietitians were trained in New South Wales and Victoria, these states having the largest populations and the oldest established dietetic training programs. Almost 90 per cent of respondents were trained in Australia (Table 4.5). Twelve per cent of the respondents held overseas qualifications, with the majority being trained in other English speaking countries.

Table 4.5

Place of graduation

	Total No.	(%)
NSW	184	29.5
VIC	207	33.3
WA	81	13.0
SA	41	6.6
QLD	38	6.1
UK	16	2.6
USA	15	2.4
CAN	15	2.4
NZ	12	1.9
Other	14	2.3
Total	623	100.0

Table 4.6 shows the variety of qualifications held by respondents. Hospital-based certificates were held by 4.5 per cent, with the majority of these respondents having qualified more than 15 years ago (92.6 per cent). Graduate Diplomas in Nutrition and Dietetics or Graduate Diplomas in Dietetics were held by 56.8 per cent of respondents, the majority being recent graduates with less than 10 years experience (84.8 per cent).

Table 4.6

Highest qualification held

	Total No.	(%)
Hospital-based certificate	28	4.5
Diploma/Associateship	129	20.8
Graduate Diploma	354	56.8
Bachelor of Science	55	9.0
Masters degree	41	6.5
Doctorate	5	0.8
Other	10	1.6
Total	623	100.0

Masters degrees were held by 41 dietitians (6.5 per cent) with another 27 (4.3 per cent) currently studying for a Masters degree. A further 5 dietitians (0.8 per cent) held a PhD degree with another seven (1.1 per cent) currently studying for their PhD (Table 4.7).

Table 4.7

Number of respondents studying for a higher qualification

	Total No.	(%)
Not studying	410	89.1
Masters degree	27	4.3
Doctors degree	7	1.1
Graduate Diploma	13	2.1
Other	13	2.1
No response	8	1.3
Total	623	100.0

There appears to be a tendency for dietitians in America to study for higher degrees (Baldyga, 1983). In 1981 almost 40 per cent of members of the American Dietetic Association held or were pursuing a Master's degree. Another 4 per cent of members held a PhD or were working toward their PhD. According to Baldyga these proportions, in part, reflect membership requirements and increased popularity during the 1970's of the advanced degree route to membership of the American Dietetic Association.

Whether Australian dietitians will follow this trend remains to be seen. Almost 50 per cent of respondents indicated that they had no intention of pursuing higher qualifications in the near future (Table 4.8). However, just over 40 per cent said they would pursue higher studies if it meant an increase in salary with 50 per cent being prepared to undertake further study if it improved their chances for promotion. This suggests that monetary gain and career advancement are motivating factors, in some instances, for dietitians to undertake further studies.

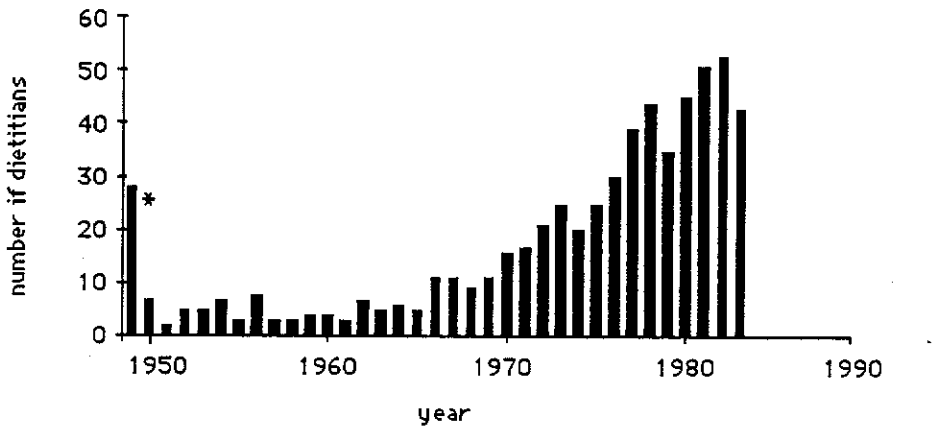
Table 4.8
Intention to pursue higher qualifications

Intend to pursue a higher qualification	No.	(%)
Yes	246	39.5
No	311	49.9
Would pursue a higher qualification for increased pay		
Yes	266	42.7
No	279	44.8
Would pursue a higher qualification for promotion		
Yes	317	50.9
No	231	37.1

4.1.3 Employment

Several questions were asked relating to the present and past employment histories of the respondents as well as their future employment intentions. Only 12 per cent of the dietitians surveyed had commenced work in Australia prior to 1959. Of the remainder 11.4 per cent had commenced work between 1960 and 1969, 39.8 per cent from 1970-1979 and 36.1 per cent from 1980-1984 (Figure 4.2). Similarly with the American Dietetic Association Manpower Demand Study (Hekeler, 1980), roughly one-third (30 per cent) of those sampled had been working in the field of dietetics for less than five years and over half (53 per cent) had worked in dietetics for less than 10 years.

Figure 4.2 YEAR COMMENCED WORK IN AUSTRALIA



* Dietitians employed prior to 1950

As expected New South Wales and Victoria had the highest supply of dietitians reflecting the larger population distribution of these states (Table 4.9). Assuming the respondent population to be representative of the total dietetic workforce, the full-time equivalent (FTE) workforce was calculated for each state. Of the major states, Victoria had the highest FTE to million population ratio of 48.4. The Australian Capital Territory had a disproportionately high ratio of 92.5 but this is possibly explained by the fact that a number of dietitians working in the Australian Capital Territory are employed by the Commonwealth Health Department and are working on nutrition related projects of national scope.

Table 4.9
State employed or residing

	All * Respondents No.	(%)	FTE Respondent	FTE Total **	FTE/million population	May 1985 DAA Membership * No.	(%)
N.S.W.	204	32.7	154.1	223.2	42.1	241	29.9
VIC.	192	30.8	133.0	192.8	48.4	267	33.1
QLD	71	11.4	49.9	72.3	29.4	88	10.9
W.A.	70	11.2	42.6	61.7	46.1	78	9.6
S.A.	43	6.9	31.6	45.8	35.4	53	6.6
A.C.T.	22	3.5	14.9	21.6	92.5	28	3.5
N.T.	9	1.4	6.2	9.0	66.5	11	1.4
TAS.	8	1.3	3.2	4.6	11.3	10	1.2
No resp.	3	0.5	-	-	-	-	-
Overseas	-	-	-	-	-	31	3.4
Total	623	100.0	435.5	-	-	807	100.0

* Includes employed and unemployed dietitians.
** FTE Total = FTE Respondent / 0.69

Current employment details

Over 80 per cent of the survey respondents were currently employed in the labour force either working full-time (58.1 per cent) or part-time (24.1 per cent) (Table 4.10). The FTE respondent workforce was calculated to be approximately 436.

Table 4.10

Official hours of work - September 1984

	No.	(%)
Full-time	362	58.1
Part-time 1 - 5 hours	16	2.6
Part-time 6 - 10 hours	26	4.2
Part-time 11 - 15 hours	18	2.9
Part-time 16 - 20 hours	28	4.5
Part-time 21 - 25 hours	25	4.0
Part-time 26 - 30 hours	16	2.6
Part-time 31 - 35 hours	21	3.3
Unemployed	111	17.8
Total	623	100.0

It is apparent from the results that many dietitians put more hours into their jobs than they are officially recognised as working. Respondents were asked to record both their official hours worked per week as well as the actual hours usually worked per week. Table 4.11 illustrates the difference, with almost one third of respondents working extra hours. Just over five per cent of respondents reported working less hours than their official hours.

Table 4.11

Extra hours worked by dietitians

	Total No.	(%)
Less hours	32	5.1
0 hours	418	67.1
1 - 4 hours	114	18.3
5 - 9 hours	54	8.7
10 - 14 hours	28	4.5
15 - 19 hours	4	0.6
> 20 hours	5	0.8
Total	623	100.0

Of the 18 per cent of respondents not employed as dietitians only 2.4 per cent were currently seeking employment. The majority had either temporarily left the workforce, but planned to work again (8.3 per cent), or had retired from the workforce (3.2 per cent) (Table 4.12).

Table 4.12

Current work status of respondents

	Total No.	(%)
Employed as a dietitian	512	82.0
Temporarily left the workforce but plan to return in the future	52	8.3
Unemployed, seeking employment as a dietitian	7	1.1
Working in area other than dietetics but seeking employment as a dietitian	8	1.3
Working in area other than dietetics but not seeking employment as a dietitian	13	2.1
Studying	7	1.1
Retired	20	3.2
Other	4	0.9
Total	623	100.0

The survey revealed dietitians working in a variety of settings (Table 4.13). The majority of employed respondents (62.1 per cent) indicated that they worked in a hospital, 8.2 per cent in Private Practice and 6.8 per cent worked in Community Health Centres.

Table 4.13

Current work setting of employed respondents : Australia and the U.S.A.

	Total No.	(%)	USA (%)*
Hospital			
General	291	56.8	
Children's	16	3.1	
Cancer	6	1.2	
Women's	5	1.0	
Total	318	62.1	47.4
Private Practice	42	8.2	4.8
Private Practice + Hospital	4	0.8	
Community Health Centre	35	6.8	
Community Health Centre + Hospital	9	1.8	
Government Department	27	5.3	13.2(#)
Education	25	4.9	11.3
Nursing Home/Extended Care	12	2.3	7.5
Research	9	1.8	
Industry	8	1.6	3.8
Mental Health	5	1.0	2.3
Other	17	3.4	9.5
Total	512	100.0	100.0

* American Dietetic Association (Hekeler,1983)
\# Includes Federal, State and City-County Government

The American Dietetic Association's Dietetic Manpower Demand Study (Hekeler, 1983) showed that 47.4 per cent of members worked in hospitals and 13.2 per cent in government departments. However, this latter figure includes City-County positions, in addition to Federal and State positions, and possibly includes members working in community health care settings similiar to Community Health Centres in Australia.

The percentage of Australian dietitians working in extended care facilities and industry was lower than for the U.S.A.. Just over three per cent of respondents to this survey worked in "other" settings which included amongst others, private weight loss clinics and fitness centres.

The majority of respondents (51 per cent) had worked in their current position for 2 years or less (Table 4.14). Job turnover appears to be high. This can possibly be explained by career movement, recent graduates entering the workforce and women returning to the workforce after temporarily leaving to raise a family.

Table 4.14

Amount of time respondents had spent in present position

	No.	(%)
< 1 year	177	34.6
1 - 2 years	84	16.4
3 - 5 years	123	24.0
6 - 10 years	89	17.4
11 - 15 years	24	4.7
> 15 years	15	2.9
Total	512	100.0

Previous employment details

To monitor movement in the profession respondents were asked to supply details of their employment status 12 months prior to the survey. Just over 75 per cent of the respondents had been employed in September 1983 (Table 4.15). The FTE respondent workforce for this time was calculated to be 400.

Table 4.15

Official hours worked in September 1983

	No.	(%)
Full-time	322	51.6
Part-time 1 - 5 hours	16	2.6
Part-time 6 - 10 hours	21	3.4
Part-time 11 - 15 hours	10	1.6
Part-time 16 - 20 hours	44	7.1
Part-time 21 - 25 hours	21	3.4
Part-time 26 - 30 hours	17	2.7
Part-time 31 - 35 hours	22	3.5
Unemployed	150	24.1
Total	623	100.0

Crosstabulation of hours worked in September 1984 against hours worked in September 1983 shows more clearly changes in the number of hours worked for this 12 month period (Table 4.16). Of the 150 respondents unemployed in 1983, 74 (49.3 per cent) had entered or re-entered the workforce in 1984, fifty-five obtaining full-time employment and 19 part-time employment. Of the 322 respondents employed full-time in 1983, 283 (87.8 per cent) had remained in full-time employment in 1984, 21 (6.5 per cent) had reduced the number of hours worked and 18 (5.6 per cent) had left the workforce during this period. The FTE respondent workforce had increased from 400 to 436, representing a growth rate of nine per cent which exceeds the population growth rate of 1.2 per cent for this twelve month period.

Table 4.16

Hours worked in September 1984 by hours worked in September 1983

Hours of work Sept. 1984	Hours of work - Sept. 1983									
	0	**1-5**	**6-10**	**11-15**	**16-20**	**21-25**	**26-30**	**31-35**	**F/T**	**Total**
0	76	5	2	1	4	2	2	1	18	111
1- 5	2	8	2	-	-	1	1	-	2	16
6 -10	9	1	10	-	1	-	-	-	5	26
11-15	4	1	4	4	3	-	1	-	1	18
16-20	2	1	2	2	19	-	-	-	2	28
21-25	2	-	-	-	8	11	-	-	4	25
26-30	-	-	1	-	1	3	7	1	3	16
31-35	-	-	-	-	-	-	4	13	4	21
F/T	55	-	-	3	8	4	2	7	283	362
Total	150	16	21	10	44	21	17	22	322	623

The majority of respondents had been working as dietitians in the same position (57.9 per cent) or as dietitians in a different position (14 per cent) (Table 4.17).

Table 4.17

Work status at September 1983

	Total No.	(%)
Employed as a dietitian		
Same position	361	57.9
Different position	87	14.0
Temporarily left the workforce but plan to return in the future	64	10.3
Unemployed, seeking employment as a dietitian	4	0.6
Working in area other than dietetics but seeking employment as a dietitian	13	2.1
Working in area other than dietetics but not seeking employment as a dietitian	19	3.0
Studying	44	7.1
Retired	16	2.6
Other	15	2.4
Total	623	100.0

On crosstabulating current work status with the work status of respondents 12 months prior to the survey, workforce movement for this period can be seen more clearly (Table 4.18). For example, of the 512 currently employed respondents, 33 (6.4 per cent) had re-entered the workforce in the 12 months preceding the study and of the 52 respondents who had temporarily left the workforce by September 1984, 20 (38.5 per cent) had been working in September 1983. Of the 44 dietitians who had been studying in September 1983, 41 (93.2 per cent) were working in September 1984, one was still studying and only two were currently seeking employment. This would suggest that of the new graduates who responded to the survey, most had found employment within 12 months of graduation.

Table 4.18

Workforce movement for the period September 1983 to September 1984

Employment Status Sept. 1984	Employment status - Sept. 1983								
	A	**B**	**C**	**D**	**E**	**F**	**G**	**H**	**Total**
A	419	-	2	33	6	1	41	10	512
B	4	16	-	-	-	-	-	-	20
C	2	-	2	-	-	-	2	1	7
D	20	-	-	29	1	2	-	-	52
E	-	-	-	1	6	1	-	-	8
F	1	-	-	-	-	12	-	-	13
G	2	-	-	1	-	2	1	1	7
H	-	-	-	-	-	1	-	3	4
Total	448	16	4	64	13	19	44	15	623

KEY
A = Employed as a dietitian
B = Retired
C = Unemployed, seeking employment as a dietitian
D = Temporarily left the workforce
E = Working in area other than dietetics, but seeking employment as a dietitian
F = Working in area other than dietetics and not seeking employment as a dietitian
G = Studying
H = Other

Future employment intentions

Respondents were asked to supply details of their employment intentions 12 months in the future , that is September 1985 (Table 4.19). Almost 86 per cent of the respondents intended to be employed, with almost 51 per cent full-time and 35 per cent part-time. Based on the employment intentions of respondents, the number of FTE positions for 1985 was calculated to be 438. There would appear to be little growth in the workforce for the period 1984 to 1985, but the 1985 figure does not allow for graduates entering the workforce during this period.

Table 4.19

Intended hours of work in September 1985

	No.	(%)
Full-time	317	50.9
Part-time 1 - 5 hours	7	1.1
Part-time 6 - 10 hours	34	5.5
Part-time 11 - 15 hours	17	2.7
Part-time 16 - 20 hours	67	10.8
Part-time 21 - 25 hours	31	5.0
Part-time 26 - 30 hours	26	4.2
Part-time 31 - 35 hours	36	5.8
Unemployed	88	14.1
Total	623	100.0

On crosstabulating hours worked in September 1984 with intended hour of work in September 1985 it is clear that the majority of respondents wished to stay in the workforce but a number wanted to reduce their working hours. For example, as seen in Table 4.20, of the 362 respondents working full-time in 1984, 21 (5.8 per cent) intended to leave the work force in 1985 but 53 (14.7 per cent) intended to, or wished to, reduce their working hours, the majority to half-time. Furthermore, of the 111 respondents unemployed in

1984, 52 (46.8 per cent) intended to re-enter the workforce in 1985, but only 13 (11.7 per cent) wished to return on a full-time basis. It can be deduced from these results that job-sharing would be welcomed by a certain number of the profession.

Table 4.20

Hours worked in September 1984 by intended hours of work in September 1985

Hours of work Sept. 1984	Intended hours of work - Sept. 1985									
	0	**1-5**	**6-10**	**11-15**	**16-20**	**21-25**	**26-30**	**31-35**	**F/T**	**Tot**
0	59	1	12	5	15	3	2	1	13	111
1- 5	2	5	3	1	2	-	1	-	2	16
6-10	1	1	14	1	6	2	1	-	-	26
11-15	1	-	2	8	4	-	-	-	3	18
16-20	1	-	1	-	17	3	3	1	2	28
21-25	1	-	-	-	1	12	5	2	4	25
26-30	-	-	-	1	1	2	8	-	4	16
31-35	1	-	1	-	-	-	2	15	2	21
F/T	21	-	1	1	21	9	4	17	288	362
Total	87	7	34	17	67	31	26	36	318	623

Almost 63 per cent of respondents intended to be working in the same position but almost 17 per cent hoped to be employed in a different position (Table 4.21).

Table 4.21

Intended employment status in September 1985

	No.	(%)
Employed as a dietitian		
Same position	391	62.8
Different position/ Newly employed	105	17.2
Temporarily left the workforce but plan to return	54	8.7
Working in area other than dietetics but seeking employment as a dietitian	3	0.5
Working in area other than dietetics but not seeking employment as a dietitian	22	3.5
Studying	7	1.1
Retired	24	3.8
Other	15	2.4
Total	623	100.0

Crosstabulation of employment status in September 1984 against intended employment status for September 1985 reveals intended workforce movement for this 12 month period (Table 4.22). Of the 512 respondents employed in September 1984, the majority intended to remain in the workforce, 36 intended to temporarily leave the workforce and 4 intended to retire from the workforce. Of the 52 respondents who were temporarily out of the workforce, 33 intended to return to the workforce by September 1985. Of interest are the 10 respondents who were working as dietitians in 1984 but intended to be working in an area other than dietetics in 1985. This could possibly be interpreted as indicating dissatisfaction with the profession.

Table 4.22

Intended workforce movement for the period September 1984 to September 1985

Employment Status Sept. 1984	Employment status - Sept. 1985								
	A	**B**	**C**	**D**	**E**	**F**	**G**	**H**	**Total**
A	449	4	-	36	-	10	7	7	512
B	-	20	-	-	-	-	-	-	20
C	7	-	-	-	-	-	-	-	7
D	33	-	-	17	-	-	-	2	52
E	4	-	-	-	3	-	-	1	8
F	-	-	-	1	-	11	-	2	13
G	4	-	-	-	-	1	1	-	7
H	-	-	-	-	-	1	-	3	4
Total	498	24	-	54	3	22	7	15	623

KEY
A = Employed as a dietitian
B = Retired
C = Unemployed, seeking employment as a dietitian
D = Temporarily left the workforce
E = Working in area other than dietetics, but seeking employment as a dietitian
F = Working in area other than dietetics and not seeking employment as a dietitian
G = Studying
H = Other

4.1.4 Employment responsibilities

The majority of dietitians employed in hospitals worked in hospitals with a bed-size of more than 200 (Table 4.23).

Table 4.23

Hospital size

	No.	(%)
< 100 beds	31	8.7
100 - 199 beds	64	17.9
200 - 499 beds	128	35.7
> 500 beds	135	37.7
Total	359	100.0

Twenty six per cent of dietitians employed in hospitals worked as sole dietitians,with the majority of dietitians being employed in a department with 2 - 10 dietitians (Table 4.24). It should be noted that these figures do not represent full-time equivalent positions , but the number of qualified dietitians on staff.

Table 4.24

Number of dietitians employed in hospital department

	No.	(%)
1 dietitian	96	26.7
2 - 3 dietitians	75	20.8
4 - 5 dietitians	33	9.2
6 - 10 dietitians	105	29.3
11 - 15 dietitians	32	8.9
16 - 20 dietitians	8	2.2
> 21 dietitians	10	2.8
Total	359	100.0

Respondents were asked to indicate the official title by which they were recognised at their place of employment. This information was requested in an effort to identify the level of seniority and responsibility of respondents. The largest percentage of dietitians in this survey were employed in junior positions with limited opportunity for upward mobility to senior positions (Table 4.25).

Table 4.25

Official work title of employed respondents

	No.	(%)
Dietitian/Nutritionist	306	59.8
Clinical dietitian	1	0.2
Regional dietitian	10	2.0
Consultant dietitian	32	6.3
Senior dietitian *	26	5.2
Assistant Head/Chief/ Superintendent dietitian *	14	2.7
Head/Chief/Superintendent/ Principal dietitian *	51	10.0
Other	54	10.5
No response	18	3.5
Total	512	100.0

* Positions of seniority

As would be expected , considering that the majority of respondents were employed in junior positions, the primary work function of the majority of respondents was direct patient/client contact (Table 4.26).

Table 4.26

Primary and secondary functions of employed dietitians

	Primary Function		Secondary Function		Total
	No.	(%)	No.	(%)	(%)
Direct patient contact	343	67.0	48	9.4	76.4
Administration	42	8.2	66	12.9	21.1
Consultation	40	7.8	54	10.5	18.3
Nutrition promotion	30	5.9	27	5.3	11.2
Research	14	2.7	15	2.9	5.6
Classroom teaching	14	2.7	37	7.2	9.9
Food service administration	10	2.0	25	4.9	6.9
Staff supervision	3	0.6	22	4.3	4.9
Student supervision	3	0.6	38	7.4	4.8
Other function	13	2.5	15	2.9	5.4
No function	-	-	165	32.3	32.3
Total	512	100.0	512	100.0	100.0

Employed respondents were asked to indicate the number of staff, both qualified dietitians and support staff, under their supervision (Tables 4.27 and 4.28)

Table 4.27

Number of dietitians supervised by employed respondents

	No.	(%)
none	408	79.7
< 2	54	10.5
3 - 5	23	4.9
6 - 10	18	3.5
11 - 15	3	0.6
16 - 20	3	0.6
> 20	1	0.2
Total	512	100.0

While only 20 per cent of dietitians were responsible for the supervision of other dietitians almost 44 per cent were responsible for the supervision of support staff. These results indicate that a considerable number of dietitians working in sole positions are responsible for the supervision of support staff.

Table 4.28

Number of support staff* supervised by employed respondents

	Total No.	(%)
none	287	56.1
< 2	88	17.2
3 - 5	73	14.3
6 - 10	34	6.6
11 - 15	11	2.1
16 - 20	3	0.6
21 - 50	7	1.4
51 - 100	4	0.8
101 - 500	3	0.6
> 500	2	0.4
Total	512	100.0

*Support staff includes clerical and catering personnel

4.1.6 Health problems most frequently seen by dietitians

Dietitians were asked to select up to eight health problems which they encountered most frequently in their work in order of priority from one to eight. To determine the ranked order of importance the scores were summed in the following manner; a first priority was scored as eight, the second priority as seven and so on. The conditions most frequently encountered are presented in Table 4.29 in order of importance. For a more detailed analysis of results refer to Appendix E.

Table 4.29

Health problems most frequently seen by dietitians

Health problem	Ranked order of importance
Obesity	1
Diabetes mellitus	2
Hypertension	3
General nutrition advice *	4
Hyperlipidemia	5
G.I. disorders	6
Cancer	7
Enteral and parenteral nutrition	8
Renal disease	9
Allergy	10
Obstetrics and gynecology	11
Anorexia nervosa	12
Malnutrition	13
Burns/High energy diets **	14
Inborn errors of metabolism	15
Psychiatric disorders/ Mental retardation	16
Other ***	17

* General advice on normal nutrition not related to a specific disease or condition
** Diets for hypermetabolic conditions requring special formulation
*** Includes sports nutrition and vegetarian diets

4.1.6 Job satisfaction of employed respondents

Respondents were asked to indicate their degree of satisfaction with thirteen work related items. A nine-point Likert-type scale ranging from a high value of "highly satisfied" to a low value of "highly dissatisfied" was used and mean and median scores along with standard deviations for each item are presented in Table 4.30.

Table 4.30
Job satisfaction of employed respondents

	mean	median	Std.dev.
Freedom to use own judgement	6.9	7	1.8
Earnings	6.4	7	1.8
Recognition from peers	6.1	7	1.8
Variety of skills used in job	5.9	7	1.9
Working conditions	5.7	7	2.1
Opportunity to use new skills	5.7	7	2.0
Opportunity to learn new skills	5.4	6	2.1
Workload	5.3	6	2.0
Freedom to transfer between positions	5.1	5	1.9
Recognition from medical profession and other allied health professionals	5.1	6	2.2
Opportunity for advancement	5.0	5	2.0
Provisions for retirement	5.0	5	1.6
Continuing education in Australia	4.2	3	2.0

As a group, employed respondents reported a moderate level of satisfaction for almost all items with a slightly higher level of satisfaction with their earnings, the freedom to use their own judgement and the support and recognition given by colleagues within the profession. It is evident that dietitians were dissatisfied with provisions for continuing education in dietetics. Dietitians surveyed by the American Dietetic Association (Hekeler, 1980) reported moderate levels of satisfaction for such items as income, and opportunites for continuing education, with slightly more enthusiasm for their present job, professional training and career opportunities. Browski and Cook (1974) reported that dietitians scored lower than occupational therapists, physiotherapists and medical technologists on job satisfaction scales.

The percentage of dietitians satisfied and dissatisfied with each item are illustrated in Figure 4.3. It becomes apparent that quite a large proportion of respondents were dissatisfied with a number of items. To determine if job satisfaction was influenced by demographic variables the level of satisfaction for each item was crosstabulated against age and marital status. While sex may also influence job satisfaction, the percentage of male respondents was judged to be too small to justify statistical analysis.

Marital status did not significantly affect job satisfaction with any item with the exception of continuing education. In which case, significantly more single respondents were dissatified with provisions for continuing education than married respondents (Chi^2 13.8, $p < .001$). Similarly, age had little effect on job satisfaction for the majority of the 13 items. However, while most of the respondents were satisfied with the variety of skills used in their work, dietitians less than 25 years of age were more likely to be dissatisifed with this item than dietitians over 40 years of age (Chi^2 16.1, $p < .001$). Likewise, dietitians less than 25 years of age were more likely to be dissatisfied with the recognition given by the medical profession and other allied health professionals than dietitians over 40 years of age (Chi^2 13.0, $p < .01$). With regard to continuing education in Australia, once again dietitians less than 25 years of age were more likely to be dissatisfied with provisions for continuing education than dietitians over 40 years of age (Chi^2 15.4, $p < .01$). Based on these results, it can be tentatively assumed that recent graduates are more likely to be dissatisifed with various aspects of their job than their colleagues who have been qualified for almost 20 years or more.

Figure 4.3 JOB SATISFACTION AMONG EMPLOYED DIETITIANS

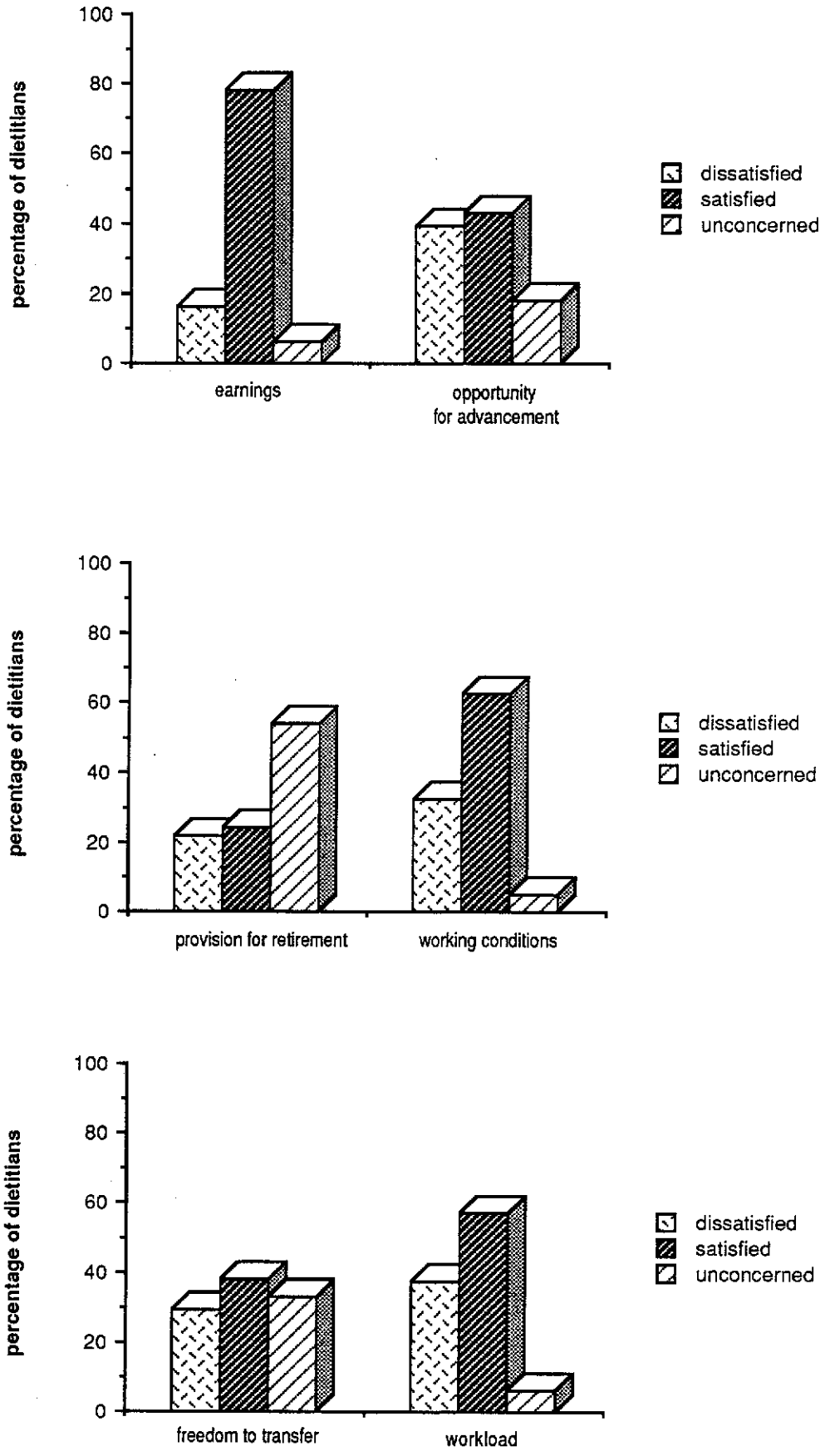
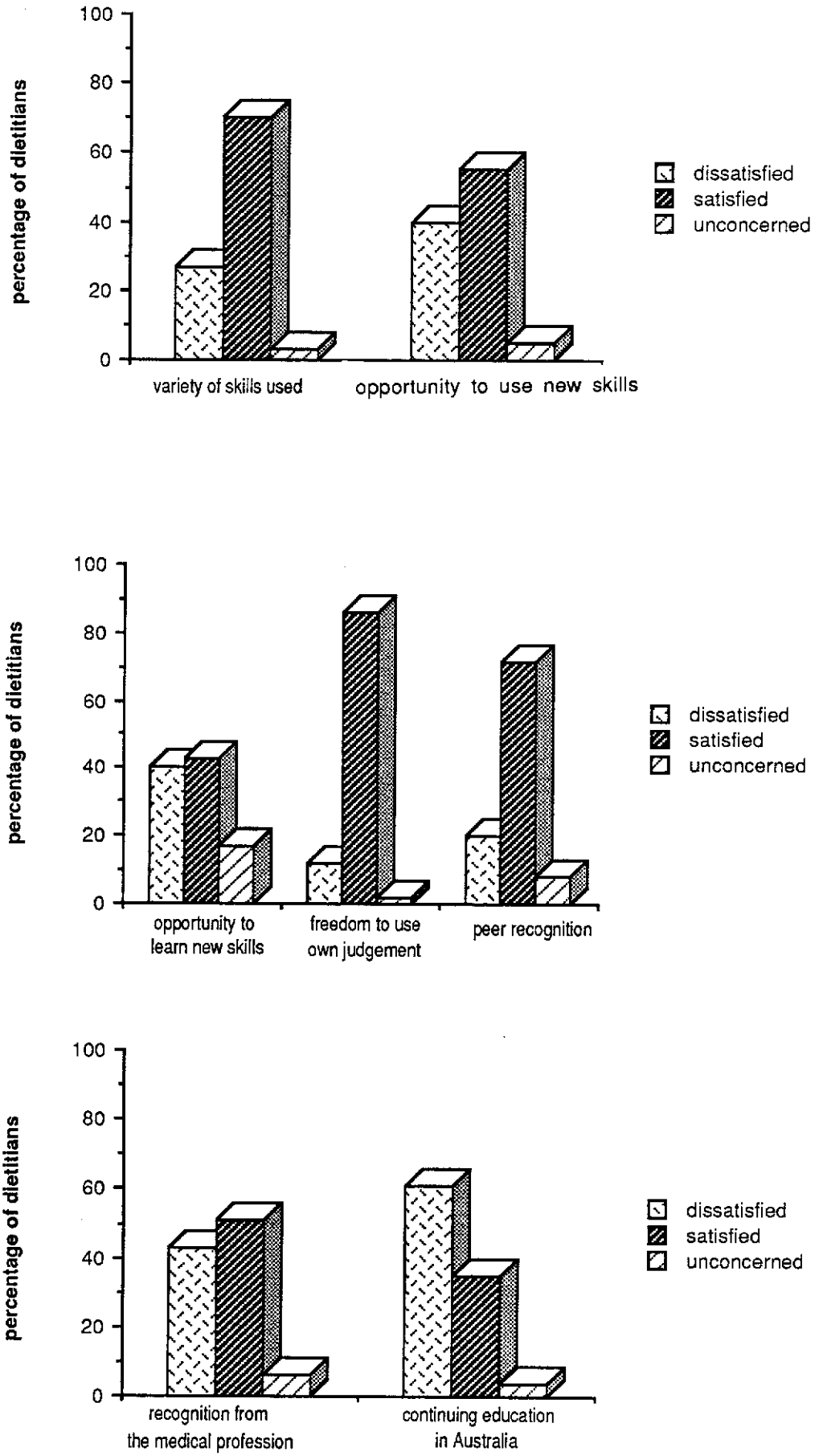


Figure 4.3 JOB SATISFACTION AMONG EMPLOYED DIETITIANS



4.1.7 Attitude of dietitians to working in country areas

Of the employed respondents, 73.5 per cent were employed in a capital city, 8.6 per cent in other cities and 18.1 per cent in a country area (Table 4.31).

Table 4.31

Locality in which employed dietitians were working

	Total No.	(%)
Capital city		
Sydney	115	22.4
Melbourne	113	22.1
Canberra	20	3.9
Brisbane	40	7.8
Perth	48	9.3
Adelaide	32	6.2
Darwin	5	1.0
Hobart	4	0.8
Other major city		
Newcastle	23	4.5
Geelong	12	2.3
Frankston	3	0.6
Wollongong	3	0.6
Townsville	3	0.6
Rural		
NSW/ACT	38	7.4
VIC	25	4.8
QLD	17	3.3
WA	5	1.0
SA	6	1.2
NT	2	0.4
TAS	-	-
Total	512	100.0

Of those respondents not currently working in a country area, almost 19 per cent indicated that they had at some stage in their career worked in a country area, with almost 67 per cent never having worked in the country (Table 4.32).

Table 4.32

Number of dietitians who had ever worked in country areas

	Total No.	(%)
Yes	116	18.6
No	414	66.4
Currently working in the country	93	15.0
Total	623	100.0

When asked whether they would be prepared to work in country areas in the future 51 per cent of dietitians not currently working in the country indicated that they would not be prepared to work in country areas.

Recognising that many of these respondents may be married with dependants and settled in the city, or established in senior positions not available in the country, they were asked to indicate at what stage in their career they might have been prepared to work in the country. Of the 211 respondents who indicated that they would not be prepared to work in the country in the future, 68 (32.3 per cent) said that they would never have been prepared to work in the country (Table 4.33). A further 13.3 per cent would have been prepared to work in the country as a new graduate but 21.8 per cent would have preferred to have gained at least two years of experience before working in the country.

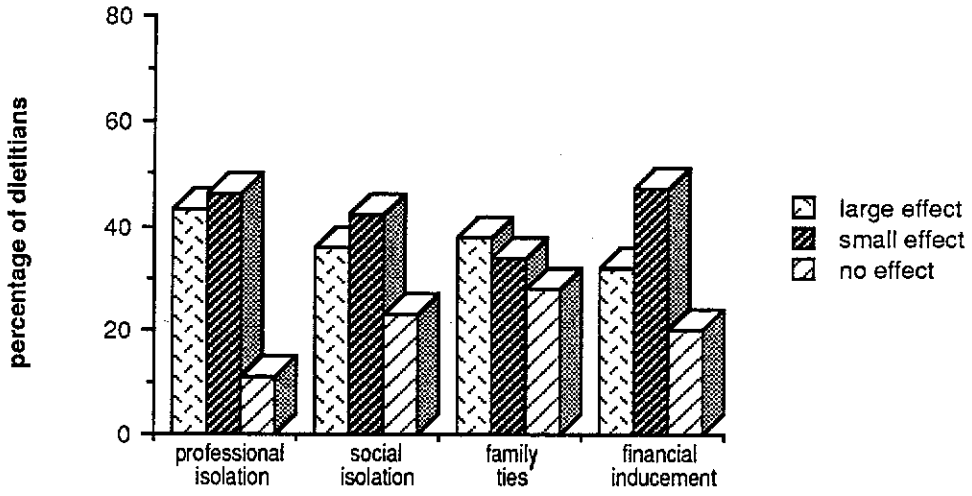
Table 4.33

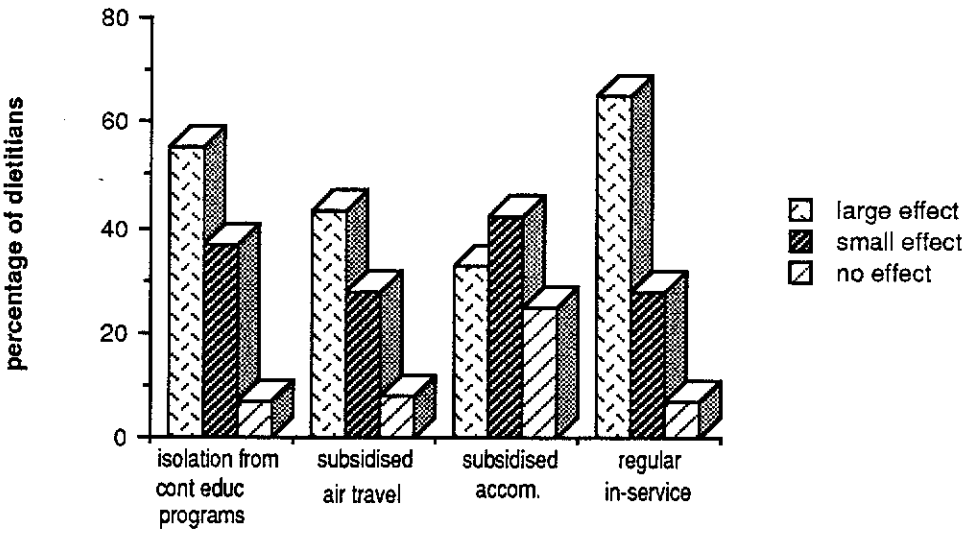
Stage in career at which respondents would have been prepared to work in country areas

	Total No.	(%)
Never	68	32.3
As a new graduate	28	13.3
As a graduate with at least 2 years experience	46	21.8
Until marriage	53	25.1
If spouse transferred	11	5.2
Other reason	5	2.4
Total	211	100.0

It is a recognised problem that it is difficult to attract suitable applicants for dietetic positions in rural areas of Australia. As these positions are typically sole positions in often professionally isolated areas, the applicants should ideally have had some previous experience. Usually this is not the case, with most country positions being filled by newly qualified dietitians with little clinical and/or managerial experience. The solution to this problem may, in part, be to offer more attractive conditions. In order to ascertain what conditions would increase the attractiveness of country positions, respondents were asked to indicate what effect a number of factors would have on their decision to accept a position in a country area. The results are presented in Figure 4.4.

Figure 4.4 FACTORS AFFECTING DIETITIANS' DECISION TO WORK IN THE COUNTRY





To determine if demographic factors affected a dietitian's decision to work in the country each factor was crosstabulated by age and marital status. Professional isolation was more likely to have a large effect on the decision of a single dietitian to work in the country but a small or no effect on a married person (Chi^2 27.8, $p < .001$). Similarly, social isolation was likely to have a large effect on a single dietitian's decision but a small or no effect on a married dietitian (Chi^2 32.9, $p < .001$). The effect of isolation from continuing education programs and subsidised air travel was also greater for single respondents than for married respondents (Chi^2 16.4, $p < .001$ and Chi^2 15.9, $p < .001$, respectively).

Professional and social isolation were more likely to have a large effect on the decision of a dietitian under 25 years of age to work in the country and a small or no effect on older dietitians (Chi^2 18.1, $p < .01$ and Chi^2 17.9, $p < .01$, respectively). Age had no significant effect on any other factors which might influence a dietitian's decision to work in the country.

4.1.8 Professional involvement

Respondents were asked to indicate if they had ever published or presented at a conference a professional paper. In addition it was possible to identify those respondents who were members of the Dietitians Association of Australia. This information was used to indicate the dietitian's professional standing and contribution to research and development of the profession (Table 4.34).

Table 4.34

Professional involvement

Member of the DAA	Total No.	(%)
Yes	562	90.2
No	61	9.8
Had published a paper		
Yes	229	36.8
No	394	73.2
Had presented a paper		
Yes	130	20.0
No	493	29.1

Just over 90 per cent of respondents were members of the DAA. Of the dietitians surveyed almost 37 per cent had published a professional paper in a book or journal and just over 20 per cent had presented a paper at a professional conference.

4.2 SUMMARY OF THE RESULTS

The findings of this study provide the following profile of the Australian dietitian. The "typical" dietitian is female, less than 35 years of age and married. She may have one or two children of pre-school or primary school age. She holds a Graduate Diploma in Dietetics or Nutrition and Dietetics, has been qualified for 10 years or less and is likely to be a member of the Dietitians Association of Australia. She is not currently undertaking any further studies but might consider studying for a higher qualification if it meant an increase in

earnings or improved her chance for promotion. The "typical" dietitian works full-time and is employed in a hospital having worked in this position for two years or less. Her primary function is direct patient/client care and she most frequently treats people for obesity, diabetes mellitus and hypertension. She is reasonably satisfied with her job, is unlikely to have worked in the country and has little intention of working in the country in the future. The "typical" dietitian bears close resemblance to her American sister, who is likely to be less than 40 years of age, married and working in a clinical setting (Hekeler, 1980)

The results of this survey also indicate that almost 30 per cent of employed dietitians work in a part-time position and that a further 15 per cent of dietitians employed in a full-time capacity would like to reduce their working hours, usually to a 0.5 FTE or 0.75 FTE position. This would suggest that job sharing would be welcomed by members of the profession. At any time approximately 10 per cent of the potential workforce is likely to have temporarily left the workforce for a variety of reasons, usually to raise a family. However, such a temporary retirement is generally short lived with almost 50 per cent of this pool returning to the workforce every 12 months.

CHAPTER 5

THE DIETITIANS' ROLE SURVEY

5.1 PRESENTATION OF THE DATA

5.1.1 Demographic data

The demographic characteristics of the dietitians surveyed are presented in Table 5.1. The respondents ranged in age from 23 to 60 years and the majority had qualified in the last 10 years (58.8 per cent). Most of the respondents had been employed in their current position for five years or less (69.6 per cent).

Table 5.1

Demographic characteristics of respondents

Dietitians (n = 102)		
Age (yr)	No.	(%)
≤ 25	9	8.8
26 - 30	28	27.5
31 - 40	42	41.2
41 - 50	12	11.8
51 - 60	10	9.8
≥ 60	1	1.0
Years qualified		
≤ 2	10	9.8
3 - 5	21	20.6
6 - 10	29	28.4
11 - 15	13	12.7
16 - 20	14	13.7
≥ 21	15	14.7
Years employed in current position		
≤ 2	40	39.2
3 - 5	31	30.4
6 - 10	21	20.6
11 - 15	6	5.9
16 - 20	3	2.9
≥ 21	1	1.0

Compared with the Dietitians Association of Australia membership statistics for 1985, the sample was slightly over-represented by hospital dietitians with seventy two (70.6 per cent) being employed in a hospital setting (Table 5.2).

Table 5.2

Work setting of dietitians

	Respondents (n = 102)		DAA Employed * Members (n = 785)	
	No.	(%)	No.	(%)
Hospital	72	70.6	470	59.8
Private Practice	8	7.8	93	11.8
Community Health Centre	7	6.9	86	10.9
Education Institution	3	2.9	52	6.6
Research	3	2.9	-	-
Government Department	2	2.0	39	5.0
Industry	1	1.0	20	2.5
Nursing Home	1	1.0	-	-
Other	5	4.9	25	3.1

*Dietitians Asociation of Australia, Membership Statistics, May 1985

The primary function of the majority of dietitians surveyed (65.7 per cent) was the provision of direct patient/client services (Table 5.3).

Table 5.3

Employment responsibilities

Primary function	No.	(%)
Direct patient/client service	67	65.7
Administration	11	10.8
Consultation	7	6.9
Research	5	4.9
Nutrition education	5	4.9
Food service	2	2.0
Student supervision	1	1.0
Staff supervision	1	1.0
Other	3	2.9

5.1.2 Role expectations

Respondents were provided with an inventory of 40 activities and asked to identify those activities which should ideally be part of the dietitian's role. A positive response was indicated for all but three of the activities (Table 5.4). The majority of respondents felt very strongly that the activity "distribute, collect and tabulate menus" was not an ideal role. The mean responses for the other two activities, "mark menus with patients" and "check trays after meals" were in the unsure categories (possibly should be or possibly should not be). Thus mean responses to 37 of the activities indicated that dietitians believed that these activities should be part of their role. These results are similar to the findings of Schwartz (1981) in her survey of Canadian dietitians.

Consensus among dietitians, as determined from the sample variance, is summarised in Table 5.4. Results indicated high consensus for 9 activities, moderate consensus for 19 activities, low consensus for 6 activities and dissensus for 6 activities. Consensus on ideal role was therefore achieved for 85 per cent of activities in the inventory.

Table 5.4
Role expectations of dietitians

Inventory activity	Should be part of role *	Unsure **	Should not be part of role ***	Level of consensus +
Nutritional care activities	(%)	(%)	(%)	
Assess adherence to modified diets	96.8	0.0	0.0	MC
Provide patient counselling	94.7	0.0	2.1	MC
Motivate patients to adhere to modified diets	94.7	2.1	0.0	MC
Consult with medical officer if diet order in question	94.7	1.1	1.1	MC
Document patient's progress in medical record	94.6	0.0	2.2	MC
Provide for outpatient follow-up nutritional care when indicated	93.6	3.2	0.0	HC
Recommend appropriate diet therapy to medical officer	91.6	3.2	2.1	MC
Review patients' medical records	91.4	5.4	0.0	MC
Plan hospital menus for modified diets	90.8	5.7	1.1	MC
Calculate nutrient intakes	86.5	7.9	1.1	MC
Prescribe appropriate modified diet based on diagnosis	86.3	7.4	2.1	MC
Obtain patients' dietary histories	86.0	9.7	0.0	MC
Screen newly admitted patients for nutritional risk	80.0	17.8	1.1	LC
Interpret lab and clinical findings	79.3	15.2	1.1	LC
Plan general hospital menus	74.4	17.4	2.3	Dis
Evaluate menu selections of patients on modified diets	67.1	25.9	3.5	Dis
Make routine visits to patients during meals	57.4	26.4	12.6	Dis
Mark menus with patients	30.2	37.2	27.9	Dis

Table 5.4 cont.
Role expectations of dietitians

Inventory activity	Should be part of role * (%)	Unsure ** (%)	Should not be part of role *** (%)	Level of consensus +
Check trays after meals to determine intake	23.0	42.5	31.0	Dis
Distribute, collect and tabulate menus	2.4	7.2	89.2	Dis#
Professional development, education and research activities				
Participate in continuing education courses	97.0	1.0	0.0	HC
Review current research regularly	96.0	1.1	0.0	HC
Participate in ward/team meetings	95.1	2.0	0.0	HC
Apply current research findings to professional practice	95.0	2.0	0.0	HC
Recommend references or nutrition information sources to professionals	94.2	3.9	0.0	HC
Recommend reliable sources of nutrition information to patients	94.1	2.0	0.0	HC
Evaluate effectiveness of material and techniques for patient education	92.8	5.2	0.0	HC
Develop instructional material for patient education	92.8	4.1	0.0	HC
Evaluate special feedings or new dietary products	91.5	5.3	1.1	MC
Provide training/ educational programs for dietetic students	88.7	7.2	1.1	MC
Conduct nutritional care audits and participate in peer review	88.3	9.6	1.1	MC
Conduct seminars for nursing staff and other health professionals	85.6	11.3	0.0	MC

Table 5.4 cont.
Role expectations of dietitians

Inventory activity	Should be part of role *	Unsure **	Should not be part of role ***	Level of consensus +
	(%)	(%)	(%)	
Give nutrition talks in the community	82.3	14.6	1.1	LC
Communicate with Industry regarding food and nutrition products and materials	82.3	15.7	1.1	MC
Provide training programs for catering staff	81.4	12.8	2.9	LC
Participate in ward rounds	81.2	14.1	1.1	LC
Participate in team research projects	80.9	14.9	1.1	MC
Write articles or reviews for journals or newsletters	80.4	16.7	1.1	MC
Conduct seminars for medical personnel	79.2	18.8	0.0	MC
Communicate with Government regarding food and health care legislation	76.4	19.6	2.0	LC

* "Definitely should be" or "Should be" part of role
** "Probably should be" or "Probably should not be" part of role
*** "Should not be" or "Definitely should not be" part of role
\+ Role consensus is based on sample variance
< 0.5 = High consensus (HC)
0.5 < 1.0 = Moderate consensus (MC)
1.0 < 1.5 = Low consensus (LC)
> 1.5 = Dissensus (Dis)
\# = Strong negative consensus

5.1.3 Role performance

Nutritional care activities were more often performed than professional development, education and research activities (Table 5.5). Twelve of the 20 nutritional care activities were always or usually performed by 70 per cent or more of the respondents while only one professional development activity, "recommend reliable sources of nutrition information to patients", was always or usually performed by 70 per cent or more of the respondents.

Table 5.5

Role performance

Inventory activity	Always/ usually done (%)	Occasionally done (%)	Seldom/ never done (%)
Nutritional care activities			
Provide patient counselling	94.7	3.2	1.1
Consult with medical officer if diet order in question	90.4	7.4	1.1
Motivate patients to adhere to modified diets	85.1	13.8	0.0
Obtain patients' dietary histories	84.9	10.8	2.2
Review patients' medical records	84.9	8.6	5.4
Assess adherence to modified diets	83.0	13.8	2.1
Provide for outpatient follow-up nutritional care when indicated	81.9	14.9	2.1
Document patient's progress in medical record	78.3	16.3	4.3
Plan hospital menus for modified diets	75.9	16.1	5.7
Interpret lab and clinical findings	72.8	20.7	4.3
Prescribe appropriate modified diet based on diagnosis	72.6	24.2	2.1
Recommend appropriate diet therapy to medical officer	71.6	22.1	5.3
Evaluate menu selections of patients on modified diets	49.4	25.9	20.0
Plan general hospital menus	40.7	27.9	25.6
Calculate nutrient intakes	37.1	53.9	6.7
Mark menus with patients	33.7	24.4	39.5
Make routine visits to patients during meals	24.1	51.7	23.0

Table 5.5 cont.

Role performance

Inventory activity	Always/ usually done (%)	Occasionally done (%)	Seldom/ never done (%)
Screen newly admitted patients for nutritional risk	18.9	40.0	37.8
Distribute, collect and tabulate menus	9.6	8.4	78.3
Check trays after meals to determine intake	6.9	41.4	48.3
Professional development, education and research activities			
Recommend reliable sources of nutrition information to patients	72.6	21.6	4.9
Develop instructional material for patient education	69.1	25.8	4.1
Apply current research findings to professional practice	60.8	30.4	6.9
Review current research regularly	56.8	33.3	8.8
Provide training/ educational programs for dietetic students	53.6	15.5	27.8
Recommend references or nutrition information sources to professionals	53.0	36.3	8.8
Participate in continuing education courses	52.0	39.0	6.0
Participate in ward/team meetings	47.0	26.4	25.5
Evaluate special feedings or new dietary products	44.1	35.3	18.7
Give nutrition talks in the community	37.5	38.5	21.9
Conduct seminars for nursing staff and other health professionals	37.1	41.2	20.6
Provide training programs for catering staff	35.3	33.4	28.4
Evaluate effectiveness of material and techniques for patient education	34.3	42.1	21.6

Table 5.5 cont.

Role performance

Inventory activity	Always/ usually done (%)	Occasionally done (%)	Seldom/ never done (%)
Participate in ward rounds	31.8	31.8	34.1
Conduct nutritional care audits and participate in peer review	24.5	42.6	28.7
Communicate with Industry regarding food and nutrition products and materials	23.6	41.2	32.3
Write articles or reviews for journals or newsletters	22.5	35.3	40.2
Conduct seminars for medical personnel	19.8	35.4	42.7
Participate in team research projects	18.1	39.4	40.4
Communicate with Government regarding food and health care legislation	17.6	28.4	50.0

5.1.4 Role disparity

Role disparity was determined by measuring the difference between ideal and actual role as described in 3.2.3. For each item a mean of the difference was calculated. It should be noted that the means of the differences do not indicate how the ideal or actual role is perceived, but merely illustrate the magnitude of differences. Low disparity (least incongruity between ideal and actual performance) was assigned to means between zero and one, and moderate and high disparities, for means one to two and two or more, respectively. Low disparity was achieved for only six activities, all nutritional care activities, moderate disparity for 19 activities and high disparity for 15 (37.5 per cent) of the activities (Table 5.6).

Table 5.6
Level of disparity between ideal and actual roles

Inventory activity	Role disparity	Mean of difference (d) *	Confidence interval (95%)
Nutritional care activities			
Screen newly admitted patients for nutritional risk	Hi	2.637	± .318
Check trays after meals to determine intake	Hi	2.314	± .257
Distribute, collect or tabulate menus	Hi	2.206	± .310
Plan general hospital menus	Hi	2.069	± .362
Make routine visits to patients during meals	Hi	2.010	± .255
Calculate nutrient intakes	Mod	1.725	± .244
Mark menus with patients	Mod	1.696	± .327
Evaluate menu selections of patients on modified diets	Mod	1.667	± .347
Recommend appropriate diet therapy to medical officer	Mod	1.225	± .279
Plan hospital menus for modified diets	Mod	1.118	± .326
Interpret lab and clinical findings	Mod	1.118	± .251
Document patient's progress in medical record	Mod	1.108	± .266
Assess adherence to modified diets	Mod	1.088	± .250
Provided for outpatient follow-up nutritional care when indicated	Mod	1.069	± .287
Prescribe appropriate modified diet based on diagnosis	Low	0.980	± .254
Motivate patients to adhere to modified diets	Low	0.971	± .228

Table 5.6 cont.
Level of disparity between ideal and actual roles

Inventory activity	Role disparity	Mean of difference (d) *	Confidence interval (95%)
Obtain patients' dietary histories	Low	0.941	± .249
Review patients' medical records	Low	0.892	± .291
Consult with medical officer if diet order in question	Low	0.824	± .259
Provide patient counselling	Low	0.608	± .253
Professional development, education and research activities			
Communicate with Government regarding food and health care legislation	Hi	2.902	± .349
Participate in team research projects	Hi	2.873	± .332
Conduct seminars for medical personnel	Hi	2.873	± .327
Participate in ward rounds	Hi	2.608	± .360
Write articles or reviews for journals or newsletters	Hi	2.578	± .328
Conduct nutritional care audits and participate in peer review	Hi	2.472	± .329
Communicate with industry regarding food and nutrition products and materials	Hi	2.431	± .319
Conduct seminars for nursing staff and other health professionals	Hi	2.118	± .328
Evaluate effectiveness of material and techniques for patient education	Hi	2.098	± .311
Provide training programs for catering staff	Hi	2.049	± .357
Participate in ward/team meetings	Mod	1.980	± .348
Give nutrition talks in the community	Mod	1.931	± .331

Table 5.6 cont.
Level of disparity between ideal and actual roles

Inventory activity	Role disparity	Mean of difference (d) *	Confidence interval (95%)
Provide training/ educational programs for dietetic students	Mod	1.873	± .410
Evaluate special feedings or new dietary products	Mod	1.775	± .311
Review current research regularly	Mod	1.451	± .263
Recommend references or nutrition information sources to professionals	Mod	1.441	± .259
Participate in continuing education courses	Mod	1.431	± .251
Develop instructional material for patient education	Mod	1.147	± .283
Apply current research findings to professional practice	Mod	1.265	± .259
Recommend reliable sources of nutrition information to patients	Mod	1.059	± .230

* $0 > d \leq 1$ = Low disparity
$1 > d \leq 2$ = Moderate disparity
$d > 2$ = High disaprity

Schiller and Vivian (1974a), in their study of US dietitians, noted disparity between what dietitians perceived, or expected, their ideal role to be compared with their actual role performed. Schwartz (1981) noted moderate to high disparity for 60 per cent of activities indentified as being part of the ideal role of the Canadian dietitian. Similarly, in this study moderate to high role disparity was noted for 85 per cent of activities identified by Australian dietitians as being part of their ideal role.

There was low to moderate role disparity for the majority of the nutritional care activities but there was moderate to high disparity for all of the professional development activities. Again, similiar results were noted by Schiller and Vivian (1974a) and Schwartz (1981).

5.1.5 Deterrents to role performance

"Lack of time" was the most frequently cited reason which prevented dietitians performing activities which they expected to be part of their ideal role (Table 5.7). Of the 15 activities for which there was high role disparity "lack of time" was cited as the major deterrent for 7 activities, while "opportunity has never occurred" was cited as the major reason for high role disparity for "participate in team research", "conduct seminars for medical personnel", " conduct training programs for catering staff", "communicate with industry" and "communicate with government". High role disparity was also noted for "plan general hospital menus", "distribute, collect and tabulate menus", "make routine visits to patients during meals" and "check trays after meals to determine intake", the major deterrent being that the activity was delegated, presumably to catering officers (Appendix H).

Table 5.7

Deterrents to role performance and frequency cited by dietitians

Deterrent	Frequency cited		
	Nutritional care activities	Professional development, education and research activities	Total
Lack of time	287	289	576
Not necessary or relevant to job	211	131	342
Opportunity has never occurred	48	213	262
Staff shortage	55	78	133
Hospital policy	54	67	121
Activity delegated	113	6	119
Not interested	8	53	61
Lack of knowledge or skills	12	30	42
Medical staff prohibits	19	12	31

5.1.5. Professional image of dietitians

Almost 50 per cent of the respondents thought that the dietetic profession had a positive image and that they were viewed as being essential (18.6 per cent), the experts in nutrition (20.5 per cent) and that the profession had a high profile (10.8 per cent). However, almost 48 per cent thought that the profession had a negative image and that dietitians were viewed as being inessential (23.5 per cent), narrow minded (2 per cent) and involved only in matters dealing with catering and weight loss (22.5 per cent).

Sixty eight per cent of the dietitians surveyed felt that the image of the profession had changed favourably over the last 5 to 10 years and that the dietetic profession had gained increased credibility and visibility.

5.1.6 Desired changes to the dietetic profession

When asked what three changes they would most like to see occur in the dietetic profession the majority of respondents wanted to see more positions created both in community and clinical settings (Table 5.8). They also wished for increased recognition of the value of dietetic services and an increased public and media profile .

Table 5.8

Desired changes to the dietetic profession as ranked by dietitians

Desired change	(%)*
Increased community positions	37.2
Increased recognition of dietetic services	25.5
Increased public/media profile	20.6
Increased staffing levels in hospitals	19.6
Registration	18.6

* Respondent may have suggested more than one desired change

A lack of funding, lack of staff and "politics" were cited as obstacles to achieving these desired changes (Table 5.9). A lack of assertion among the profession's members was also perceived to be a major obstacle to achieving change. This is a trait seemingly common to predominantly female professions (Pertuiset, 1978).

Table 5.9

Obstacles to achieving desired changes, as perceived by dietitians

Obstacle	(%)*
Lack of funding	37.2
Lack of assertion among profession's members	30.4
Politics: hospital/government	20.6
Lack of staff	17.6
Medical profession	9.8

*Respondent may have suggested more than one obstacle

5.2 SUMMARY OF THE RESULTS

The results of this study reflect the results of similar studies in North America (Schiller and Vivian, 1974a, 1974b; Schwartz, 1981) which indicate that there are a number of activities which dietitians are not performing but which they perceive to be central to their ideal role. Role disparity among dietitians was highest for professional development, education and research activities and lack of time was cited as the major deterrent. Role disparity was low or moderate for the nutritional care activities, indicating that the majority of the dietitian's time is spent on direct patient care or routine activities which may be better delegated.

Almost half of the dietitians surveyed felt that the profession had a negative image among other health professions and the public. However, almost seventy per cent thought that the image of the profession had changed favourably over the last 5 to 10 years and that the profession was gaining in credibility and visibility. In the future dietitians hoped for increased staffing levels in both the community and clinical settings as well as for inceased recognition. However, they perceived a lack of funds, "politics" and a lack of assertion among members of the profession to be obstacles to achieving these changes in the profession.

CHAPTER 6

THE GENERAL PRACTITIONERS' SURVEY

6.1 PRESENTATION OF DATA

6.1.1 Year of qualification

All respondents had qualified as medical practitioners between 1936 and 1978 (Table 6.1).

Table 6.1

Year qualified : G.P.'s

Year	(%)
Before 1945	8
1946 - 1955	17
1956 - 1965	14
1966 - 1975	40
After 1975	11

6.1.2 Practice location

As the Perth telephone directory was used as one source in the selection of the study population it was to be expected that the majority of respondents would be practising in the city. The 24 doctors with country practices were members of the RACGP.

Table 6.2

Practice location

	(%)
City	74.0
Country	24.0
No response	2.0
Total	100.0

6.1.3 Nutrition education

The majority of respondents had received no formal training in nutrition, or nutrition had been integrated into other subjects in the medical curriculum e.g. biochemistry, physiology.

Table 6.3

Nutrition education in medical school

	(%)
No formal nutrition education	46.0
Integrated into other subject matter	40.0
Series of lectures in nutrition	11.0
Research or elective unit in nutrition	2.0
Separate course/unit in nutrition	0.0
No response	1.0
Total	100.0

The most frequently consulted sources of nutrition information were dietitians and professional journals (Table 6.4). Other sources of information cited were the National Heart Foundation and Continuing Education programs.

Table 6.4

Sources of nutrition education consulted by general practitioners

Source	Frequency cited (%)		
	Often	Occas.	Never
Dietitian/nutritionist	16	70	11
Professional journals	12	68	19
Health Dept. publication	7	47	43
Nutrition/medical texts	4	61	32
Medical colleagues	4	50	42
Pharmaceutical company brochures	2	44	50
Magazines	2	40	54
Television	1	26	70
Pharmacist	1	12	84
Home economist	0	2	94
Public health nurse	0	20	76
Food manufacturers' brochures	0	46	50
Radio	0	36	60
Other sources	1	8	90

6.1.4 Knowledge and utilisation of dietetic services

When asked how they viewed the dietitian 66 per cent of those surveyed stated that they saw the dietitian as a contributing member of the health care team, involved at a decision making level. Twenty five per cent of the respondents saw the dietitian as an auxillary member of the health care team, largely concerned with implementing the orders of others.

When asked how they obtained their knowledge of diet therapy procedures 42 per cent stated that they received it during their medical training, 16 per cent by working with a dietitian and 12 per cent through an acquaintance with a dietitian.

6.1.5 Frequency of referral of patients to dietitians

The doctors surveyed more often referred patients to dietitians in Private Practice than to a hospital department or Community Health Centre. This may however, reflect a lack of dietitians employed in Community Health Centres in

Western Australia, or limited access to hospital out-patient clinics, rather than a preference for private practitioners. A relatively high proportion of doctors surveyed rarely or never referred patients to dietitians.

Table 6.5

Referral of patient to dietitians, by work setting

Work setting	Frequency referred (%)			
	Often	Sometimes	Rarely	Never
Private practice	19	34	15	29
Hospital clinic	11	44	24	17
Community health centre	7	6	9	72

6.1.6 Services received from dietitians

When asked how often their primary aim in referring patients to dietitians was achieved 44 per cent stated that the aim was usually achieved and 40 per cent stated that it was occasionally achieved. This could possibly reflect a lack of success in dietary management but probably better reflects the difficulty involved in changing life-style factors, especially diet.

When asked if they had difficulty in obtaining the services of a dietitian 34 per cent indicated yes and 64 per cent indicated that they had no difficulty. Fifty eight per cent of the doctors received regular feedback on their patients from the dietitian. However, 35 per cent replied that they received no feedback, which indicates that a number of dietitians are not performing the basic professional courtesy of reporting back to referring sources.

6.1.7 Frequency of treatment of diet-related conditions

Respondents were asked to indicate how often they treated patients for various diet related conditions, these findings are presented in Table 6.6. The five most frequently treated diet related conditions were obesity, hypertension, peptic ulcer, non-insulin dependent diabetes mellitus and hyperlipidemia.

Table 6.6

Frequency of treatment of diet-related conditions

Condition	Frequency treated (%)			
	Often	Sometimes	Rarely	Never
Obesity	84	10	2	3
Hypertension	79	12	1	7
Peptic ulcer	55	31	6	7
Non-insulin dependent diabetes mellitus	43	37	11	7
Hyperlipidemia	40	39	12	8
Diverticular disease	36	45	9	9
Infant feeding problems	35	35	17	12
Pregnant women	34	30	16	19
Cancer/cachexia	21	42	21	9
Insulin dependent diabetes mellitus	19	50	23	7
Food allergy	12	37	38	12
Lactose intolerance	10	21	47	21
Anorexia/bulimia	2	23	62	12
Coeliac disease	2	13	50	4

The respondents were then asked how frequently they referred patients to dietitians for management of these diet-related conditions (Table 6.7). Patients were most frequently referred to dietitians for dietary management of insulin and non-insulin dependent diabetes mellitus, obesity, hyperlipidemia and coeliac disease.

Table 6.7

Frequency of referral to dietitians for diet-related conditions

Condition	Frequency referred to dietitian (%)			
	Often	Sometimes	Rarely	Never
Insulin dependent diabetes mellitus	51	18	16	11
Non-insulin dependent diabetes mellitus	45	27	13	10
Obesity	42	41	6	7
Hyperlipidemia	25	33	24	15
Coeliac disease	19	13	26	40
Food allergy	12	17	38	30
Anorexia/bulimia	11	14	40	31
Lactose intolerance	9	12	39	37
Hypertension	7	28	31	31
Peptic ulcer	6	14	36	41
Diverticular disease	5	19	35	38
Pregnant women	4	11	29	52
Cancer/cachexia	2	13	39	42
Infant feeding problems	1	13	39	44

There was little correlation between the frequency with which general practitioners saw patients for diet related conditions and the frequency with which they referred patients with diet related conditions to dietitians for management (Table 6.8). There was correlation at the 99 per cent confidence level for anorexia nervosa and coeliac disease and at the 95 per cent confidence level for food allergy and pregnant women.

Table 6.8
Correlation between treatment of patients with diet related conditions and referral to dietitians for management

Condition	Spearman's co-efficient (r_s)
Insulin dependent diabetes mellitus	.0819
Non insulin dependent diabetes mellitus	.0574
Obesity	.1708
Anorexia nervosa/bulimia	.3256 *
Hypertension	.0972
Hyperlipidemia	.1356
Diverticular disease	.1588
Peptic ulcer	- .1870
Coeliac disease	.3294 *
Lactose intolerance	.1814
Food allergy	.2466 **
Cancer/cachexia	.0819
Infant feeding problems	.1298
Pregnant women	.2244 **

* $p < .001$
** $p < .05$

6.1.8 Expectations of the Dietitian's role

For each of the 40 activities in the inventory previously used in the dietitians' survey, a six point Likert-type scale was used by respondents to indicate whether they expected each activity to ideally be part of the dietitian's role. Doctors indicated positive responses to 32 of the activities listed. The measurement of consensus for each activity was determined from the sample variance and is summarised in Table 6.9.

Table 6.9

Level of consensus among doctors regarding expectations of the dietitian's role

Inventory activity	Should be part of role * (%)	Unsure ** (%)	Should not be part of role *** (%)	Level of consensus +
Nutritional care activities				
Plan hospital menus for modified diets	91	2	0	HC
Plan general hospital menus	87	5	1	MC
Evaluate menu selections of patients on modified diets	86	6	0	MC
Consult with medical officer if diet order in question	86	8	0	MC
Provide for outpatient follow-up nutritional care when indicated	83	9	0	MC
Provide patient counselling	82	10	1	MC
Mark menus with patients	81	11	0	MC
Recommend appropriate diet therapy to medical officer	80	11	2	MC
Motivate patients to adhere to modified diets	80	13	0	MC
Prescribe appropriate modified diet based on diagnosis	78	12	2	MC
Assess adherence to modified diets	76	17	0	MC
Calculate nutrient intakes	68	19	6	Dis
Document patient's progress in medical record	61	24	7	Dis
Distribute, collect and tabulate menus	49	25	17	Dis
Make routine visits to patients during meals	46	36	10	Dis

Table 6.9 cont.

Level of consensus among doctors regarding expectations of the dietitian's role

Inventory activity	Should be part of role * (%)	Unsure ** (%)	Should not be part of role *** (%)	Level of consensus +
Obtain patients' dietary histories	45	39	11	Dis
Screen newly admitted patients for nutritional risk	27	46	19	Dis
Check trays after meals to determine intake	23	4	10	Dis
Review patients' medical records	14	48	28	Dis
Interpret lab and clinical findings	9	50	32	Dis
Professional development, education and research activities				
Provide training/ educational programs for dietetic students	89	4	0	HC
Provide training programs for catering staff	85	8	0	MC
Recommend reliable sources of nutrition information to patients	85	7	0	MC
Develop instructional material for patient education	84	9	0	MC
Apply current research findings to professional practice	83	9	0	MC
Write articles or reviews for journals or newsletters	82	10	0	MC
Communicate with industry regarding food and nutrition products and materials	80	11	1	MC
Review current research regularly	79	13	0	MC
Communicate with Government regarding food and health care legislation	79	11	2	MC
Evaluate effectiveness of material and techniques for patient education	79	13	0	MC

Table 6.9 cont.

Level of consensus among doctors regarding expectations of the dietitian's role

Inventory activity	Should be part of role * (%)	Unsure ** (%)	Should not be part of role *** (%)	Level of consensus +
Give nutrition talks in the community	79	12	0	MC
Recommend references or nutrition information sources to professionals	78	15	0	MC
Evaluate special feedings or new dietary products	78	15	0	MC
Conduct seminars for nursing staff and other health professionals	75	17	0	MC
Participate in continuing education courses	72	20	0	MC
Conduct seminars for medical personnel	68	21	4	LC
Participate in team research projects	64	28	0	LC
Conduct nutritional care audits and participate in peer review	60	27	5	Dis
Participate in ward/team meetings	53	31	5	Dis
Participate in ward rounds	37	43	11	Dis

* "Definitely should be" or "Should be" part of role
** "Probably should be" or "Probably should not be" part of role
*** "Should not be" or "Definitely should not be" part of role
\+ Role consensus is based on sample variance
< 0.5 = High consensus (HC)
0.5 < 1.0 = Moderate consensus (MC)
1.0 < 1.5 = Low consensus (LC)
> 1.5 = Dissensus (Dis)

Among the doctors surveyed there was a high level of consensus for only two activities, "plan hospital menus" and "provide training programs for dietetic students". There was moderate consensus for 24 of the 40 activities, low consensus for two of the activities and a lack of consensus for 12 of the activities. There was low consensus or a lack of consensus for several

nutritional care activities which dietitians view as being basic to their job i.e. "screen newly admitted patients", "obtain patients' dietary histories", "review patients' medical records"," interpret lab and clinical findings", "calculate nutrient intakes" and "document patient's progress in medical record". There was moderate consensus for a number of food service related activities such as "plan general hospital menus", "mark menus with patients" and "evaluate menu selection of patients on modified diets".

There was also a lack of consensus or low consensus for several professional development and education activities, i.e. "participate in ward rounds", "paticipate in ward/team meetings" "participate in team research projects". This seems somewhat contradictory when one considers that 66 per cent of those surveyed stated that they saw the dietitian as a contributing member of the Health Care Team.

The relative lack of agreement among doctors over the role of the dietitian is not surprising. Similiar results were reported by Schiller and Vivian (1974a) and Schwartz (1984) and are expected whenever one group evaluates the role of another profession.

Respondents were then given the opportunity to indicate what functions they considered should or could be done by a dietitian that were not currently being performed. Eighteen per cent of the doctors thought that dietitians should be more involved in preventive medicine and should spend more time educating the public in health promotion.

6.1.9 Professional image of dietitians

Respondents were then asked to express their opinion of the professional image of the dietetic profession. A variety of responses were received and are summarised in Table 6.10.

Table 6.10

Doctors' opinion of the professional image of the dietetic profession

Image	(%)
Lowkey/ Not fully appreciated	29
Important member of the Health Care Team	22
Expert in nutrition and diet therapy	16
Slowly gaining acceptance/increasing importance	6
Ineffective	5

The results indicated that in general the doctors surveyed had a positive image of the dietetic profession. The majority of respondents saw the dietitian as the expert in nutrition and a valuable member of the Health Care Team, while only five per cent indicated that they felt that dietitians were ineffective .

6.1.10 Desired changes to the dietetic profession

Finally, respondents were asked what three things they would most like to see happen in the dietetic profession in the future. In general, the doctors surveyed desired increased availability and accessibility to dietetic services (Table 6.11). They also wanted to see dietitians take on an increased media and public profile, which was needed to establish the profession in the public's mind as experts in nutrition and to combat nutrition misinformation.

Table 6.11

Desired changes to the dietetic profession as viewed by doctors

Desired change	(%)
Increased availability and accessibility	27
Increased role in health promotion	22
Increased public/media profile	19
Increased liaison with Health Care Team	9
Medicare rebate for dietetic services	8

6.2 SUMMARY OF THE RESULTS

In general, the doctors surveyed had favourable opinions of dietitians. However, while 66 per cent of those surveyed indicated that they saw the dietitian as a contributing member of the Health Care Team, involved at a decision making level, they did not expect dietitians to perform several of the decision making activities on the role inventory. They did expect dietitians to consult with the medical officer if the diet order was in question, but were less likely to expect dietitians to perform decision making activities and either "prescribe appropriate modified diet based on diagnosis" or "recommend appropriate diet therapy to medical officer". Doctors placed quite high emphasis on direct patient care but did not expect dietitians to collect, review or interpret information pertinent to diagnosis and hence patient management.

The majority of doctors did not refer patients regularly for dietary management of diet-related conditions but this was probably due to a lack of access to dietetic services rather than a dissatisfaction with the services provided by dietitians. This is supported by the fact that just over one quarter of the doctors would have liked to see an increased availability and accessibility of dietetic services in the future.

CHAPTER 7

DISCUSSION

7.1 INTERPRETATION OF DATA

7.1.1 Dietetic Workforce Supply

The most recent membership statistics of the Dietitians Association of Australia (1986a) indicate that there are approximately 1000 dietitians in Australia. This figure includes employed dietitians and qualified dietitians who have temporarily or permanently left the workforce. This number equates to a dietitian to population ratio of 65 per million, well below the current ratios for New Zealand, Canada and the United States which are 115, 140 and 220, respectively (Better Health Commision, Vol 2, 1986).

Within their profession dietitians are heavily aggregated in the hospital sector of the health services, where their main work is therapeutic dietetics for patients with disease. Recent studies (Boyce and Jackway, 1985; Dietitians Association of Australia, 1986b) have identified staff shortages within the hospital sector. Boyce and Jackway estimated that an additional 210 dietitians and 115 diet assistants were needed nationally if hospital dietetic departments were to provide even a basic level of service.

Only 11 per cent of dietitians employed in Australia are in community health positions and a further five per cent in government departments (Dietitians Association of Australia, 1986a). The publication *Personnel in Public Health for the 1980's* cited by Kaufman et al (1986) recommends a staffing ratio of 1 public health nutritionist per 50 000 population. Applying this ratio to the 1985 Australian population of 15 555 900 yields the figure of 311 public health dietitians - nutritionists needed in planning, policy, managerial and community program development roles. Table 7.1 compares the recommended staffing levels against the current staffing levels at a national and state level.

Table 7.1

Current and recommended public health dietitian staffing levels

State	Population 1985	Current positions *	Recommended positions
New South Wales	5 412 000	42	108
Victoria	4 078 500	48	81
Queensland	2 507 000	10	50
South Australia	1 353 900	19	27
Western Australia	1 383 700	12	28
Tasmania	437 400	2	9
Northern Territory	138 800	6	3
Australian Capital Territory	244 600	15	5
Australia	**15 555 900**	**154 #**	**311**

* Includes Community Health and Government Department positions

Includes 110 full-time positions and 44 part-time positions

All states fall far short of the recommended ratio. It should be noted that while the Australian Capital Territory appears to have an excess supply of public health dietitians, a number of these positions are with the Commonwealth Department of Health, concerned with national nutrition needs and issues.

Not only are staffing ratios low nationally, but rural areas are further disadvantaged, with less than 30 per cent of dietitians working outside of State capital cities. While the dietitian to population ratio in some rural areas may appear favourable, the uneven geographic distribution of the rural segment and the large catchment areas disadvantage rural populations. Just under 70 per cent of dietitians surveyed had never worked in country areas with almost one-

third of respondents indicating that they never wished to work in the country. Professional and social isolation were likely to affect a young, single dietitian's decision to work in the country. A professional support system and subsidised travel to allow dietitians to participate in continuing education and in-service training programs would appear to be attractive incentives to encourage dietitians to accept positions in the country.

More community dietitians are needed in Australia to disseminate modern reliable information and practical advice about healthy eating. As well as providing nutrition education for the general public, community dietitians can teach and advise other health professionals about nutrition.

There are however, marked differences between the work of community dietitians and that of hospital dietitians and at present dietetic training programs focus primarily on the educational needs of hospital dietitians. If positions are to be created for community dietitians then dietetic training programs will have to meet the changing educational needs of community dietitians. Special teaching will need to be augmented in the dietetics training schools on how to manage community dietetic programs on a day-to-day basis. This is needed as an additional component of the basic course and post-graduate short specialised courses. The Nutrition Task Force of the Better Health Commission (1986b) recognised this need for changes to the existing training programs and recommended that a lecturer in community nutrition be appointed at each of the five dietetics training schools. These lecturers would devote their time to training and research in community dietetics and would identify the problems and the options in community dietetics.

The Nutrition Task Force of the Better Health Commission (1986b) recommended that the number of dietitians in Australia be increased so that by 1995 their number per unit population would be at least equivalent to the figure for New Zealand, that is 115 per million population. Assuming an annual growth rate of 1.2 per cent the projected population for 1995 would be approximately 18 000 000. Applying this ratio of 115 per million population to the projected population for 1995 yields the figure of 2070 dietitians, or approximately double the current number of dietitians in Australia.

Figure 7.1 provides a model for projecting future workforce supply. Applying this model to the figures collected from the National Workforce Survey, it is possible to estimate the supply of dietitians in 1996. Based on the hours of employment of dietitians responding to the National Workforce Survey, the FTE workforce for 1984 was estimated to be 436. The response rate to the survey was 69 per cent and assuming that the survey respondents were representative of the dietetic workforce in general, the national FTE workforce for 1984 can be estimated to be 632.

The number of dietitians intending to increase their hours of employment in 1985, represented an increase of 46 FTE positions or 67 FTE positions on a national basis, while those intending to decrease their hours, or temporarily leave the workforce, represented a decrease of 44 FTE positions, or 64 FTE positions nationally. Assuming that training institutions continue to graduate an average of 90 dietitians each year, the 1984-1985 figures can be applied to the model and the 1996 workforce projected (Table 7.2).

Thus, in 1996 the projected workforce is 1718 FTE dietitians, which is approximately 350 less than the recommended supply of 2070 dietitians. This figure is a conservative estimate as, with a younger workforce, the proportion

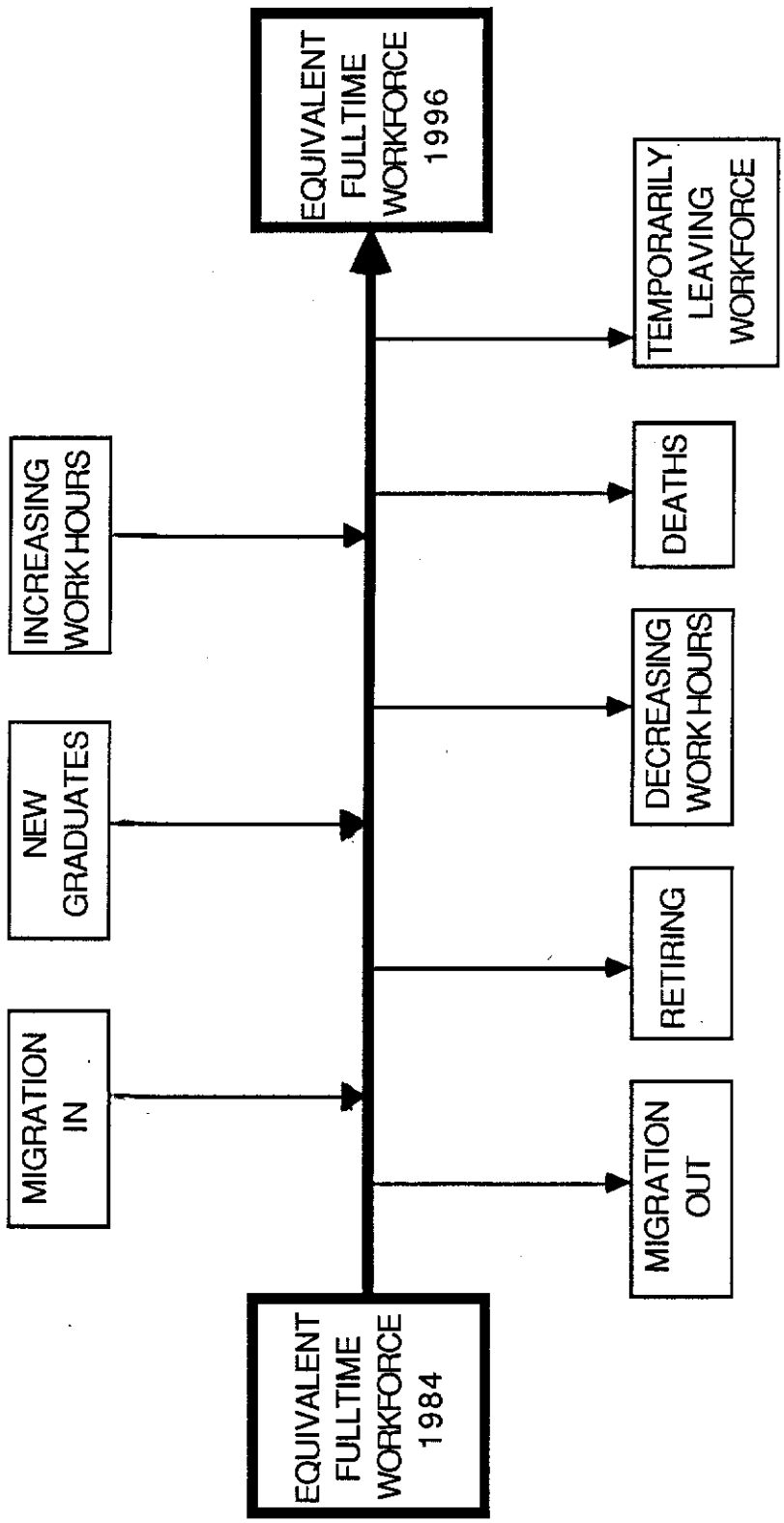


FIGURE 7.1 Model for Projecting the Dietetic Workforce Supply

TABLE 7.2

Projected Dietetic Workforce Supply: 1984-1986

YEAR	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996
NEW GRAD		90	90	90	90	90	90	90	90	90	90	90	90
MIGRATION IN		6	6	6	6	6	6	6	6	6	6	6	6
MIGRATION OUT		4	4	4	4	4	4	4	4	4	4	4	4
INC HOURS		67	77	86	96	106	115	125	134	144	153	163	173
DEC HOURS		64	73	82	91	101	110	119	128	137	146	155	164
RETIREMENT		4	5	5	6	6	7	7	8	9	9	10	10
TOTAL FTE	632	723	814	905	996	1086	1177	1267	1358	1448	1538	1628	1718

		GRADUATES PER YEAR	FTE DIETITIANS
PROP INC HOURS	0.106	90	1718
PROP DEC HOURS	0.101	100	1837
PROP RETIRE	0.006	110	1956
		120	2075
		130	2194
		140	2313

of dietitians wishing to temporarily leave the workforce is likely to be higher. At the other end of the spectrum, more dietitians may retire. It is also difficult to predict the effect of migration on workforce supply. This projected growth is also dependent on a 10.8 per cent increase annually in the number of positions for dietitians, which is a large annual increase for any health profession.

Assuming the proportion of dietitians increasing and reducing their hours of employment does remain relatively constant, training institutes would need to increase their student intakes and graduate 120 dietitians each year in order to provide the recommended 2070 dietitians by the year 1995. This would involve increased funding and employment of staff. It may also be difficult to supply students with the necessary clinical experience, dictated by the Dietitians Association of Australia and various State registration boards, as there is only a limited number of hospital diet therapy departments which are able to provide students with a broad spectrum of clinical experience. In addition, if the need for students to have increased community experience is recognised it may be difficult to provide all students with sufficient community and clinical experience. This raises the issue and need for specialisation of dietitians. That is, students entering training programs may in the future need to nominate whether they wish to be trained as clinical or community dietitians.

The results of the workforce survey indicate that many respondents would like to pursue their careers in a part-time capacity. Of the 62 respondents who intended to return to the workforce in 1985 only 13 (21 per cent) wished to return to full-time employment, fifty three per cent wished to work 20 hours or less. In addition, of the 362 employed full-time in 1984, 21 intended to temporarily leave the workforce in 1985 and a further 53 or 15 per cent wished to reduce the number of hours worked, usually to a 0.5 FTE or 0.75

FTE position. This would suggest that job-sharing would be welcomed by the profession. It is possible that the workforce supply would be bolstered by dietitians who are not in a position to accept a full-time job but would be keen to take on a part-time position.

7.1.2 Role of the Dietitian

In 1899 the term "dietitian" was first coined and was applied to a person who specialised in the knowledge of food and diet therapy. Since this time the profession has evolved markedly and the Dietitians Association of Australia (1985b) has expanded this definition and defined the dietitian as a health professional who is a science graduate and has completed a graduate professional course in human nutrition and dietetics.

The dietitian takes responsibility for:

- the nutritional care of individuals and groups in health and disease throughout the life-cycle;
- the application of the science and art of human nutrition in helping people select food to attain, maintain and promote health of individuals and groups in the community;
- education, research and counselling in normal and therapeutic nutrition;
- the education and training of health professionals, technicians and other personnel engaged in nutrition education;
- advice and consultation on the delivery of health care relating to nutrition programs in hospitals, other institutions and the community;
- nutritional management used in the treatment of disease in consultation with the medical team;
- advice and consultation on the organisation and management of food services and food programs.

In this study, in order to identify the current role of the dietitian, attempts were made to categorise these broad responsibilites into more specific dietetic activites. This had previously been done by researchers in North America (Schiller and Vivian, 1974a,1974b; Schiller, 1984 and Schwartz, 1981) but had not been attempted in Australia. An inventory of 40 dietetic activities previously used by Schwartz (1981) was adapted and modified for use in this study. Activities were identified as being either nutritional care activities or professional development, education and research activities. While the inventory was limited to 40 activities typical of the clinical role of dietitians, it is recognised that dietitians may perform other activities as part of their professional practice. The choice of more or less activities may have provided different responses.

Of the dietitians surveyed, more than 50 per cent agreed that all but three of the inventory items were congruent with their role expectations. There was high consensus that nine of the 40 activities should be part of their ideal role, eight of these were professional development activities, and moderate consensus for 25 of the activities. There was a lack of consensus for only six activities, all of which were nutritional care activities related to food service. There was a strong negative consensus for only one of these items, "distribute, collect and tabulate menus" however, for the remaining activities, "mark menus with patients", "make routine visits to patients during meals" and "check trays after meals to determine intake", responses were fairly evenly distributed over the three categories , "should be part of role", "undecided" and "should not be part of role", indicating that a difference of opinion exists as to the propriety of performing these activities as part of the dietitian's role.

These results are similiar to those of Schwartz (1981) who found that dietitians failed to agree on the propriety of five activities related to menus and meals of hospitalised patients. The findings of this study cannot be explained entirely by the fact that some of the dietitians in the sample worked outside of a hospital setting, as hospital based dietitians accounted for just over 70 per cent of the sample. Schwartz (1981) suggested that these activities may be considered by many dietitians to be part of the role of dietetic assistants or aides, at least in hospitals where such auxiliaries are employed. Schiller and Vivian (1974a) showed that dietitians from smaller hospitals indicated that they should "check trays" and this finding is consistent with the research of Kline and Dowling (1972) which showed that dietitians from large hospitals delegated more non-technical tasks to assistants than did dietitians from medium-sized institutions. While hospital size and the employment of dietetic assistants were not tested for in the Dietitians' Role Survey, they are possible explanations for the ambivalent feelings of dietitians toward these food service related activities.

Despite the high consensus that respondents showed toward their ideal role, their actual role performance was limited as evidenced by high role disparity for almost 40 per cent of the activities. This high disparity may be explained by the diversity of the respondents however, that the activity was "not necessary or relevant to job" was not often cited as being a major deterrent to role performance. Role disparity was lowest for the nutritional care activities and was highest for professional development, education and research activities, suggesting that a behavioural gap between philosophy and action existed among dietitians surveyed. Schiller and Vivian (1974a,1974b), in their study of US dietitians, noted disparity between what dietitians perceived, or expected, their ideal role to be compared to their actual role and Schwartz (1981) noted moderate to high disparity for 60 per cent of activities identified as being part of the ideal role of the Canadian dietitian.

It can be argued that, as the primary function of almost two-thirds of the respondents (65.7 per cent) was provision of a direct patient/client service, it is not surprising that role disparity was lowest for nutritional care activities. While these activities are important in the management of patients some of the non-technical tasks would be better delegated to dietetic asistants. In fact, within the category of nutritional care activities there was high role disparity for several activities central to the dietitians role for which they are uniquely trained. For instance, dietitians were more likely to "assess a patient's adherence to a modified diet" than they were to "screen newly admitted patients for nutritional risk", "document patient's progress in medical records" or "calculate nutrient intake". On the other hand while respondents failed to reach role consensus for several food service related activities, one third of respondents always or usually marked menus with patients, while almost one quarter of respondents made routine visits to patients during meal times. Only 2.5 per cent of respondents agreed that the activity "distribute, collect and tabulate menus" should be part of their ideal role, yet almost 10 per cent of respondents always or usually performed this task. Schiller (1984) in a recent study of US dietitians found that many dietitians spent time performing tasks that could be delegated to supportive personnel. In almost 10 per cent of hospitals surveyed, clinical dietitians spent more than half their time in activities directly related to meal service (menu distribution and collection, food orders, menu changes, writing menus and supervising tray service).

Lee (1977), urged British dietitians to assess their work priorities wisely, as it is not possible to deal with all aspects of the increased scope of the dietitian's work. Areas for careful consideration include too much daily involvement

with clerical matters and food production. If the profession is to advance, members must shed or delegate work that can now be carried out by other people thus enabling them to make best use of their skills and expertise.

While it is obviously important that patient needs are seen to, professional development, education and research activities are also important if the dietitian is to maintain interest in the profession. High role disparity in these activities is likely to lead to frustration and job dissatisfaction, which are counterproductive to the development of professional performance.

7.1.3 Role consensus between doctors and dietitians

For dietitians to expand their roles and to assume greater responsibility, doctors, as role partners, must concur. Harmonious relationships between doctors and dietitians are more likely if each agrees on their respective functions in the care of patients. Traditionally, the doctor has ultimate authority for medical treatment (Moss, 1984). Therefore, the dietitian must have the doctor's consent to perform an activity which directly impinges on the doctor's authority. According to Schiller and Vivian (1974a) if the role partners do not agree on the dietitian's responsibilities, job dissatisfaction, high labour turnover and health team conflicts can be predicted.

Results of the General Practitioners' survey must be interpreted in the light that most of the inventory activities related to the role of the clinical dietitian and that the doctors surveyed were not working in a hospital setting. However, it was assumed that all general practitioners would have some perception of the role of the dietitian. In general the doctors surveyed had favourable opinions of dietitians with the majority (66 per cent) subscribing to the general statement that dietitians are a contributing member of the health care team, involved at the decision making level. However, they showed less consensus for dietitians assuming specific tasks basic to health team participation. There was a consensus between the two professions for 28 of the 40 activities, however, doctors generally had lower levels of consensus (Table 7.3). A high level of consensus was reached by the doctors for only two activities "plan hospital menus for modified diets" and "provide training programs for dietetic students". Similar findings were reported by Schiller (1974a) and Schwartz (1984). Low consensus is expected whenever one group evaluates another profession's role.

Table 7.3

Summary of role consensus for dietitians and doctors

Activity	Role Consensus	
	Dietitians	Doctors
Nutritional care activities		
Provide for outpatient follow-up nutritional care when indicated	HC	MC *
Obtain patients' dietary histories	MC	Dis
Review patients' medical records	MC	Dis
Calculate nutrient intakes	MC	Dis
Prescribe appropriate modified diet based on diagnosis	MC	MC *
Consult with medical officer if diet order in question	MC	MC *
Recommend appropriate diet therapy to medical officer	MC	MC *
Document patient's progress in medical record	MC	Dis
Plan hospital menus for modified diets	MC	MC *
Motivate patients to adhere to modified diets	MC	MC *
Assess adherence to modified diets	MC	MC *
Provide patient counselling	MC	MC *
Screen newly admitted patients for nutritional risk	LC	Dis
Interpret lab and clinical findings	LC	Dis
Plan general hospital menus	Dis	MC
Mark menus with patients	Dis	MC
Evaluate menu selections of patients on modified diets	Dis	MC

Table 7.3 cont.

Summary of role consensus for dietitians and doctors

Activity	Role Consensus Dietitians	Doctors
Make routine visits to patients during meals	Dis	Dis *
Check trays after meals to determine intake	Dis	Dis *
Distribute, collect and tabulate menus	Dis #	Dis *
Professional development, education and research activities		
Participate in ward/team meetings	HC	Dis
Participate in continuing education courses	HC	MC *
Develop instructional material for patient education	HC	MC *
Evaluate effectiveness of material and techniques for patient education	HC	MC *
Recommend references or nutrition information sources to professionals	HC	MC *
Recommend reliable sources of nutrition information to patients	HC	MC *
Review current research regularly	HC	MC *
Apply current research findings to professional practice	HC	MC *
Conduct nutritional care audits and participate in peer review	MC	Dis
Participate in team research projects	MC	LC *
Conduct seminars for medical personnel	MC	LC *
Conduct seminars for nursing staff and other health professionals	MC	MC *
Provide training/ educational programs for dietetic students	MC	HC *

Table 7.3 cont.

Summary of role consensus for dietitians and doctors

Activity	Role Consensus Dietitians	Doctors
Evaluate special feedings or new dietary products	MC	MC *
Write articles or reviews for journals or newsletters	MC	MC *
Communicate with Iindustry regarding food and nutrition products and materials	MC	MC *
Participate in ward rounds	LC	Dis
Provide training programs for catering staff	LC	MC *
Give nutrition talks in the community	LC	MC *
Communicate with Government regarding food and health care legislation	LC	MC *

* Consensus between the professions

Strong negative consensus

Doctors held rather traditional views of the role of the dietitian, expecting them to be more involved in food preparation and service than dietitians expected to be. For instance, while dietitians very strongly felt that the activity "distribute, collect and tabulate menus" should not be part of their role, almost 50 per cent of the doctors surveyed expected this to be part of the dietitians role. This traditional view of the role of the dietitian may be explained in part by the fact that many dietitians, while not perceiving these type of activities to be part of their role, still perform these activities regularly. For example, while there was a lack of role consensus for the activities "distribute, collect and tabulate menus", "make routine visits to patients during meals" and "check trays after

meals to determine intake", there was high role disparity for these activities indicating that many dietitians were performing these tasks which they did not perceive to be central to their ideal role. Research by Spangler et al (1974) also revealed that the physicians they surveyed apparently associated ideal dietitians with quality of food served, yet in half of the eleven hospitals reviewed, dietitians had limited influence in this area.

Doctors placed quite high emphasis on direct patient care, expecting dietitians to counsel patients, motivate patients to adhere to modified diets, recommend reliable nutrition resources to patients and to assess adherence to modified diets. However, they were less likely to expect dietitians to collect, review and interpret information pertinent to diagnosis and hence patient management. While they did expect dietitians to consult with the medical officer if diet order was in question, they were less likely to expect dietitians to either "prescribe appropriate modified diet based on diagnosis", or "recommend appropriate diet therapy to medical officer".

Again these results reflect the findings of Schiller and Vivian (1974a) who found that while the physicians surveyed had favourable opinions of dietitians, they did not express a consensus that the dietitian should participate in the decision-making processes. Spangler et al (1974) also identified a reluctance of medical chiefs of staff to assign decision-making in health care to dietary departments. They contended that this reluctance may reflect physicians' reactions of not wanting to relinquish authority. It may also indicate their opinion of the limited contributions of dietitians or, it may indicate their genuine lack of information about the potential contribution of dietitians.

7.1.4 Reasons for role disparity

The major deterrents cited by respondents as responsible for disparity between ideal and actual role were "lack of time" and "opportunity had never occurred". Similar results were shown by Schiller and Vivian (1974b) who reported that "lack of time" was the primary deterrent to performance for 88 per cent of the items in their inventory. Schwartz (1981) reported that "lack of time" was the primary deterrent for 30 per cent of activities while "opportunity has never occurred" was the major deterrent for 35 per cent of activities.

Lack of time could be redefined as staff shortage as, with increased staffing levels more time would be available to perform activities for which there was high disparity. Staff shortages would then appear to be the major reason for role disparity. Boyce and Jackway (1985) in their survey of dietetic staffing levels in general hospitals reported that 80 of the 97 dietetic departments surveyed (83 per cent) did not have adequate staff to provide even what the Dietitian in Charge of each hospital considered to be a basic level of service. They calculated the shortage of dietitians by summing the required number of dietitians and subtracting the existing number of dietitians. They then extrapolated these results and estimated that an additional 210 dietitians were needed across Australia. This same survey revealed a national shortage of some 115 diet-aides, the employment of which would free dietitians from performing several routine and non-technical tasks.

Another major deterrent frequently cited was "opportunity has never occurred", this was especially true for activities "participate in team research", "conduct seminars for medical personnel", "communicate with industry" and "communicate with government", all high profile activities which would increase visibility and enhance the profession's image. Dietitians should ask

themselves why they have never had the opportunity to perform activities that they consider to be central to their ideal role. Schwartz (1981) suggested that the answer may lie with the dietitians themselves or with their role partners.

While reports in the literature (Spangler et al, 1974) may imply that the doctor inhibits ideal role performance of dietitians, this is not supported by the results of this study and others (Schiller and Vivian, 1974b and Schwartz, 1981). Almost 10 per cent of respondents identified the medical profession as being an obstacle to achieving change in the dietetic profession, but this seems somewhat contradictory as "doctor prohibits" was not cited as a primary deterrent for any of the activities for which there was a high degree of disparity in this study. Similar observations were made by Schwartz(1981). In Schiller and Vivian's study, limitations imposed by physicians were thought to be primary deterrents for only two activities "recommends diets" and "initiates dietary prescriptions", activities which are directly related to the physician's functions.

If dietitians' role partners are responsible for opportunities never having occurred, then it is more likely that they are unaware of the dietitians' scope of professional practice or they simply may not avail themselves of these services. According to the physicians surveyed by Spangler et al (1974), the three most important competencies dietitians should possess included:

a) using food composition knowledge in designing dietary plans;

b) assuring patient's satisfaction with food.

c) utilising nutrient recommendations for individuals in various environments and states of life in planning the patient's dietary pattern;

competencies which do not adequately reflect the dietitian's educational background in biochemistry, physiology and diet therapy. Similarly in this study, the lack of consensus between the two professions over the ideal role of the dietitian is likely to imply a lack of awareness of the dietitian's unique skills and expertise on the part of the doctors surveyed.

Dietitians may have failed to create opportunities to perform their role to its full potential, through lack of intitiative or assertion. A fact which is recognised by members of the profession who cited "lack of assertion" as being a primary obstacle to achieving a more positive professional image in the future. Dietitians cannot be complacent and assume that doctors and other role partners with whom they work are aware of their expertise and that they will automatically provide such opportunities for them. In fact reports in the literature suggest that the role of the dietitian is constantly challenged by other members of the health care team (Nestle,1984) or may even be a left-over role (Smith, 1982) . The efforts to improve the nutritional training of other health professionals, particularly pharmacists and nurses, poses a threat to the position of the dietitian as an authority in nutrition. If dietitians are to assume or maintain their role as active members of the health care team in the future, they must ensure that team members are aware of their skills and potential contributions. Dietitians must be competent and demonstrate their competency.

Pertuiset (1978) identified several characteristics of career women which may make it difficult for women to assume an equal footing with male colleagues in senior administrative and decision-making positions. She enumerated seven characteristics common to most career women. These are:

- A strong tendency to enter personal service occupations. These are the occupations already sex-typed, such as nursing, teaching, secretarial work, the social services.
- Conformity to the sex-stereotyping of subordination to male colleagues.
- Acceptance of and conformity to the stereotyping of male-female characteristics and behaviours. *He* acts as a leader, is aggressive, ambitious and competitive. *She* is affectionate, gentle, sensitive to the needs of others, soft spoken and does not use harsh language.
- A weak formal communications network with hierarchial, usually male, superiors.
- Poor support for each other within their own reference group.
- Little understanding of the nature and importance of power, fear of power and failure to use it.
- A self-image and aspirations and expectations which exclude the possibility of moving into positions of power and leadership.

(Pertuiset, 1978, p271)

According to Calvert and Gussler (1984) dietetics, as a "woman's profession", has attracted practitioners who have a high need for giving service and a low need for power. Qualities that make an excellent supportive professional have been nurtured at the expense of qualities that make a good leader.

During their training, dietitians primarily learn nutritional and medical technology; rarely do they study the structure of organisations and organisational decision-making processes. As a consequence, according to

Blanke (1982), dietitians begin their careers as highly trained but politically naive specialists. They are not adequately prepared to acquire and allocate resources and design and monitor the workflow and as a result, many feel powerless and frustrated on the job.

Blanke suggests that if dietitians are to assume the leadership role that they desire, they will have to change some of their values. He sees dietitians as being highly socialised individuals who feel most comfortable when living by the rules and adhering to the norms of society. He suggests that to take on a leadership role dietitians will need to become autonomous persons who challenge rules when they think they are irrelevant, ineffective or immoral. In addition, dietitians must be more empathic, being aware of others' needs and making decisions accordingly.

These changes can be accomplished in two ways: by recruiting people with these values into the profession, and by teaching the theory and mechanics of organisation and politics in basic training courses and in-service programs. Dietitians already in the profession who exhibit the values needed could be used as role models for the changes to be made in dietitians' professional preparation.

7.1.5 Job satisfaction

High role disparity may be associated with job dissatisfaction and in addition basic disagreement between doctors and dietitians on role expectations could result in group disharmony and job dissatisfaction. In a study by Broski and Cook (1978), dietitians' job satisfaction was contrasted with that of three other groups of allied health professionals (physiotherapists, occupational therapists and medical technologists). Except for pay, dietitians had the lowest overall job satisfaction and the least satisfaction with all job facets investigated.

However, these results must be interpreted in light of the fact that the sample was restricted to recent graduates in medical dietetics from a single educational institution.

According to Calbeck et al (1979) these results were predictable as studies through the years have reported that job satisfaction increases with age and tenure in an organisation or profession. This finding is supported by this study which revealed that while, as a group, dietitians reported a moderate level of satisfaction for most job facets, dietitians aged less than 25 years where more likely to be dissatisified with the variety of skills used in their work ($p < .001$), recognition given by the medical profession and other allied health professionals ($p < .001$) and with provisions for continuing education ($p < .01$).

Similarly, in the American Dietetic Association Dietetic Manpower Demand Study, most respondents indicated moderate levels of job satisfaction, they were however dissatisfied with their professional image. Consistent with the findings of other studies (Calvert et al, 1982; Myrtle, 1978), this study revealed that dietitians had a poor self-image. Almost half of the respondents thought that the profession had a negative image and that dietitians were viewed as being inessential, narrow-minded and involved only in matters dealing with catering and weight loss. However, the majority of doctors surveyed viewed the dietitian as an important member of the health care team and an expert in nutrition and diet therapy. An investigation by Calvert et al (1982) of 106 acute care hospitals provided similar data on how dietitians perceived their role and how they were viewed by nurses and hospital administrators. They found that 42 per cent of the responding dietitians

believed that other health care professionals viewed them as cooks, food preparers or waitresses. In reality other professionals thought of dietitians as deliverers of nutritional care.

A study by Myrtle (1978) revealed that "lack of status" was a significant source of job dissatisfaction, specifically "exclusion from the health care team" and "lack of acceptance of dietetic input". Due to the central importance that membership of the health care team plays in the role of the dietitian, those activities identified in this study which clearly involve performance as a team member were identified. These activities are listed in Table 7.4 along with the degree of role disparity. All but one item registered moderate or high disparity suggesting that dietitians were not functioning to their satisfaction as members of the health care team.

Table 7.4

Activities involving dietetic contribution to the health care team

Activity	Role disparity
Participate in ward rounds	Hi
Participate in team research projects	Hi
Conduct seminars for medical personnel	Hi
Conduct seminars for nursing staff and other health professionals	Hi
Recommend references or nutrition information sources to professionals	Hi
Recommend appropriate diet therapy to medical officer	Mod
Participate in ward/team meetings	Mod
Consult with medical officer if diet order in question	Low

One solution would be to leave the situation, i.e., change positions. The finding that 51 per cent of respondents had spent less than two years in their current position and 75 per cent less than five years may be a reflection of the youth of the sample. However, as only nine per cent had been qualified for less than 2 years, it might well be a reflection of job dissatisfaction leading to high turnover rates. Schiller and Vivian (1974a) in their study found that more than 50 per cent of the dietitians had been in their positions less than three years while more than 60 per cent of the physicians had been in their practices more than 10 years. They attributed the differences in mobility between the two groups in part to be differences in satisfying role expectations.

7.1.6 Utilisation of Dietetic Services

The results of this study indicated that doctors did not often refer patients to dietitians. Only 11 per cent often referred patients to hospital out-patient clinics and 19 per cent to private dietitians. Almost three quarters of the respondents (72 per cent) never referred patients to dietitians working in Community Health Centres, which probably reflects the small number of dietitians working in Community Health Centres in Western Australia. A larger study by Helman (1985) of 777 general practitioners across Australia revealed that the general practitioners surveyed were giving nutritional advice to 13 per cent of their patients. Helman found that most practitioners (80 per cent) gave personal counselling to their patients; 39 per cent used referral to an infant welfare centre; 20 per cent offered printed handouts while only one per cent referred patients to a dietitian.

In this study doctors were more likely to refer patients to dietitians for more uncommon conditions such as coeliac disease (r_s .3294, $p < .001$) and anorexia nervosa (r_s .3256, $p < .001$) than they were for the more common chronic

conditions such as obesity and hypertension. For example 84 per cent of respondents often treated patients with obesity yet only 42 per cent often referred patients to a dietitian for management of this condition, similarly 79 per cent often treated patients for hypertension but fewer than 10 per cent often referred patients for dietary management.

The public does regard doctors as credible sources of nutrition information. A study by Kunkle et al (1986) in a survey of South Carolina adults revealed that doctors were the nutrition information source most frequently used by respondents and were the source most respondents believed to be the most credible. A recent Australian study (Worsley and Crawford, 1985) showed that, although doctors were not the most common source of education about diet (competing with patients' friends, the media, health store proprietors and naturopaths), they were regarded as the most reliable. Doctors therefore have a responsibility to their patients to have an adequate knowledge of nutrition . However, the literature (Gautreau and Monsen, 1979 ; Modrow et al, 1980 and Weinsier, 1985)) suggests nutrition knowledge of doctors and medical students is poor and that they are not adequately prepared at medical schools to meet their patients' needs.

In this study almost half (46 per cent) of the respondents had received no formal nutrition education, 11 per cent had received a series of nutrition lectures and nutrition had been integrated into other subject matter for 40 per cent of the respondents. However, when nutrition is integrated into other areas of the medical curriculum it runs the risk of being "lost" (Dutra de Olivera, 1976). Such a lack of nutrition education is of concern when one considers that the respondents in Helman's study study tended to give more specific than general advice, yet they indicated only average confidence in their ability to

give nutrition advice (mean rating on a scale of 1 to 5 was 2.56). Similarly, in a study by Wechsler et al (1983) of almost 500 doctors in Massachusetts, U.S.A., 35 per cent of respondents were very prepared to counsel patients yet only 7 per cent considered that they were very successful in helping patients, although a higher percentage (20 per cent) were optimistic about their ability to help patients to modify their diet.

The question then remains why don't doctors utilise the services of the one profession uniquely trained to provide nutrition care and education. The most obvious answer is that doctors are just not aware of the role and expertise of the dietitians, as revealed by this study and others (Schiller and Vivian, 1974a, 1974b; Schwartz, 1984 and Spangler et al, 1974). Another possible reason is that doctors and patients have limited access to the services of dietitians. Only a small percentage of dietitians work outside of the hospital setting, approximately 10 per cent in community health positions and 12 per cent in private practice. While some hospital out-patient clinics do see patients referred by General Practitioners the services of these clinics are more often limited to those patients who are or have been in-patients of the hospital. Therefore, a person with a diet-related condition requiring dietary management, but not hospitalisation, has limited access to dietetic services. In fact, 34 per cent of doctors in this study indicated that they had difficulty in obtaining the services of a dietitian and just over one quarter of respondents (27 per cent) indicated that they would like to see an increased availability of, and accessibility to, dietetic services.

At present patients are unable to receive a rebate for dietetic services under the Medicare Benefits scheme. Private health insurance funds do provide a rebate under their ancillary benefits but many people do not belong to such funds. The provision for dietetic services as part of Medicare would increase the

accessibility of dietetic services and was one of the desired changes proposed by eight per cent of general practitioners.

A third reason may be that doctors are dissatisfied with the services of dietitians. Forty per cent of respondents indicated that their primary aim in referring patients to dietitians was only occasionally achieved and 35 per cent indicated that they did not receive feed-back on their patients from the dietitian. In defence of dietitians, nutritional counselling, the process of helping people establish and keep good nutritional habits, is extremely difficult and complex. According to Zifferblatt and Wilbur (1977) there are many misconceptions or illusions that abound in the medical community about the process of changing nutritional habits. One such illusion often held by referring doctors, is that lasting dietary changes require only a few, highly structured interviews during which the dietitian reviews with the patient the nutritional or therapeutic rationale for a new diet and prescribes dietary changes. Any expectation, by referring doctors, that immediate and lasting change will result from a few counselling sessions is clearly unrealistic. Dietitians should make it clear to both patients and referring doctors that, in most cases, they cannot be expected to help people make lasting nutritional changes in a few brief counselling sessions. However, lack of communication and feed-back as experienced by 35 per cent of doctors surveyed in this study does little to improve such misconceptions.

Finally, anecdotal evidence suggests that doctors may find writing lengthy referrals bothersome and time consuming,deterring them, in some small way, from referring patients to other health professionals. This problem could be overcome by dietitians working in community health centres and private practice providing their referring sources with standardised referral forms.

7.1.7 Desired changes to the dietetic profession

When asked what three things they would most like to see occur in the dietetic profession in the future, dietitians and doctors proposed similar desired changes (Table 7.5). Doctors desired increased availability and accessibility to dietetic services and this would be achieved by increases in staffing levels and in the number of community dietitian positions, as desired by dietitians. Both groups wanted to see an increased public and media profile, which was needed to establish the profession in the public's mind as experts in nutrition and to combat nutrition misinformation.

Table 7.5

Desired changes to the dietetic profession as ranked by dietitians and doctors

Desired change	Dietitians	Desired change	Doctors
	(%)*		(%)*
Increased community positions	37.2	Increased availability and accessibility	27.0
Increased recognition	25.5	Increased role in health promotion	22.0
Increased public/ media profile	20.6	Increased public/ media profile	19.0
Increased staffing levels	19.6	Increased liaison with health care team	9.0
Registration	18.6	Medicare rebate for dietetic services	8.0

* Respondent may have suggested more than one desired change

7.2 SUMMARY

7.2.1 There are too few dietitians in Australia to meet the consumer need and demand for nutritional care and education. The number of dietitians should be increased so that by 1995 their number per unit population would be 115 dietitians per million population. In the meantime, the present number of community dietitians should be increased to approximately 300, which equates to a ratio of 1 community health dietitian per 50 000 population. An additional 211 hospital employed dietitians and 115 diet aides are needed if hospital diet therapy departments are to provide a basic level of service.

7.2.2 Despite the high consensus that dietitians showed toward their ideal role, their actual role performance was limited as evidenced by high role disparity for almost 40 per cent of the activities. Role disparity was highest for professional development, education and research activities and lowest for nutritional care activities, suggesting that a behavioural gap between philosophy and action exists among the dietitians surveyed.

7.2.3 While in general, the doctors who participated in this study had favourable opinions of dietitians they held rather traditional views of the role of the dietitian expecting them to be more involved in the areas of food preparation and service than the dietitians expected to be. They failed to reach a high level of consensus for a number of activities which dietitians perceived to be central to their ideal role.

7.2.4 "Lack of time" was the major deterrent cited by dietitians as responsible for disparity between ideal and actual role. Lack of time could be redefined as staff shortage as, with increased staffing levels more time would be available to perform activities for which there was high disparity. Another deterrent frequently cited was "opportunity had never occurred". This may reflect that roles partners are unaware of the dietitian's scope of professional practice and thus do not avail themselves of these services or may represent a lack of intitiative on the part of the dietitians, who may have failed to create opportunities to perform their role to the full potential.

7.2.5 High role disparity and a lack of agreement between dietitians and doctors in relation to the role and responsibilities of the dietitians may lead to job dissatisfaction, high labour turnover and health team conflicts. While as a group, dietitians in this study reported a moderate level of satisfaction for most job facets, dietitians aged less than 25 years were more likely to be dissatisified with various aspects of their job. Just over 50 per cent of respondents had spent less than two years in their current position and 75 per cent less than five years, which may be a reflection of job dissatisfaction, leading to high job turnover.

7.2.6 The doctors surveyed did not readily utilise dietetic services. This may in part be due to a limited access to dietitians practising outside of the hospital setting or may reflect doctors' reactions of not wanting to relinquish authority. It may also indicate their opinion of the limited contribution of dietitians or, it may indicate their genuine lack of information about the potential contribution of dietitians.

7.2.7 Both doctors and dietitians wanted to see changes made in the dietetic profession and perhaps surprisingly proposed similar changes. Doctors desired an increased availability and accessibility to dietetic services and this would be achieved by increases in staffing levels and in the number of community dietitian positions, as desired by dietitians. Both groups wanted to see an increased public and media profile, which was needed to establish the profession in the public's mind as experts in nutrition and to combat nutrition misinformation.

CHAPTER 8

CONCLUSIONS AND RECOMMENDATIONS

8.1 CONCLUSIONS

The cost of diet-related disease is a strain on the ever-increasing health care costs of Australia, both in economic terms and in terms of human suffering. It is difficult to accurately quantify these costs and often only approximate costs can be estimated.

In this country, hospital and medical costs associated with diet-related diseases were estimated to be $3300M and $1400M respectively during 1983-1984 (Commonwealth Department of Health, 1985). Estimates by the U.S. Senate Select Committee on Nutrition and Human Needs (1977) indicated that improved nutrition might cut that nation's health care costs by one third. Applying the U.S. estimates to the estimated 1984-1985 Australian health expenditure, an improvement in nutrition would have resulted in a savings of approximately $5 billion in the cost of health care. A figure which, as the Nutrition Task Force of the Better Health Commission (1986b) pointed out, was coincidentally equivalent to the nation's total projected deficit for the 1985-1986 financial year.

Obviously, these cost savings will not be realised in the short term. It is likely that a period of at least 10 - 20 years will elapse before any real benefits of increased health promotion funding and activities will be seen in terms of health care savings. In the meantime financing of tertiary prevention, or curative, services must continue at their present level.

Australian data on the cost of diet-related disease, limited to a small number of discrete cost-studies of individual conditions, are provided in Table 8.1.

Table 8.1

Estimated annual cost of selected diet-related disease in Australia

Cardiovascular disease	$1500 - $2000 million
Diabetes mellitus	$600 million
Alcohol related problems	$950 - $1500 million
Osteoporosis	$200 million

Source: Better Health Commission, 1986b.

Dietitians as members of the only profession whose primary concern is the nutritional health of people have a major contribution to make to the health of the Australian population with the potential to significantly reduce health care costs. However, for a variety of reasons, the full potential of the dietetic profession is not being fully realised.

Firstly, the dietetic workforce is under-represented in Australia, and despite the best efforts of the profession, it is unlikely that the consumer need and demand for nutritional care and education will be able to be met by the existing dietetic workforce.

Secondly, the dietetic profession is heavily aggregated in the hospital sector, dealing primarily with existing diet-related problems. The major health care savings associated with nutrition are to be made in the health promotion

arena. Here dietitians have a role to play both in effecting change in the food supply through liaison with and education of primary and secondary food industries and through education of the general public. More community dietitians are needed to disseminate reliable information and practical advice about healthy eating to the Australian population.

Within the hospital sector, dietitians expect to play a greater role in the nutritional assessment and nutrition education of patients, but spend a considerable part of their time performing non-technical food service related activities which could be more appropriately delegated to diet assistants. This would free them to perform those tasks and responsibilities for which they are uniquely trained.

Finally, the services and expertise of the dietetic profession are not appropriately utilised by other members of the health care team, specifically doctors. This may imply that doctors are either reluctant to relinquish authority or that they have a poor opinion of the contribution of dietitians to the health care team. However, the results of this and other studies indicate that doctors are genuinely unaware of the expertise of dietitians and their potential contribution to the management of their patients.

8.2 RECOMMENDATIONS

8.2.1 Recommendation 1

It is recommended that the number of dietitians in Australia be increased so that by 1995 their number per unit population would be 115 per million population, which is equivalent to the figure for New Zealand. Applying this ratio to the projected population of 18 000 000 for 1995 yields the figure of 2070 dietitians. Within this figure the number of community dietitians should be increased to 360 which is equivalent to a ratio of 1 community/ public health dietitian per 50 000 population. In addition, based on present day figures, an additional 210 hospital based dietitians and 115 diet assistants are needed nationally if hospital dietetic departments are to provide even a basic level of service.

8.2.2 Recommendation 2

Despite the high consensus that dietitians show toward their ideal role, their actual role performance is limited. High role disparity is likely to lead to frustration and job dissatisfaction, which are counterproductive to the development of professional performance. It is recommended that dietitians should examine those activities which they perform but do not perceive to be part of their role, make moves to delegate these tasks to non-technical staff and introduce more professionally challenging and fulfilling activities for which they have been uniquely trained.

8.2.3 Recommendation 3

The work of community dietitians differs markedly from that of hospital dietitians. It is recommended that each of the five training institutions should apppoint a Lecturer in Community Nutrition. These lecturers should devote their time to training and operational research in community dietetics. In addition all courses should include units dealing with the theory and practice of health promotion and health education techniques, emphasising the preventive and health promotion aspects of nutrition. Practical training should be provided under the guidance of experienced community dietitians and other health promotion agencies. The clinical practice component of the course should be extended to include at least four weeks of community activities. Alternatively, interested students may be streamed into specialised studies in community nutrition aimed at meeting the special needs and demands of community dietetics.

8.2.4 Recommendation 4

It is recommended that nutrition education be introduced into the curricula of medical schools and as a component of post-graduate courses for general practitioners and other medical specialties. The primary aim is to give medical students a systematic understanding of the elements of nutrition which they can apply when they meet nutritional aspects of diagnostic, therapeutic or community medicine problems, first in training and later on in practice.

At present no medical school in Australia has a Professor of Human Nutrition whose primary role is the teaching of medical students. One staff member with a background and special interest in human nutrition should be appointed and

given the responsibility to co-ordinate the nutrition teaching where this is integrated into other subjects, to ensure that nutrition receives the proper priority it deserves, and to organise a course of core lectures on useful topics in nutrition that are not dealt with by the major teaching departments.

Ideally nutrition should be recognised as a well-defined specialty, labelled as a core unit and taught during concentrated blocks of time. Nutrition education should begin during the first and second years of medical school and continue during the clinical years, internship and residency. A required course in basic principles of nutrition during the preclinical years is desirable. Information on the role of nutrition in specific disease states could then be included in lectures during the clinical years.

Emphasis should not only be on clinical nutrition. If our goal is the prevention of disease, then the doctor must know normal nutrition as it applies to the life-cycle and transmit this knowledge to the patient and the family. The food people eat and their nutritional status are critical factors in the promotion of health and the prevention of diseases and the recovery and rehabilitation from illness and injury.

8.2.5 Recommendation 5

Doctors are unaware of the role and scope of training of dietitians and their potential contribution to patient management. Clarification of roles of health professionals should occur during the professional's education. It is recommended that opportunities for joint academic and clinical experiences among medical and dietetic students be provided. This would promote better cooperation among health team members and optimal utilisation of health team participants.

Students from both disciplines could participate in joint nutrition seminars, workshops and clinics. They could also work on joint projects, each lending their unique skills and expertise, encouraging role identification and clarification.

8.2.6 Recommendation 6

It is recommended that a modifed version of the Workforce Survey and the Role survey be conducted every 10 years by the Dietitians Association of Australia. The collection of the essential data provided by these surveys is needed by the education authorities who require an indication of the probable numbers and types of health personnel that will be required and the extent to which their future work roles will change; health service administrators who must have some knowledge of the likely availability of workforce supply for present and future health planning; and the professional association so that continuing education needs of members can be planned for and the interests of its members best represented.

8.2.7 Concluding Note

These recommendations assume that the Australian government is serious about its committment to health promotion and the prevention of disease. Dietitians can only realise their full potential and undertake their optimal role as nutrition consultants and educators if they work in a health care system which emphasises the promotion of better health and the prevention of disease.

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APPENDIX A

WAIT

Western Australian
Institute of Technology
Kent Street, Bentley
Western Australia 6102
Phone (09) 350 7700

Telex AA92983
Fax (G3 : G2)
(09) 458 4661

September 1984

Dear Colleague,

I am currently undertaking a survey into Dietetic Manpower in Australia as part of the requirements for a Master of Applied Science degree.

There are no comprehensive data relating to Dietetic Manpower currently available in Australia. Your participation in this survey is very important as the information gained will be of value to the profession in defining the present supply and demand of Dietitians and to provide planning for future dietetic needs.

You can help by filling in the attached questionnaire as fully and accurately as you can. Please assist this survey by returning the questionnaire promptly - preferably by the 31st October 1984. Use the enclosed envelope for return; no stamp is needed. For data to be useful a high response rate is essential.

Information which you give will be treated confidentially at all times. A summary of the results will be made available to the D.A.A. newsletter.

Thank you for your assistance.

Yours sincerely,

Jane A. Scott
Senior Tutor in Nutrition and Dietetics

APPENDIX B

School of Community Health

WAIT

Western Australian Institute of Technology
Kent Street Bentley
Western Australia 6102
Phone 09 350 7927
Telex AA92983

October 1984

Dear Colleague

I am currently undertaking a survey into Dietetic Manpower in Australia as part of the requirements for a Master of Applied Science degree.

Recently, all members of the Dietitians Association of Australia (DAA) were asked to complete a comprehensive questionnaire which will be used to identify present supply and demand of dietitians and to provide information for future planning.

In order for the survey to be a true indication of existing Dietetic Manpower in Australia efforts are being made to contact all dietitians in Australia. You have been identified by a colleague as a qualified dietitian who possibly has not received the attached questionnaire.

I would very much appreciate your assistance in collecting this much needed information.

You can help by filling in the questionnaire as fully and accurately as you can. Please assist this survey by returning the questionnaire promptly - preferably by the 31st October 1984. Use the enclosed envelope for return; no stamp is needed. For data to be useful a high response rate is essential.

Information you give will be treated confidentially at all times.

Thank you for your assistance.

Yours sincerely

Jane A Scott
Senior Tutor in Nutrition and Dietetics

APPENDIX C

DIETITIANS ASSOCIATION OF AUSTRALIA - MANPOWER STUDY

1. Please print all responses or number appropriate boxes.

2. This information will be treated as strictly confidential and will be used for statistical purposes only.

3. Numbers at the side of boxes are for office use only.

D.A.A.membership number _____

OR

Name _____

Address _____

_____

_____

ONCE RESPONDENTS HAVE BEEN CHECKED AGAINST THE DAA MEMBERSHIP LIST THS COVER SHEET WILL BE REMOVED AND DESTROYED TO ENSURE CONFIDENTIALITY.

SECTION A. PERSONAL INFORMATION

1. Age at last birthday (please write in the adjacent boxes)

2. Sex (please write appropriate No. in box)

   1. Male 2. Female

3. Marital Status (please write appropriate No. in box)

   1. Married 2. Widowed

   3. Divorced or Separated 4. Single

4. Do you presently have any dependents? (please write appropriate No. in box)

   1. YES 2. NO

5 If YES, please state number of dependents in the following categories

   Pre-school

   Primary

   Secondary

   Tertiary

   Employed and living at home

SECTION B. PROFESSIONAL EDUCATION

6. Place of Graduation (please write appropriate No. in box eg NSW = 01)

   1. N.S.W. 2. Victoria

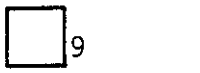
   3. Queensland 4. S.A.

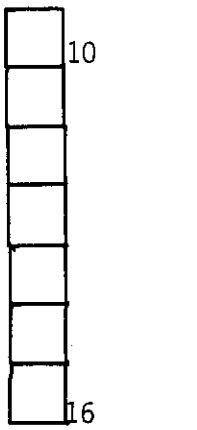
   5. W.A. 6. United Kingdom

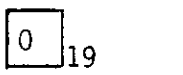
   7. United States of America 8. Canada

   9. New Zealand

   10. Other (please specify) _____







7. Year of basic Dietetic qualification (please write year in adjacent boxes)

1	9		

2

8. What is the highest Dietetic related qualification you hold? (please write appropriate No. in box)

1. Diploma
2. Associateship
3. BAppSc/BSc
4. Graduate Diploma
5. Masters
6. PhD
7. Other (please specify)

_____

_____

24

SECTION C. EMPLOYMENT

9. Year of commencing employment in Australia? (please write year in adjacent boxes)

1	9		

2

10. In which State are you currently employed or residing? (please write appropriate No. in box)

1. N.S.W.
2. Victoria
3. Queensland
4. S.A.
5. W.A.
6. Tasmania
7. A.C.T.
8. Northern Territory

29

11. Are you presently working as a Dietitian or in a related area?

1. YES
2. NO

30

12a If YES how many hours a week are you officially recognized as working i.e. paid for. (please write No. of full hours in box eg. 37.5 hrs = 38hrs)

32

12b How many hours a week do you actually work? (please write No. of full hours in box eg 37.5hrs = 38 hours)

34

13. If not presently working as a Dietitian, or in a related area, are you: (please write appropriate No. in box)

1. Retired
2. Unemployed but seeking employment as a Dietitian
3. Temporarily left the work force (eg. maternity leave, travel) but plan to work again
4. Working other than in dietetics, but seeking employment as a Dietitian
5. Working other than in dietetics, with no intention of working as a Dietitian
6. Other (please specify) _____

_____

☐ 35

14. Work Setting (please read the entire list and choose the one where you spend most of your time practicing as a Dietitian eg General Hospital = 01)

1. General hospital
2. Paediatric hospital
3. Community Health Centre
4. Private Practice
5. Government department
6. Research Centre
7. Industry
8. Educational Institution
9. Food Service Institution
10. Geriatric hospital/nursing home
11. Mental health/Intellectually Handicapped Persons Institution
12. Other (please specify) _____

_____

_____

☐☐ 37

15. How many hours a week were you recognised as working 12 months ago?
(please write appropriate No. of full hours in box)

☐☐ 39

16. What were you doing 12 months ago? (please tick appropriate box below)

1. Retired ☐
2. Unemployed but seeking employment as a Dietitian ☐
3. Temporarily out of the workforce, (eg maternity leave, travel) ☐ 40
4. Working other than in Dietetics, but seeking employment as a Dietitian ☐ 42
5. Working other than in Dietetics, with no intention of working as a Dietitian ☐
6. Working as a Dietitian, as above (ie in same position as Question 14) ☐
7. Working as a Dietitian, but in a different position (please specify from Question 14 No.___) ☐
8. Full-time study ☐
9. Other please specify. ☐

_____

_____

IF YOU ARE NO LONGER WORKING AS A DIETITIAN, OR IN A RELATED AREA, WITH NO INTENTION OF DOING SO IN THE FUTURE PLEASE GO TO SECTION E

17. How many hours a week would you like to, or intend to be working 12 months from now? (please write appropriate No. of full hours in box) ☐☐ 4

18. What would you like to be, or intend to be, doing in 12 months time (please tick appropriate box below)

1. Retired
2. Unemployed but seeking employment as a Dietitian
3. Temporarily out of the workforce, (eg maternity leave, travel)
4. Working other than in Dietetics, but seeking employment as a Dietitian
5. Working other than in Dietetics, with no intention of working as a Dietitian
6. Working as a Dietitian, as above (ie in same position as Question 14)
7. Working as a Dietitian, but in a different position (please specify from Question 14 No.___)
8. Full-time study
9. Other please specify.

_____

_____

45

47

IF YOU ARE NOT CURRENTLY WORKING AS A DIETITIAN, OR IN A RELATED AREA BUT INTEND RETURNING TO WORK IN THE FUTURE PLEASE GO TO SECTION E

19 How long have you worked in your present position?

Yrs Mths 51

20. If working in a hospital (general, paediatric etc), what size is the hospital? (please write appropriate No. in box)

1. fewer than 100
2. 100 - 199
3. 200 - 499
4. 500 or more

52

21. If working in a hospital how many dietitians (self included) are employed? (please write No. in adjacent boxes eg two Dietitians = 02)

54

22. What is your official title at your place of employment? (please write below)

_____

_____ ☐ 55

23. At what level or grade are you employed? (please write below)

_____ ☐ 56

_____

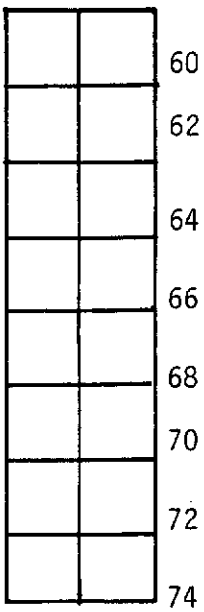
24. What is your primary function? (please write appropriate No. in box eg Administration = 2)

1. Provide direct patient/client service
2. Administration
3. Consultation
4. Research
5. Class-room teaching ☐ 57
6. Student supervision
7. Food service administration
8. Staff supervision
9. Other (please specify) _____

_____

25. If you have a secondary function, select the appropriate code from the list above and enter it in the box. ☐ 58

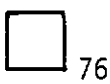
26. What are the health problems of the patients/clients you encounter most frequently in your work? (select up to 8 in order of frequency, enter codes in boxes eg hyperlipidemia = 05)



1. Obesity
2. Diabetes mellitus
3. Renal disorders
4. Hypertension
5. Hyperlipidemia
6. Anorexia nervosa
7. Gastro intestinal disorders
8. Cancer
9. Inborn errors of metabolism
10. Allergy
11. Enteral/parenteral nutrition
12. General nutrition advice
13. Burns
14. Mental retardation
15. Obstetrics & gynacology
16. Other (please specify)_____

27. How many qualified Dietetic staff do you have under your supervision? (please write No. below)

28. How many support staff do you have under your supervision? (eg. Diet Aides, Catering Staff, Clerical) (please write No. below)

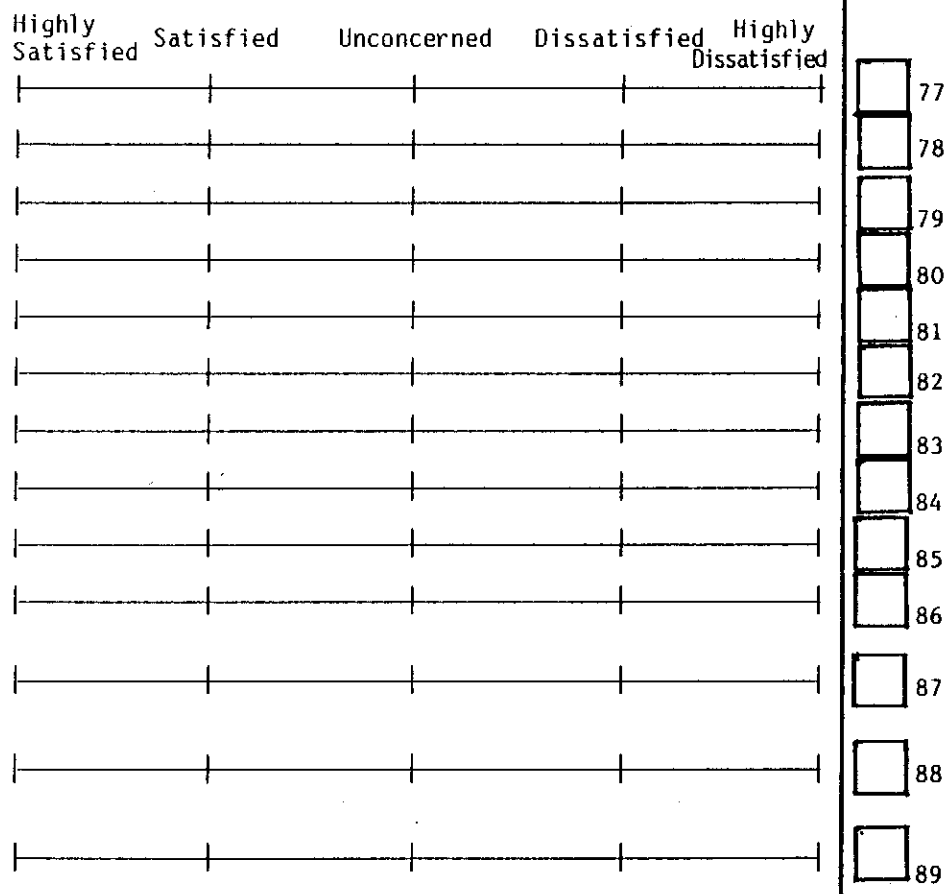


SECTION D - JOB SATISFACTION

(To be completed by all Dietitians who would (or are prepared to) express their opinions about the profession)

29. *The following questions should be answered by placing an X on the line to indicate your DEGREE OF SATISFACTION with the subject of the question.*

How would you describe your DEGREE OF SATISFACTION with:



SECTION E.

The supply of dietetic services to country areas of Australia is a well recognised problem. The solution may, in part, be to offer more attractive conditions. In order to formulate a realistic plan, it is necessary to gauge the attitude of Dietitians to working in country areas.

30. Are you currently working in: (please write appropriate No. in box)

    1. a capital city

    2. other city (ie. population 25,000)

    3. country area

    Please specify town/city in which you work. _____

☐ 90

☐☐ 92

31a If not currently doing so, have you ever worked as a Dietitian in any country areas in Australia? (please write appropriate No. in box)

    1. YES 2. NO

☐ 93

32b Would you be prepared to work in a country area in the future (given the right circumstances)? (please write appropriate No. in box)

    1. YES 2. NO

☐ 94

32. If you now feel that work in country areas is out of the question for you, please indicate at what stage in your career you might have been prepared to work in such areas. (please write appropriate No. in box)

    1. As a first or second year graduate.

    2. As a graduate with more than 2 years experience.

    3. Until marriage.

    4. Never.

    5. Other. (please give details)

☐ 95

_____

_____

_____

_____

What sort of an EFFECT would the following factors have on your decision to accept a position in a country area?

(place an X on the line to indicate how much of an effect each of the following would have on such a decision)

		No Effect — Small Effect — Large Effect	
a)	Professional isolation		96
b)	Social isolation		97
c)	Family ties in city		98
d)	Financial inducement		99
e)	Suitable subsidised accommodation		100
f)	Regular inservice programmes		101
g)	Isolation from continuing education programmes		102
h)	Subsidised air travel to and from closest major city (please indicate a realistic minimum frequency for such travel)		103
	Other - please give details		104
			105
			106

SECTION F. CONTINUING EDUCATION

34. Do you currently hold a higher qualification than your basic Dietetic qualification? (please tick appropriate box below)

☐ NO

☐ YES (please give details of qualifications)

107

_____

35. Are you currently undertaking a higher qualification? (please tick appropriate box below)

☐ NO

☐ YES (please give details of course name)

108

_____

36. If not currently undertaking a higher qualification would you consider doing so if it meant: (please write appropriate No. in box)

a) An increase in salary

1. YES 2. NO

109

b) An improved chance for promotion

1. YES 2. NO

110

37. If not currently doing so, do you intend undertaking a higher qualification in the foreseeable future? (please write appropriate No. in box)

1. YES 2. NO

111

38. Have you ever had a professional paper published in a journal, book or monograph? (please write appropriate No. in box)

1. YES 2. NO

112

39. Have you ever presented a scientific paper at a national or international conference? (please write appropriate No. in box)

1. YES 2. NO

113

In order for this survey to be a true indication of existing Dietetic Manpower in Australia I would like to contact all Dietitians in Australia.

If you know of any Dietitians, working or non working, who perhaps are not D.A.A. members and have probably not received this questionnaire could you please write their names and addresses in the space below. I will check their name against D.A.A. membership and send them a questionnaire.

Name _____

Address _____

_____

_____

Name _____

Address _____

_____

_____

Name _____

Address _____

_____

_____

THANK YOU FOR ASSISTING IN THIS SURVEY.

APPENDIX E

Health Problems Most Frequently Seen by Dietitians: Ranked Order of Importance

Health problem	A*	Ax8	B	Bx7	C	Cx6	D	Dx5	E	Ex4	F	Fx3	G	Gx2	H*	Hx1	Sum#	Ranked Order of Importance
Obesity	255	2040	90	630	43	258	18	90	7	28	8	24	6	12	2	2	3084	1
Diabetes Mellitus	91	728	210	1470	48	288	30	150	11	44	10	30	5	10	-	-	2720	2
Hypertension	3	24	16	112	114	684	76	380	46	184	37	111	16	32	8	8	1535	3
General nutrition advice	32	256	28	196	38	228	51	255	52	208	51	153	63	126	46	46	1468	4
Hyperlipidemia	8	64	34	238	62	372	80	400	53	212	26	78	18	36	16	16	1416	5
GI & liver disorders	7	56	13	91	36	216	58	290	68	272	48	144	40	80	19	19	1168	6
Cancer	15	120	8	56	29	174	27	135	34	136	36	108	30	60	23	23	812	7
Enteral & parenteral nutr.	7	56	12	84	17	102	25	125	30	120	36	108	36	72	27	27	694	8
Renal disease	16	128	7	49	10	60	15	75	16	64	27	81	23	46	30	30	533	9
Allergy	4	32	6	42	11	66	16	80	19	76	29	87	37	74	29	29	486	10
Obstetrics & gynaecology	8	64	3	21	2	12	12	60	20	80	14	42	15	30	18	18	327	11
Anorexia nervosa/bulimia	1	8	2	14	1	6	6	30	16	64	16	48	7	14	30	30	214	12
Malnutrition	6	48	6	42	7	42	1	5	2	8	1	3	-	-	-	-	148	13
Burns/high energy diets	3	24	4	28	9	54	3	15	1	4	2	6	2	4	6	6	141	14
Inborn errors of metabolism	3	24	1	7	2	12	1	5	3	12	2	6	2	4	3	3	73	15
Psychiatric disorders/ mental retardation	2	16	2	14	2	12	-	-	3	12	2	6	1	2	2	2	64	16
Others	4	32	5	35	5	30	1	5	4	16	2	6	6	12	6	6	142	17

* A = most frequently seen health problem ··· H = eighth most frequently seen health problem

Sum = (Ax8 + Bx7 + Cx6 + Dx5 + Ex4 + Fx3 + Gx2 + Hx1)

APPENDIX F

School of Community Health

WAIT

Western Australian
Institute of Technology
Kent Street, Bentley
Western Australia 6102
Phone (09) 350 7927
Telex AA92983

23 August 1985

Dear Colleague,

I am currently researching the contribution of Dietitians to health care in Australia as part of the requirements for a Master of Applied Science degree.

To date I have completed a National Dietetic Workforce survey. The second stage of the project is to identify the role of the Dietitian as perceived by both Dietitians and Medical Practitioners.

The purpose of this questionnaire is to identify the ideal role of the Australian Dietitian compared with the actual role and where a disparity between roles exists to ascertian the reason.A modified version of this questionnaire has already been sent to a sample of Medical Practitioners and the response to date has been pleasing.

While studies such as this have been conducted in North America no similiar study has been conducted in Australia. I am sure you will agree that the results of this study will be of interest and use to the profession in planning for future dietetic needs.

At first glance this questionnaire appears rather long and complicated, I would, however, appreciate it if you would take the time to fill in the questionnaire as fully and as accurately as possible. Please assist this survey by returning the questionnaire promptly - preferably by the 30th September 1985. Use the enclosed envelope: no stamp is required. For data to be useful a high response rate is essential.

Information which you give will be treated confidentially at all times. A summary of the results will be made available to the DAA newsletter.

Yours sincerely,

Jane Scott
Lecturer in Nutrition and Dietetics

APPENDIX G

DIETITIANS' SURVEY

ROLE EXPECTATIONS AND PERFORMANCE

3 ☐☐☐

DEMOGRAPHIC INFORMATION

1. In what year were you born?

   19_____ 5 ☐☐

2. In what year did you qualify as a dietitian?

   19_____ 7 ☐☐

3. How may years have you been employed in your present position?
   (Please round months to nearest year)

   _____ 9 ☐☐

4. Work Setting

   Please read the entire list and choose the one area where you spend most of your time practising as a dietitian.
   (Please circle the appropriate response)

   11 ☐☐

1. Hospital	5. Government Dept
2. Community Health Centre	6. Research Centre
3. Private Practice	7. Industry
4. Educational Institution	8. Nursing Home

   9. Other _____

   _____

5. What is your primary function? (Please circle appropriate response)

   13 ☐☐

1. Provide direct patient/client service		
2. Administration	3. Consultation	
4. Research	5. Classroom teaching	
6. Student supervision	7. Food service administration	
8. Staff supervision	9. Nutrition education/promotion	

   10. Other _____

   _____

6. Ideal role expectation versus actual role performance

The following is an inventory of activities which have been identified, by a number of North American studies, as possibly being part of a dietitian's role.

Using the following scales please identify whether :

I) each activity should ideally be part of your role or part of the role of dietitians in general.

II) each activity is actually part of your role.
(Please circle appropriate response)

(NB. If you are in an administrative area please indicate the level of involvement of your staff dietitians for II, actual role)

I) Ideal Role	II) Actual Role Activity is:
1. Definitely should be part of role	A. Always performed
2. Should be part of role	B. Usually performed
3. Probably should be part of role	C. Sometimes performed
4. Probably should not be part of role	D. Often not performed
5. Should not be part of role	E. Usually not performed
6. Definitely should not be part of role	F. Never performed

	Ideal Role	Actual Role
1) Screen newly admitted patients for nutritional risk.	1 2 3 4 5 6	A B C D E F
2) Obtain patients' dietary histories.	1 2 3 4 5 6	A B C D E F
3) Review patients' medical records	1 2 3 4 5 6	A B C D E F
4) Interpret lab and clinical findings	1 2 3 4 5 6	A B C D E F
5) Calculate nutrient intakes.	1 2 3 4 5 6	A B C D E F

14 54

		Ideal Role						Actual Role							
6)	Prescribe appropriate modified diet based on diagnosis.	1	2	3	4	5	6	A	B	C	D	E	F	14	59
7)	Consult with medical officer if diet order in question	1	2	3	4	5	6	A	B	C	D	E	F		
8)	Recommend appropriate diet therapy to medical officer	1	2	3	4	5	6	A	B	C	D	E	F		
9)	Document patients' progress in medical record	1	2	3	4	5	6	A	B	C	D	E	F		
10)	Plan hospital menus for modified diets	1	2	3	4	5	6	A	B	C	D	E	F		
11)	Plan general hospital menus	1	2	3	4	5	6	A	B	C	D	E	F		
12)	Mark menus with patients on modified diets	1	2	3	4	5	6	A	B	C	D	E	F		
13)	Evaluate menu selections of patients on modified diets	1	2	3	4	5	6	A	B	C	D	E	F		
14)	Distribute, collect or tabulate menus	1	2	3	4	5	6	A	B	C	D	E	F		
15)	Make routine visits to patients during meals	1	2	3	4	5	6	A	B	C	D	E	F		
16)	Check trays after meals to determine intake	1	2	3	4	5	6	A	B	C	D	E	F		
17)	Motivate patients to adhere to modified diets	1	2	3	4	5	6	A	B	C	D	E	F		
18)	Assess adherence to modified diets	1	2	3	4	5	6	A	B	C	D	E	F		
19)	Provide patient counselling	1	2	3	4	5	6	A	B	C	D	E	F		
20)	Provide for outpatient follow-up nutritional care when indicated	1	2	3	4	5	6	A	B	C	D	E	F		
21)	Conduct nutritional care audits and participate in peer review	1	2	3	4	5	6	A	B	C	D	E	F		

23)	Participate in ward/team meetings	1	2	3	4	5	6	A	B	C	D	E	F	36	76
24)	Participate in continuing education courses	1	2	3	4	5	6	A	B	C	D	E	F		
25)	Participate in team research projects	1	2	3	4	5	6	A	B	C	D	E	F		
26)	Conduct seminars for medical personnel	1	2	3	4	5	6	A	B	C	D	E	F		
27)	Conduct seminars for nursing staff and other health professionals	1	2	3	4	5	6	A	B	C	D	E	F		
28)	Provide training/education programmes for dietetic students	1	2	3	4	5	6	A	B	C	D	E	F		
29)	Provide training programmes for catering staff	1	2	3	4	5	6	A	B	C	D	E	F		
30)	Give nutrition talks in the community	1	2	3	4	5	6	A	B	C	D	E	F		
31)	Develop instructional material for patient education	1	2	3	4	5	6	A	B	C	D	E	F		
32)	Evaluate effectiveness of material and techniques for patient education	1	2	3	4	5	6	A	B	C	D	E	F		
33)	Evaluate special feedings or new dietary products	1	2	3	4	5	6	A	B	C	D	E	F		
34)	Recommend references or nutrition information sources to professionals	1	2	3	4	5	6	A	B	C	D	E	F		
35)	Recommend reliable sources of nutrition information to patients	1	2	3	4	5	6	A	B	C	D	E	F		
36)	Write articles or reviews for journals or newsletters	1	2	3	4	5	6	A	B	C	D	E	F		
37)	Review current research regularly	1	2	3	4	5	6	A	B	C	D	E	F		
38)	Apply current research findings to professional practice	1	2	3	4	5	6	A	B	C	D	E	F		
39)	Communicate with Government regarding food and health care legislation	1	2	3	4	5	6	A	B	C	D	E	F		
40)	Communicate with industry regarding food nutrition products and materials	1	2	3	4	5	6	A	B	C	D	E	F	53	93

7. Role Disparity

For those activities which you consider to be part of your "ideal" role but you do not actually perform, please identify the major deterrent responsible for this role disparity.

Please circle one response using the following scale

Scale Key

1. Hospital policy
2. Medical staff prohibit
3. Lack of time
4. Staff shortage
5. Lack of knowledge or skills
6. Activity delegated (eg. to diet aid)
7. Not necessary or relevant to job
8. Opportunity has never occurred
9. Not interested

---

1)	Screen newly admitted patients for nutritional risk.	1	2	3	4	5	6	7	8	9
2)	Obtain patients' dietary histories.	1	2	3	4	5	6	7	8	9
3)	Review patients' medical records.	1	2	3	4	5	6	7	8	9
4)	Interpret lab and clinical findings	1	2	3	4	5	6	7	8	9
5)	Calculate nutrient intakes.	1	2	3	4	5	6	7	8	9
6)	Prescribe appropriate modified diet based on diagnosis.	1	2	3	4	5	6	7	8	9
7)	Consult with medical officer if diet order in question	1	2	3	4	5	6	7	8	9
8)	Recommend appropriate diet therapy to medical officer.	1	2	3	4	5	6	7	8	9
9)	Document patients' progress in medical record	1	2	3	4	5	6	7	8	9
10)	Plan hospital menus for modified diets	1	2	3	4	5	6	7	8	9
11)	Plan general hospital menus	1	2	3	4	5	6	7	8	9

94 ☐
☐
☐
☐
☐
☐
☐
☐
☐
☐
☐ 104

12) Mark menus with patients on modified diets	1	2	3	4	5	6	7	8	9	105 ☐
13) Evaluate menu selections of patients on modified diets	1	2	3	4	5	6	7	8	9	☐
14) Distribute, collect or tabulate menus	1	2	3	4	5	6	7	8	9	☐
15) Make routine visits to patients during meals	1	2	3	4	5	6	7	8	9	☐
16) Check trays after meals to determine intake	1	2	3	4	5	6	7	8	9	☐
17) Motivate patients to adhere to modified diets	1	2	3	4	5	6	7	8	9	☐
18) Assess adherence to modified diets	1	2	3	4	5	6	7	8	9	☐
19) Provide patient counselling	1	2	3	4	5	6	7	8	9	☐
20) Provide for outpatient follow-up nutritional care when indicated	1	2	3	4	5	6	7	8	9	☐
21) Conduct nutritional care audits and participate in peer review	1	2	3	4	5	6	7	8	9	☐
22) Participate in ward rounds	1	2	3	4	5	6	7	8	9	☐
23) Participate in ward/team meetings	1	2	3	4	5	6	7	8	9	☐
24) Participate in continuing education courses	1	2	3	4	5	6	7	8	9	☐
25) Participate in team research projects	1	2	3	4	5	6	7	8	9	☐
26) Conduct seminars for medical personnel	1	2	3	4	5	6	7	8	9	☐
27) Conduct seminars for nursing staff and other health professionals	1	2	3	4	5	6	7	8	9	☐
28) Provide training/ educational programmes for dietetic students	1	2	3	4	5	6	7	8	9	☐
29) Provide training programmes for catering staff	1	2	3	4	5	6	7	8	9	122 ☐

30) Give nutrition talks in the community	1	2	3	4	5	6	7	8	9	123 ☐
31) Develop instructional material for patient education	1	2	3	4	5	6	7	8	9	☐
32) Evaluate effectiveness of material and techniques for patient education	1	2	3	4	5	6	7	8	9	☐
33) Evaluate special feedings or new dietary products	1	2	3	4	5	6	7	8	9	☐
34) Recommend references or nutrition information sources to professionals	1	2	3	4	5	6	7	8	9	☐
35) Recommend reliable sources of nutrition information to patients	1	2	3	4	5	6	7	8	9	☐
36) Write articles or reviews for journals or newsletters	1	2	3	4	5	6	7	8	9	☐
37) Review current research regularly	1	2	3	4	5	6	7	8	9	☐
38) Apply current research findings to professional practice	1	2	3	4	5	6	7	8	9	☐
39) Communicate with Government regarding food and health care legislation	1	2	3	4	5	6	7	8	9	☐
40) Communicate with industry regarding food and nutrition products and materials	1	2	3	4	5	6	7	8	9	133 ☐

8. Please describe what you think is the image of the professional dietitian, ie. how others in the health care professions view the role of the dietetic profession today. (Please keep your answer short and concise)

☐☐☐

139

9. Is this image any different than it was 5-10 years ago? (Please tick appropriate response)

140 ☐

1. Yes

2. No

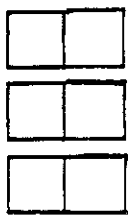
10. If yes, how has the image changed?

146 ☐☐☐

11. What are the three (3) things you would most like to see happen in the dietetic profession in the future?

152 ☐☐☐

12. What kinds of obstacles or problems do you see in achieving what you've just described?



158

THANK YOU FOR YOUR ASSISTANCE

Remember to mail this questionnaire TODAY.

APPENDIX H
Deterrents to Role Performance as Indicated by Dietitians

Activity	Hospital Policy	Medical Staff Prohibit	Lack of Time	Staff Shortage	Lack of Knowledge or Skills	Activity Delegated	Not necessary or Relevant to Job	Opportunity Has Never Occurred	Not Interested
Nutritional Care Activities	← % →								
Screen newly admitted patients for nutritional risk.	6.9	-	39.2	19.6	-	2.0	11.8	3.0	-
Obtain patients' dietary histories.	1.0	1.0	17.6	3.9	-	2.0	8.8	-	-
Review patients' medical records.	2.0	2.0	13.7	1.0	-	-	8.8	1.0	-
Interpret lab and clinical findings.	1.0	2.0	14.7	1.0	6.9	-	9.8	1.0	-
Calculate nutrient intakes.	1.0	-	34.3	5.9	1.0	-	12.7	-	-
Prescribe appropriate modified diet based on diagnosis.	3.9	6.9	4.9	-	1.0	-	6.9	-	-
Consult with medical officer if diet order in question.	2.0	1.0	6.9	-	-	-	7.8	-	-
Recommend appropriate diet therapy to medical officer.	2.0	6.9	7.8	-	-	-	6.9	2.0	-
Document patients' progress in medical record.	2.9	1.0	16.7	2.9	-	-	9.8	-	1.0
Plan hospital menus for modified diets.	2.9	-	3.9	-	-	5.9	14.7	6.9	-
Plan general hospital menus.	9.8	-	3.9	1.0	1.0	13.7	15.7	9.8	1.0
Mark menus with patients on modified diets.	2.0	-	4.9	2.0	-	27.5	15.7	2.0	2.0
Evaluate menu selections of patients on modified diets.	3.9	-	8.8	3.9	-	12.7	16.7	2.9	-

APPENDIX H (continued)
Deterrents to Role Performance as Indicated by Dietitians

Activity	Hospital Policy	Medical Staff Prohibit	Lack of Time	Staff Shortage	Lack of Knowledge or Skills	Activity Delegated	Not Necessary or Relevant to Job	Opportunity Has Never Occurred	Not Interested
	%								
Distribute, collect and tabulate menus.	2.0	-	-	-	-	34.3	18.6	1.0	2.0
Make routine visits to patients during meals.	-	-	31.4	-	-	13.7	14.7	1.0	-
Check trays after meals to determine intake.	-	-	22.5	1.0	-	22.5	14.7	1.0	1.0
Motivate patients to adhere to modified diets.	2.0	-	11.8	1.0	2.9	1.0	7.8	-	-
Assess adherence to modified diets.	2.0	-	15.7	1.0	-	2.0	7.8	-	1.0
Provide patient counselling.	2.0	-	5.9	2.0	-	-	6.9	-	-
Provide for outpatient follow-up nutritional care when indicated	5.9	-	7.8	4.9	-	1.0	7.8	2.0	-
Professional development, education and research activities.									
Conduct nutritional care audits and participate in peer review.	1.0	-	28.4	5.9	5.9	-	7.8	15.7	2.0
Participate in ward rounds.	5.9	3.9	21.6	5.9	-	-	16.7	9.8	-
Participate in ward/team meetings.	6.9	-	17.6	4.9	-	-	7.8	8.8	-
Participate in continuing education courses.	6.9	-	19.6	2.0	-	-	2.0	4.9	2.0
Participate in team research projects.	3.9	2.0	13.7	10.8	-	-	7.8	31.4	1.0

APPENDIX H (continued)
Deterrents to Role Performance as Indicated by Dietitians

Activity	Hospital Policy	Medical Staff Prohibit	Lack of Time	Staff Shortage	Lack of Knowledge or Skills	Activity Delegated	Not Necessary or Relevant to Job	Opportunity Has Never Occurred	Not Interested
	←				%				→
Conduct seminars for medical personnel.	4.9	5.9	12.7	3.9	1.0	-	5.9	34.3	2.0
Conduct seminars for nursing staff and other health professionals.	3.9	-	17.6	6.9	-	-	4.9	9.8	1.0
Provide training/educational programmes for dietetic students.	4.9	-	3.9	5.9	-	-	4.9	18.6	1.0
Provide training programmes for catering staff.	2.9	-	8.8	4.9	1.0	-	9.8	9.8	2.9
Give nutrition talks in the community.	9.8	-	12.7	6.9	-	1.0	5.9	6.9	6.9
Develop instructional material for patient education.	2.0	-	13.7	2.9	2.0	-	4.9	2.0	-
Evaluate effectiveness of material and techniques for patient education.	1.0	-	21.6	4.9	9.8	1.0	4.9	4.9	2.0
Evaluate special feedings or new dietary paroducts.	1.0	-	15.7	2.9	-	-	7.8	6.9	1.0
Recommend reliable sources of nutrition information to patients.	2.0	-	5.9	1.0	2.9	-	5.9	2.0	-
Write articles or reviews for journals or newsletters.	1.0		26.5	2.9	5.9	-	4.9	8.8	13.7
Review current research regularly .	1.0		30.4	2.0	-	-	2.0	2.0	1.0
Apply current research findings to professional practice.	2.0	-	7.8	1.0	2.0	-	4.9	2.0	1.0

APPENDIX H (continued)
Deterrents to Role Performance as Indicated by Dietitians

Activity	Hospital Policy	Medical Staff Prohibit	Lack of Time	Staff Shortage	Lack Knowledge or Skills	Activity Delegated	Not Necessary or Relevant to Job	Opportunity Has Nover Occurred	Not Interested
	← % →								
Recommend references or nutrition information sources to professionals	2.0	-	7.8	2.9	1.0	1.0	2.0	12.7	-
Communicate with Government regarding food and health care legislation	2.0	-	12.7	1.0	3.9	1.0	14.7	19.6	8.8
Communicate with industry regarding food and nutrition products and materials	2.0	-	12.7	2.9	-	2.0	10.8	14.7	7.8

APPENDIX I

School of Community Health

WAIT

Western Australian
Institute of Technology
Kent Street, Bentley
Western Australia 6102
Phone (09) 350 7927
Telex AA92983

31 July 1985

Dear Dr

I am currently researching the contribution of dietitians to health care in Australia as part of the requirements for a Master of Applied Science degree.

To date I have completed a National Dietetic Workforce survey. The second stage of the project is to survey Medical Practitioners to identify what you perceive to be the role of the Dietitian and the extent to which you use the services of a dietitian in patient management.

I know that you are likely to be very busy when this questionnaire arrives but I would appreciate it if you would help me by taking the time to fill in the questionnaire as fully and accurately as you can. Please assist this survey by returning the questionnaire promptly - preferably by the 31 August 1985. Use the enclosed envelope for return; no stamp is needed. For data to be useful a high response rate is essential.

Information you give will be treated confidentially at all times.

Thank you for your assistance.

Yours sincerely

Jane A Scott
Lecturer in Nutrition and Dietetics

APPENDIX J

GENERAL PRACTITIONER'S SURVEY

1. In what year did you qualify as a doctor?

   19_____

2. Is your practice located in:

   ☐ a) the city

   ☐ b) the country

3. What format did nutrition education take in your medical school training?
   (please tick the appropriate response)

   ☐ a. Separate course/unit in nutrition
   ☐ b. Series of lectures in nutrition
   ☐ c. Integrated with other subject matter
   ☐ d. No formal nutrition education
   ☐ e. Research or elective course in nutrition

4. How often do you consult each of the following sources for nutrition information? (Please tick appropriate response).

		Often	Occasionally	Never	
a.	Professional journals	☐	☐	☐	☐
b.	Nutrition/Medical text books	☐	☐	☐	☐
c.	Colleague (medical)	☐	☐	☐	☐
d.	Dietitian/nutritionist	☐	☐	☐	☐
e.	Pharmacist	☐	☐	☐	☐
f.	Home economist	☐	☐	☐	☐
g.	Public Health nurse	☐	☐	☐	☐
h.	Health Department publications	☐	☐	☐	☐
i.	Pharmaceutical companies' brochures	☐	☐	☐	☐
j.	Food manufacturers' brochures	☐	☐	☐	☐
k.	Magazines	☐	☐	☐	☐
l.	Radio	☐	☐	☐	☐
m.	Television	☐	☐	☐	☐
n	Other (please specify)_____	☐	☐	☐	☐

_____

5. In your medical practice do you see the dietitian as a : (please tick appropriate response) ☐ 22

☐ 1. contributing member of the health care team, involved at the decision making level.

☐ 2. auxillary member of the health care team, largely concerned with implementing orders of others.

6. Did you obtain your knowledge of diet therapy practices: (Please tick appropriate response)

☐ 1. during your medical training

☐ 2. by working with a dietitian in clinical practice ☐ 23

☐ 3. by acquaintance with a dietitian

7. How often to you refer patients requiring diet therapy to a dietitian practicing in: (please tick appropriate response) ☐ 24

		often	sometimes	rarely	never	
a)	a hospital	☐	☐	☐	☐	☐
b)	a community health centre	☐	☐	☐	☐	
c)	private practice	☐	☐	☐	☐	☐ 26

8. How often do you feel your primary aim in referring patients to a dietitian is achieved? (please tick appropriate response)

☐ 1. often/usually

☐ 2. occasionally ☐ 27

☐ 3. rarely

☐ 4. never

9. Do you have difficulty in obtaining the services of a dietitian? (please tick appropriate response)

☐ 1. Yes ☐ 28

☐ 2. No

Comments _____

_____

10. Do you receive regular reports or feedback from dietitians on the patients you refer for treatment? (please tick appropriate response)

☐ 1. Yes ☐ 29

☐ 2. No

11. How often would you treat patients for each of the following health problems/conditions?
(Please tick appropriate response)

	often	sometimes	rarely	never	
a) Insulin dependent diabetes mellitus					☐ 30
b) Non-insulin dependent diabetes mellitus					☐
c) Overweight/obesity					☐
d) Anorexia/bulimia					☐
e) Hypertension					☐
f) Hyperlipidemia					☐ 35
g) Diverticular disease					☐
h) Peptic ulcer					☐
i) Coeliac disease					☐
j) Lactose intolerance					☐
k) Food allergy					☐ 40
l) Cancer/cachexia					☐
m) Infant feeding problems					☐
n) Antenatal nutrition care					☐ 43

12. For each of the following health problems/conditions, how often would you refer patients to a dietitian?
(Please tick appropriate response)

	often/ usually	sometimes	rarely	never	
a) Insulin dependent diabetes mellitus					☐ 44
b) Non-insulin dependent diabetes mellitus					☐
c) Overweight/obesity					☐
d) Anorexia/bulimia					☐
e) Hypertension					☐
f) Hyperlipidemia					☐
g) Diverticular disease					☐ 50
h) Peptic ulcer					☐
i) Coeliac disease					☐
j) Lactose intolerance					☐
k) Food allergy					☐
l) Cancer/cachexia					☐
m) Infant feeding problems					☐
n) Antenatal nutrition care					☐ 57

13. The following is a list of activities which may or may-not be a part of a dietitian's role. Using this scale please indicate whether you expect it to be part of the dietitian's role. (Please circle appropriate response)

Scale key

1. Definately should be part of role
2. Should be part of role
3. Probably should be part of role
4. Probably should not be part of role
5. Should not be part of role
6. Definately should not be part of the role

---

1)	Screen newly admitted patients for nutritional risk.	1	2	3	4	5	6	58
2)	Obtain patients' dietary histories.	1	2	3	4	5	6	
3)	Review patients' medical records.	1	2	3	4	5	6	
4)	Interpret lab and clinical findings	1	2	3	4	5	6	
5)	Calculate nutrient intakes.	1	2	3	4	5	6	
6)	Prescribe appropriate modified diet based on diagnosis.	1	2	3	4	5	6	
7)	Consult with medical officer if diet order in question	1	2	3	4	5	6	
8)	Recommend appropriate diet therapy to medical officer.	1	2	3	4	5	6	65
9)	Document patients' progress in medical record	1	2	3	4	5	6	
10)	Plan hospital menus for modified diets	1	2	3	4	5	6	
11)	Plan general hospital menus	1	2	3	4	5	6	
12)	Mark menus with patients on modified diets	1	2	3	4	5	6	
13)	Evaluate menu selections of patients on modified diets	1	2	3	4	5	6	
14)	Distribute, collect or tabulate menus	1	2	3	4	5	6	
15)	Make routine visits to patients during meals	1	2	3	4	5	6	72

16)	Check trays after meals to determine intake	1	2	3	4	5	6	73
17)	Motivate patients to adhere to modified diets	1	2	3	4	5	6	
18)	Assess adherence to modified diets	1	2	3	4	5	6	
19)	Provide patient counselling	1	2	3	4	5	6	
20)	Provide for outpatient follow-up nutritional care when indicated	1	2	3	4	5	6	
21)	Conduct nutritional care audits and participate in peer review	1	2	3	4	5	6	
22)	Participate in ward rounds	1	2	3	4	5	6	
23)	Participate in ward/team meetings	1	2	3	4	5	6	80
24)	Participate in continuing education courses	1	2	3	4	5	6	
25)	Participate in team research projects	1	2	3	4	5	6	
26)	Conduct seminars for medical personnel	1	2	3	4	5	6	
27)	Conduct seminars for nursing staff and other health professionals	1	2	3	4	5	6	
28)	Provide training/educational programmes for dietetic students	1	2	3	4	5	6	85
29)	Provide training programmes for catering staff	1	2	3	4	5	6	
30)	Give nutrition talks in the community	1	2	3	4	5	6	
31)	Develop instructional material for patient education	1	2	3	4	5	6	
32)	Evaluate effectiveness of material and techniques for patient education	1	2	3	4	5	6	
33)	Evaluate special feedings or new dietary products	1	2	3	4	5	6	
34)	Recommend references or nutrition information sources to professionals	1	2	3	4	5	6	91

35)	Recommend reliable sources of nutrition information to patients	1	2	3	4	5	6	92
36)	Write articles or reviews for journals or newsletters	1	2	3	4	5	6	
37)	Review current research regularly	1	2	3	4	5	6	
38)	Apply current research findings to professional practice	1	2	3	4	5	6	
39)	Communicate with Government regarding food and health care legislation	1	2	3	4	5	6	
40)	Communicate with industry regarding food and nutrition products and materials	1	2	3	4	5	6	97

14. What job functions, if any, do you feel dietitians should or could be doing that they are not currently doing?

98

100

15. What do <u>you</u> think is the image of the professional dietitian, ie. how do you view the role of the dietetic profession today?

☐ 101
☐
☐

16. Finally, what three (3) things would you most like to see happen in the dietary profession in the future?

☐ 104
☐
☐ 106

Thank you for participating in this study