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**The Tourism Health Interface
in New Zealand:**

Can the Health Promotion Model be Applied as a Strategy?

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ABSTRACT

Tourism health issues in New Zealand affect many stakeholders including inbound tourists, outbound tourists, travel agents, doctors (GPs) and the Accident Compensation and Insurance Rehabilitation Corporation (ACC). In attempting to deal with the complex issues that arise at the tourism health interface, Stears (1996) has suggested that the health promotion model developed by Tannahill (1985) can be applied to tourism health issues. The health promotion model is based on the assumption that the behavioural and environmental causes of ill-health should be addressed concurrently and consists of three core activities of education, prevention and protection. The behavioural causes of tourism health problems are addressed by education activities while environmental causes are addressed by protection and prevention activities. Prevention is primarily the responsibility of doctors, while protection is the responsibility of the government of destinations.

This thesis examines whether the health promotion model can be used as a strategy to reduce the incidence of international tourism health problems. Case study methodology has been used because it provides a methodology for examining tourism health problems from the perspectives of different stakeholders. It also provides a means of increasing the validity of the research. Accordingly, in this research the case study is 'tourism health problems in New Zealand' and this subject has been examined from the perspectives of travel agents, GPs, inbound tourists and outbound tourists. Five separate surveys have been undertaken in which the application and effectiveness of the health promotion model activities of education, prevention and protection are examined from the perspective of the stakeholder being surveyed.

Travel agents are regarded by many as the most appropriate stakeholder to undertake travel health education activities. However, this thesis shows that their role in the tourism distribution channel and their attitude towards tourism health issues means that they are ineffective as a source of health advice and few New Zealand outbound tourists receive accurate advice from them. GPs are another source of health advice and in a twelve-month period, approximately 12% of outbound New Zealand tourists visited their doctor for

education and preventive services. As expected, the advice given by GPs is on the whole, accurate and appropriate. Both GPs and travel agents consider that tourism health problems are the responsibility of the public health sector.

This thesis has sought to identify the extent of tourism health problems in New Zealand and how different stakeholders are affected. It is estimated that approximately 150,000 New Zealand outbound tourists travel to medium- or high-risk destinations each year without receiving accurate information or preventive services. It is estimated that during a twelve-month period, GPs treated approximately 13,000 New Zealand residents for health problems sustained while travelling overseas, including 300 cases of malaria and 100 cases of dengue fever. Approximately 73,000 overseas tourists visited a GP while in New Zealand, primarily for minor illnesses and injuries. During a twelve-month period in 1997/1998, approximately 3,000 Accident Compensation and Insurance Rehabilitation Corporation (ACC) claims were made by GPs for New Zealanders injured while travelling overseas and 17,000 claims are made for overseas tourists injured in New Zealand, altogether costing \$5,500,000.

The health promotion model has been developed as a strategy for reducing the incidence of health problems and assumes that many health problems occur because individuals are unaware of the risks associated with their behaviour. Stears (1996) argues that this assumption can also be applied to many tourism health problems and tourists are educated about the risks they face, they will modify their behaviour accordingly. While this research has indeed shown that many tourists are unaware of the risks they face, it has also shown that increased knowledge of health risks does not appear to affect the incidence of health problems experienced. Although travel health promotion activities have been widely undertaken in the United Kingdom (UK) in the past ten years, the incidence of health problems experienced by tourists from the UK is no different from those experienced by tourists from other countries. These results suggest that travel health promotion activities have been relatively ineffective in reducing the incidence of tourist health problems.

Both socio-demographic and psychographic factors affect the tourism health experience but this research shows that socio-demographic factors have a far greater influence than psychographic factors on the advice received by tourists. This thesis argues that the most important factor affecting tourism health problems is destination, rather than behaviour yet the health promotion model has no appropriate strategy for dealing with this factor.

This thesis argues that the health promotion model has a number of weaknesses when applied as a strategy to tourism health problems. These include the difficulties that arise in applying it in an international environment; the existing strategies cannot be applied in the post-travel phase; the fact that treatment is not a strategy, yet this activity results in improved tourist health; and that no strategy exists for identifying high- and medium-risk destinations.

Two new models have been developed in the course of this research. The first of these was developed to explain how health and safety factors influence the overall tourism experience and many stakeholders in the tourism process. This is the Tourism-Health Interface Model and shows the context within which this research takes place. The second model, the Tourism Health Management Model has been developed to address some of the weaknesses of the travel health promotion model and includes the strategies of risk-assessment and treatment. Risk assessment is a strategy which addresses the importance of destination as a factor affecting tourist health experiences while treatment provides a strategy for dealing with tourism health problems at all three stages of the tourism process. The Tourism Health Management Model acknowledges the different phases of tourism and the range of tourist health problems that occur.

Overall therefore this thesis examines the effectiveness of the health promotion model as a strategy for reducing the incidence of tourism health problems by examining the effectiveness of the three core activities of education, protection and prevention. This thesis argues that prevention is the most effective of the three health promotion activities while education appears to be relatively ineffective and protection is difficult to apply in an international environment. The tourism health management model has been developed to address these issues.

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The Tourism Health Interface in New Zealand:

Can the Health Promotion Model be Applied as a Strategy?

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PART ONE

Chapter One

Introduction

International tourism comprises a complex set of relationships between people, places and products which take place as tourists travel from their normal place of residence to other regions where they stay temporarily and engage in activities located there. Tourism is not easy to define and undertaking this task often occupies several pages in tourism textbooks. Burkart and Medlik (1981:v) have defined tourism as:

...the temporary, short-term movement of people to destinations outside the places where they normally live and work, and their activities during their stay at these destinations. Much of this movement is international in character and much of it is a leisure activity.

Another working definition that has been developed by Pearce, Morrison and Rutledge (1998:xvi) is:

Tourism is the sum of government and private sector activities which shape and serve the needs and manage the consequences of holiday and business travel. The central 'activities' of the government and private sector include promotion planning, providing services and preventing impacts.

For the purposes of this research, a tourist is defined by Collier (1991: 10) as:

A temporary visitor staying at least 24 hours in the country visited and the purpose of whose journey can be classified as (a) leisure, i.e. recreation, holiday, health, study, religion or sport; or (b) business; (c) family; (d) mission; or (e) meeting.

It can be seen therefore, that tourism is temporary in nature and involves the movement of individuals from their own place of residence to other places. Tourism can be either domestic, in which the tourists remain within their own country, or international which involves the

crossing of international borders. Travel to another location can place the tourist's health and/or personal safety at risk either through contracting infectious diseases or by incurring an accident. Because tourism is a transitory activity, health and safety issues affect not only the tourist, but also the destinations they visit and their region of origin (Cossar, 1997, 1996; Clift and Page, 1996). Yet it is only relatively recently that the importance of tourism health has been recognised and research into the tourism-health interface has been undertaken (Clift and Page, 1996; Frechtling, 1997).

Much of the research that has been conducted concerning the tourism-health interface is descriptive, fragmented and focuses upon individual issues such as how many tourists experience health problems; the number of tourists who seek pre-travel medical advice; the number who require medical attention during their travels; the pre-travel advice given by travel health clinics; and how behaviour affects tourists' health. Many of these studies have been small, have focused on one phase of the tourism process (pre-travel, travel or post-travel) and have been conducted within the parameters of a single discipline such as tourism, risk management, epidemiology or psychology. No analysis has been undertaken at a multi-sectoral level which examines the extent to which tourism health and safety issues affect stakeholders within both the health and tourism sectors. These stakeholders include: travel agents, general practitioners (GPs), inbound and outbound tourists. This thesis provides research on these stakeholders and examines the following issues:

- how the structure of the tourism industry affects the ability of travel agents to give pre-travel health advice;
- the attitudes of travel agents towards tourism health problems;
- the health advice given by travel agents to intending travellers;
- the health advice given by general practitioners (GPs) to intending travellers;
- the economic impact of health issues upon the primary health sector;
- the cost of tourism accidents to the Accident Compensation and Insurance Rehabilitation Corporation (ACC) in New Zealand;
- the health and safety experiences of New Zealand travellers in Fiji;
- the health experiences of overseas tourists in New Zealand;
- the effectiveness of health promotion practices upon the health experiences of tourists;

- the impact on the primary medical sector of health problems experienced by New Zealand travellers overseas when they return;
- the cost to ACC of injuries sustained by New Zealand tourists travelling overseas.

In attempting to deal with the complexity of issues raised at the tourism-health interface, a number of researchers have suggested that the principles of health promotion should be applied to tourism (Alleyne, 1990; Cossar, 1996, 1997; Mann and Mantell, 1991). Tannahill (1985) developed the health promotion model which is described in Chapter 2.5 while Stears (1996) has suggested that this model can be used as a strategy to address tourism health and safety issues. Stears' adaptation of the health promotion model to tourism health issues is described in Chapter 2.5. Health promotion is premised on the belief that both the environment within which a person lives, and the behaviours engaged in, will impact upon his/her health and that appropriate changes in both of these two factors are needed to improve health outcomes (Bennett and Murphy, 1997). In other words, health promotion regards personal responsibility and environmental issues as factors that must be addressed concurrently when dealing with health issues. The Tannahill model comprises three overlapping spheres of activity: health education, prevention and health protection which together provide a framework for 'doing health promotion' (Downie, Tannahill and Tannahill, 1996:58). Within the health promotion model, both disease and accidents are regarded as preventable and therefore it has been argued that this model provides an appropriate strategy for addressing tourism health issues (Cossar, 1997, Stears, 1996).

The primary goal of this thesis is to evaluate whether the health promotion model an appropriate model to be applied to health problems that arise in the course of international tourism. This evaluation will be undertaken using New Zealand as a case study. This thesis argues that the activities identified in the health promotion model are inadequate for addressing international tourism health and safety issues and that a more appropriate model must be developed. The second goal of this thesis is to examine the key issues that affect tourism health problems in New Zealand and therefore baseline information regarding the extent of these problems in New Zealand will be generated during this research. Consequently, this thesis comprises two research approaches: the first being evaluative research which examines the effectiveness of travel health promotion activities in addressing tourism health problems in New Zealand. The second research approach is explanatory research which investigates the impact of tourism health issues on five stakeholders in New

Zealand (travel agents, GPs, ACC and inbound and outbound tourists) and seeks to identify key issues associated with tourism health problems in New Zealand.

In order to provide an overview of the impact of tourism health issues on these five stakeholders within New Zealand, five separate pieces of research have been undertaken. This thesis has been divided into seven parts, with Part One comprising an introduction, the literature review and methodology. Part Two examines how the structure of the tourism industry affects the ability of travel agents to give pre-travel health advice and assesses whether travel agents are an appropriate channel through which travel health information can be disseminated to intending tourists. The results of a survey of travel agents undertaken in New Zealand in 1996 are presented in Part Two. Part Three examines how tourism health issues affect the primary health sector in New Zealand. Some 615 GPs in New Zealand were surveyed concerning their involvement in the pre-travel, travel and post-travel phases of tourism and the results of this survey are presented in this section. This section also examines the impact of tourism upon the ACC in New Zealand. Part Four presents the results of a survey of tourists in Fiji which was undertaken to examine what pre-travel health information they received and whether this advice affected their perceived health experiences. Part Five presents the results of a survey of overseas tourists undertaken in New Zealand to examine the health experience of overseas tourists in New Zealand. Part Six presents the results of a survey of New Zealand residents and overseas tourists regarding the impact of pre-travel upon their health experiences and also assesses whether psychographic factors affect the tourism health experience of tourists. Part Seven is the final section of this thesis and presents a new model, the Tourism Health Management Model, which has been developed during the course of this research specifically to address the limitations of health promotion model when it is applied to tourism health issues. The conclusions of this thesis are also presented in Part Seven.

Chapter Two

Literature review

2.1 Introduction

Tourism health issues are affected by behavioural, social and political factors and accordingly, research into tourism health issues has extended beyond that of tourism studies to include perspectives and models from other disciplines including health promotion, psychology, sociology and public policy studies. This chapter will present the relevant literature from each of these disciplines beginning with literature describing previous models of the tourism system.

2.2 The Tourism Health interface: Models of Tourism

Tourism can be regarded as a system and consequently a systems approach provides a suitable means by which the different components of this system can be identified. Systems models can provide an abstract, yet simplified way of visualising the many components of complex situations and offer a framework for the analysis of their interactions (Laws, 1991). A number of models have been developed to explain different aspects of the tourism process. These include the model developed by Gunn (1972) which identifies the four supply-side components of transportation, travel agencies, recreation and entertainment, and other travel trade services. Laws' (1991:7) model of tourism identifies inputs, outputs and external factors such as the business environment, consumer behaviour, political factors and economic factors (Figure 1). Leiper (1995) has developed a systematic model for interdisciplinary tourism studies consisting of five elements: the tourist; the generating region; the industry; the destination region; and the transit route. Two models of tourism based on geographical concepts are those of Britton (1980) and Thurot (1980). Britton uses the concepts of core and periphery to analyse tourist flows between the Western industrialised areas and the Less Developed World destinations of the Caribbean and Pacific whereas Thurot's (1980) model distinguishes between international and domestic tourism and supply and demand. However, although all these models describe relationships within the tourism system, none of them specifically show how health issues impact upon any component of the tourism system, and in

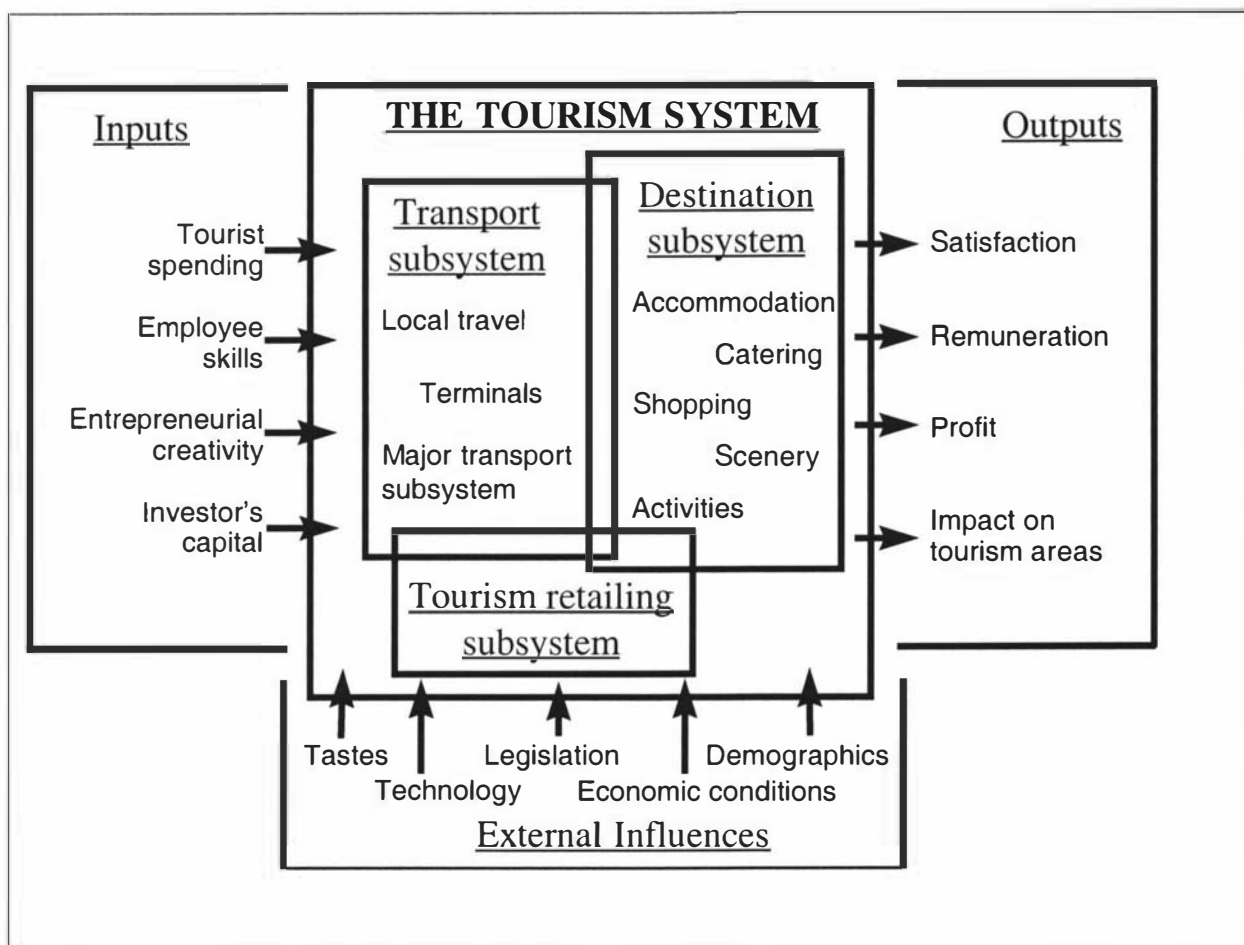


Figure 1 The Tourism System

(Source: Laws (1991:11))

Clift and Page's (1996:9) Tourism Health Information Model identifies the sources of, and settings for, health information and health services for the international tourist within the tourism process (Figure 2). This model proposes a tourism process comprising: decision-making, pre-travel, travel and post-travel and shows that tourists can receive health information at any or all of the four stages. This model focuses upon the importance of health information and health education for tourists but it does not demonstrate how stakeholders other than tourists may be affected by tourism health issues, nor how tourist health issues can affect the overall tourism experience. Consequently a new model, the Tourism-Health Interface Model (Figure 3) has been developed in this thesis which shows how health and safety factors can influence the total tourism experience.

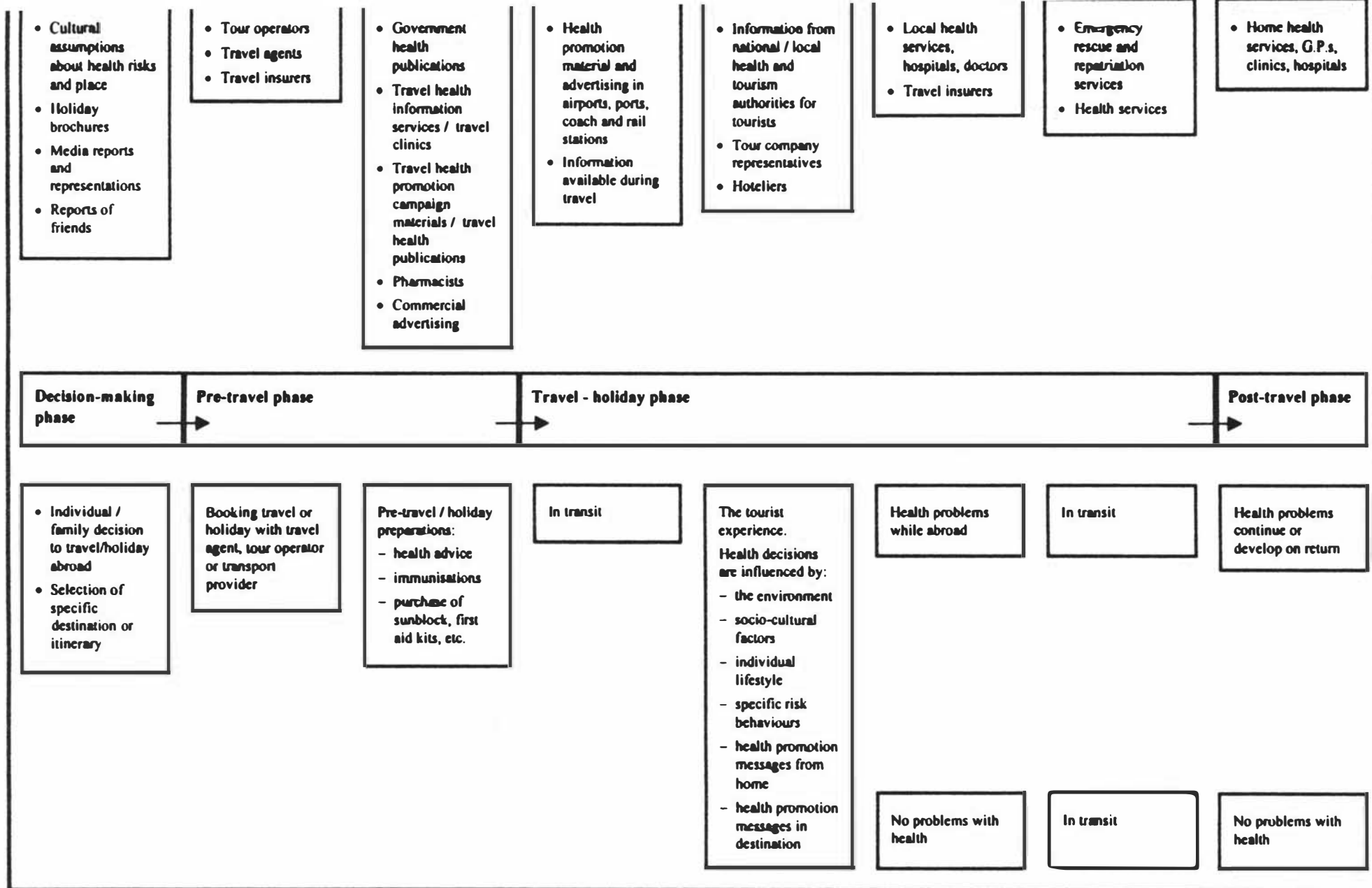
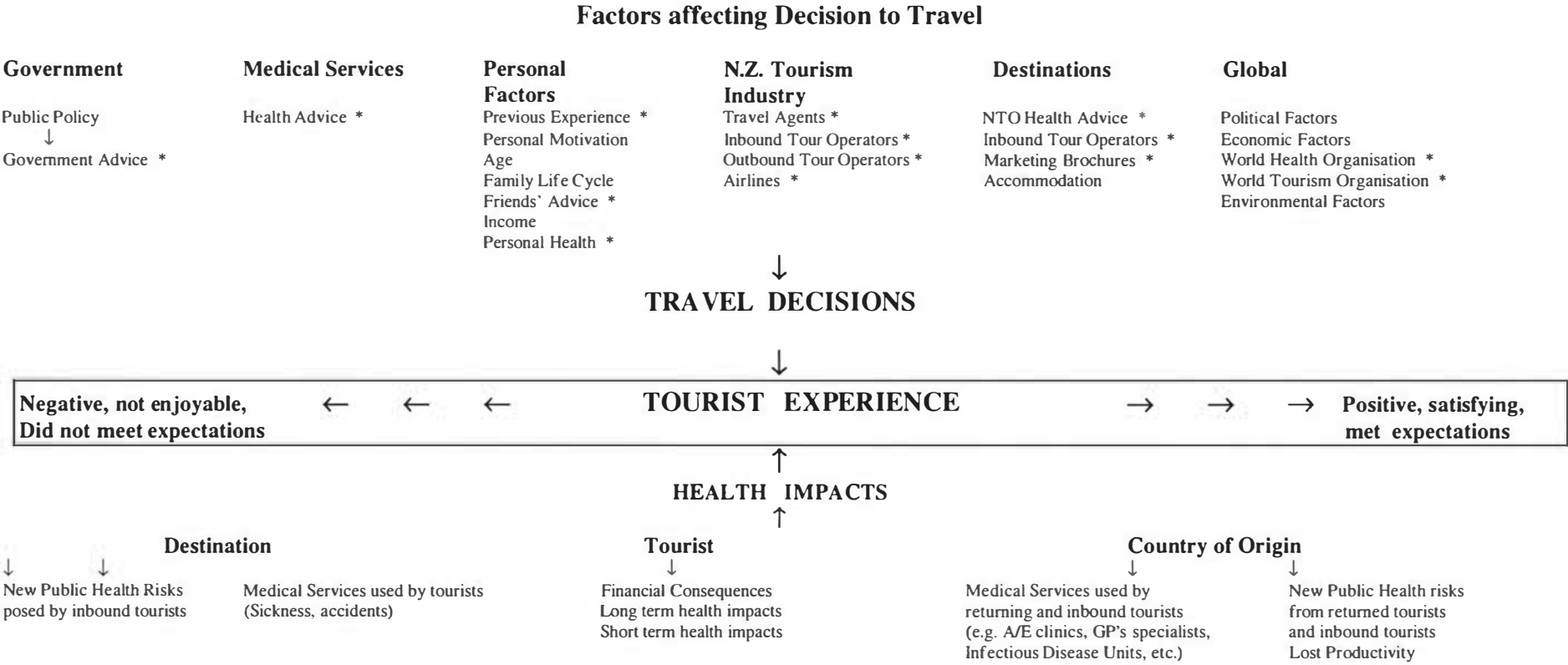


Figure 2 Sources of, and settings for, health information and health services for the international tourist.

Source: Clift and Page (1996:9).



** = points at which travel health information can be imparted*

Figure 3 The Tourism-Health Interface Model

The Tourism-Health Interface Model has been developed to show that the tourism experience can be viewed as a continuum. This ranges from being positive, enjoyable and meeting all expectations at the one end, to being a negative experience that is not satisfying and fails to meet expectations at the other end (Figure 3). Health and safety issues can affect the overall tourism experience and cause the tourist's perception of that experience to shift either towards the positive or the negative ends of the continuum. This model identifies the factors affecting the tourism health experience which include: the tourist receiving appropriate health and safety information; the tourist modifying his/her behaviour to take account of health and safety risks; and, appropriate supply-side controls being implemented to protect the tourist. This model also shows how health and safety issues can affect the tourists' destination and country of origin. One of the key activities of the health promotion model is health education and this model identifies the points in the tourism process at which travel health promotion information can be delivered to the tourist. Overall, this model has been developed to provide an overview of factors that need to be examined when addressing issues arising at the tourism health interface and has been developed as a foundation which upon which the following research is based.

Both Clift and Page's model and the Tourism Health Interface Model identify that the points in the tourism process at which health promotion activities such as travel health education can be undertaken. However, neither model addresses the broader issue of what constitutes the tourism industry and it is necessary to understand how the tourism industry is structured and how the industry structure fits within the political environment before analysing tourism health issues.

2.3 The Structure of the Tourism Industry

Tourism is a multi-sectoral, economic activity which cuts across conventional industry boundaries. There has been considerable debate as to whether or not tourism can be regarded as an industry. Hall and Jenkins (1995:5) argue that there is a "lack of consensus concerning definitions of such fundamental concepts as ... the tourist industry" and Elliott (1997:4) refers to tourism as a "universal dynamic social phenomenon". Researchers who suggest that tourism is not an industry include Lickorish and Jenkins (1997:187) who comment that "tourism is itself a market, rather

than a single industry". Leiper (1995) contends that unlike other industries, the conceptualisation of tourism is undertaken from demand-side rather than supply-side characteristics. Many researchers also argue that the diversity of suppliers which provide goods and services for tourists is too wide for any single industry to span in a functional sense (Jefferson and Lickorish, 1988; Leiper, 1995;). Gunn (1977) refers to tourism as a fragmented industry while Leiper (1995) and Hall and Jenkins (1995) argue that modern tourism can be regarded as 'partly-industrialised' because of its multi-sectoral dimension and lack of industry structure. One of the problems that arises in a partly industrialised process, is that the scale of activity is not supported by a similar level of political advocacy and therefore key issues affecting the industry are not managed appropriately (Leiper, 1995).

On the other hand, it has been argued by many tourism researchers that tourism is an industry in its own right (Burkart and Medlik, 1981; Collier, 1991; Elliott, 1997; Laws, 1991; Smith, 1988, 1989, 1991). From an economic perspective, tourism is regarded as an export industry because it generates foreign earnings and provides significant employment. Collier (1991:15) argues that tourism is an industry because it has a production function. He argues that: Tourism is made up of "various sectors or sub-industries ...which together form the tourism product. This product is composite in nature and from the perspective of the traveller can be viewed as a total experience". The tourist views the product as being discrete and thus the individual suppliers work together to achieve an integrated and co-ordinated tourist product. Therefore, Collier (1991) concludes that because the tourism experience is regarded as a product to be sold, tourism can legitimately be viewed as an industry which consists of several sectors that together engage in the production process and, when combined, produce the tourism product.

Doswell (1997) notes that tourism operates at three levels on the supply side. The first level involves government which develops tourism policy and planning and establishes a framework within which tourism businesses can operate. The second level involves organisations such as travel agents, tour operators, transport operators and the accommodation sector which are directly concerned with supplying goods and services to tourists. The third level includes ancillary support services such as banks, retail traders, insurance companies and health services. Consequently, while tourism

may not have a readily identifiable industry structure, the tourism industry is generally regarded as comprising the stakeholders at the second level even although connections between these stakeholders have tended to be informal. Accordingly, for the purposes of this thesis, tourism is regarded as an industry consisting of the stakeholders who are dependent on inbound, outbound or domestic tourism and operate at the second level on the supply side.

Because many different sectors are involved in the production of the tourism product, overall control and management of the entire tourism experience is impossible. Managers employed within tourism organisations can manage and control only those aspects of tourism they are directly involved in. Most tourism services are provided by the private sector, yet it is the public sector that develops policy guidelines and ensures that the necessary infrastructure and broad controls are in place in both the economic and non-economic spheres of tourism. Therefore when examining the tourism-health interface in New Zealand, it is necessary to have an understanding of tourism public policy and the current level of government involvement in tourism.

2.4 Public Policy and Tourism in New Zealand

The role of government within tourism is complex and is affected by a variety of political considerations. A government is responsible for providing the political stability, security, and a legal and financial framework within which tourism can operate. Cross-border movements are under the control of a government while immigration policies and procedures affecting visas and passports will determine how much international tourism will take place. Many aspects of tourism are controlled by government regulations such as health and safety regulations, zoning and building regulations, consumer protection and the licensing of businesses. Government legislation determines the number of vacation days to which workers are entitled, while economic policies determine the amount of discretionary income available for outbound and domestic tourism and the level of domestic and overseas investment that occurs in the tourism sector. Both central and local government bodies often provide and maintain many of the attractions that tourists visit, such as sports stadiums, parks, museums and elements of the natural environment. Public sector organisations are responsible for providing other forms of infrastructure such as

electricity and sewerage and in many countries, much of the transport sector including roads, railways, ports and airlines, is state owned and managed. Only governments can negotiate the freedoms of the air with another government, which allow airlines from one country to fly over, carry passengers to and from, and land in another country. However, government involvement in tourism is much broader than establishing regulations and providing services and infrastructure.

Elliott (1997) argues that governments are primarily involved in the management of tourism for economic reasons and this is especially so in many developing countries where tourism is the main source of foreign exchange (Behrens, 1997). Tourism has a multiplier effect because it generates jobs in other sectors of the economy and is often regarded as a means to develop the poorer regions of a country. However, it is not only the developing countries that are economically dependent upon tourism. In Australia, tourism earns more foreign exchange than any other industry except metal ores and minerals while in Great Britain, tourism makes up one third of all service export earnings and earns more than the entire manufacturing sector (Elliott, 1997). In New Zealand, tourism has been regarded as a high growth industry of major economic importance and in 1997, some 1.52 million overseas tourists visited the country and contributed approximately NZ\$4.2 billion to the economy (Dey, 1998).

Many tourism activities are dependent upon the environment and the cultural heritage of a country and unless these are protected and maintained, tourism may be unsustainable in the long term. Central and local governments are responsible for zoning and planning regulations and for developing policies that ensure the environment is not destroyed by unsustainable development. In developing nations, tourism may alter the economic power of citizens, (for example, women may be given the opportunity to earn an income), the value and ownership of land may change, and demand for imported goods may reduce demand for locally produced goods. Cultural skills may be lost and cultural values may be affected by packaging an event or product for tourist consumption. Government policies regarding the type of tourism developed can determine how these changes take place. Health issues also fall under the category of socio-cultural impacts and government policies and regulations are critical factors that control the spread of disease. Doswell (1997:162) notes that the "spread of disease through travel and tourism is a continuing problem ... but the

spread of AIDS on a worldwide basis remains one of the major socio-cultural concerns of tourism”.

For ideological reasons and because of the capability of the private sector, the trend in developed countries has been for governments to reduce their involvement in the tourism industry so that the government plays a supportive but essentially background role in ongoing tourism development in many developed countries. In contrast, governments in developing countries tend to be more actively involved in aspects of the tourism industry, such as the ownership of national airlines and accommodation. Jenkins and Henry (1982:501) define active involvement as “a deliberate action by government, introduced to favour the tourism sector”, and suggest that this involvement will occur only when tourism is of major economic significance or where a government follows a system of centrally-planned economic activity. Elliott (1997:10) comments that “governments have gradually accepted the importance of tourism economically, but have been slower to accept their responsibilities for the problems posed by tourism development”. The Annual Report of the OECD (1991:21) also notes that “it seems paradoxical that the more significant the position of tourism in economic and social terms, the less involvement the Government takes in it”. However, a recent study by the Commission of the European Communities (1995) suggests that the rationale for state intervention is based not only on the nature and extent of perceived economic and social benefits, but also on the inability of the private sector to undertake certain necessary functions. Thus, whether governments like it or not, formulating policy and establishing a broad strategy for tourism development is a principal function of government.

Public policy is primarily a political activity and is influenced by economic, social and cultural factors as well as by the values, ideologies and structures of government (Hall and Jenkins, 1995; Hall, Jenkins and Kearsley, 1997). Dye (1992:2) comments that public policy “is whatever governments choose to do or not to do”. Public policy occurs in a complex, changing environment and consists of decisions, actions, interactions, reaction and feedback. Policy is often formulated as it is implemented and a number of different levels of government and other organisations will be involved in both policy formulation and implementation.

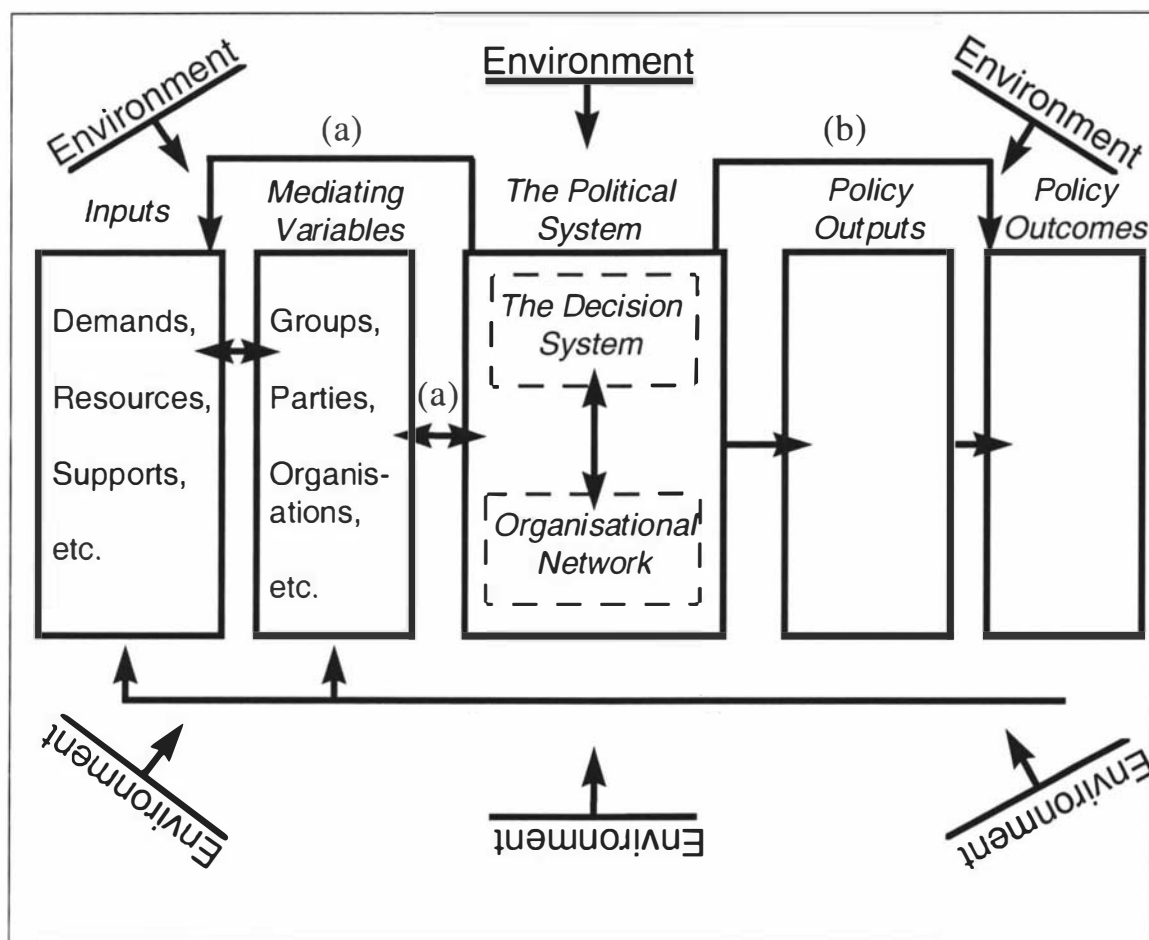


Figure 4 Amended Systems Model of the Policy-Making Process

Source: Jenkins (1978:22)

Public policy is concerned with the authorisation of policy by public agencies even if the “policy may not have been significantly developed within the framework of government” (Hogwood and Gunn, 1984:23). Public policy is made within an institutional framework which provides procedures concerning how decisions and policies will be implemented. Simeon (1976:575) notes that “institutional arrangements may themselves be seen as policies, which, by building in to the decision process the need to consult particular groups and follow particular procedures, increase the likelihood of some kinds of decisions and reduces that of others”. In other words, it is important to understand the context in which tourism public policy is being developed. Figure 4 is a simplified systems model developed by Jenkins (1978:22) describing the public policy process. Two main types of public policy theory have been developed: that which adopts prescriptive models and that which adopts descriptive models (Brooks, 1993; Mitchell, 1989). “Prescriptive

models seek to demonstrate how policy making should occur relative to pre-established standards” and are used when exploring new issues, whereas “descriptive models document the way in which the policy process actually occurs” (Mitchell, 1989:264).

Historically, although there was significant government involvement in the development of tourism prior to 1984, there was little formulation of tourism policy in New Zealand (Hall and Jenkins, 1995). This was due in part to the structural nature and complexity of tourism and the resulting lack of political advocacy. Another more important reason is that unlike health and education services, which are primarily supplied by the government, tourism is a private sector activity and the government regards itself primarily as a regulator and promoter of the industry. The policies of governments in New Zealand since 1984 means they have reduced their involvement in the tourism industry with the expectation that market forces will provide the necessary controls.

In 1990, the New Zealand Tourism Board (NZTB) was established to focus on marketing New Zealand as a destination while policy was developed within a small Ministry of Tourism. This was eventually abolished with a small number of staff becoming the Tourism Policy Group (TPG) which was transferred to the Ministry of Commerce. A new stand-alone Office of Tourism and Sport has recently been established which replaces the TPG in the Ministry of Commerce and undertakes policy functions in the Department of Internal Affairs. The responsibility of this unit is to provide strategic advice to the Government on tourism and sport. The domestic industry’s organisation, the New Zealand Tourist Industry Association (NZTIA), is also a key stakeholder in tourism planning and works alongside the NZTB as a central voice for smaller organisations. At present there is no overall strategy or policy for tourism management in place, save for a strongly marketing-orientated document (New Zealand Tourism Board, 1993). However, the current Minister of Tourism, the Honourable Murray McCully, has indicated that other strategic issues relating to tourism, apart from marketing, need to be addressed (Dey, 1998).

Cossar (1997) and Stears (1996) argue that tourism health issues must be addressed using the principles of health promotion which rely on a co-ordinated strategy

between the government, public sector departments and the public at large (Burrows, Nettleton and Bunton, 1995). However, the role of the Government as a provider of medical and health services is currently being debated and is not clearly defined, while attempts are being made to introduce the concepts of user pays and contestability within the Health sector. Health promotion occupies a peculiar ground in this debate as it would not be in the interest of a fund holder for health promotion activities to reduce the demand for its services. This next section will therefore examine the principles of the health promotion model.

2.5 Tourism-Health Issues and the Health Promotion Model

Health promotion is a relatively new field that challenges previously held assumptions about health, medicine, lifestyle and environment (Downie *et al*, 1996, Parish, 1995; Tones, 1996). Health promotion focuses upon the social and economic aspects affecting the health and well-being of individuals (Downie *et al*, 1996) and is drawn from many academic disciplines as noted by Bunton and MacDonald (1992:1):

...the academic roots of health promotion lie in what might be called the primary feeder disciplines, that is psychology, education, epidemiology and sociology. More recently, secondary feeder disciplines such as social policy, communications theory, marketing, economics and philosophy have made substantial contributions.

The concept of health promotion was formalised in the Ottawa Charter (WHO, 1986) which emphasised the importance of building healthy public policy and, at the same time, empowering individuals and communities to take responsibility for their own health (Downie, *et al*, 1996). Green and Iverson (1982:321) define health promotion as “any combination of health education and related organisational, economic and environmental supports for behaviour conducive to health”.

Health promotion has two key elements, individual (behavioural) and structural (environmental), which together play a critical role in the development of any health promotion strategy (Bunton and MacDonald, 1992). The individual element relates to the lifestyle choices that an individual can make regarding his/her health, while the environmental or structural elements relate to fiscal and socio-economic factors.

Health promotion believes that individuals can make healthy choices only if they have knowledge, decision-making skills, access to resources including finance and some degree of control over their circumstances, or in other words, if they are empowered. Tones (1992:15) defines empowerment as “a state in which an individual actually possesses a relatively high degree of power: that is having the resources which enable that individual to make genuinely free choices”.

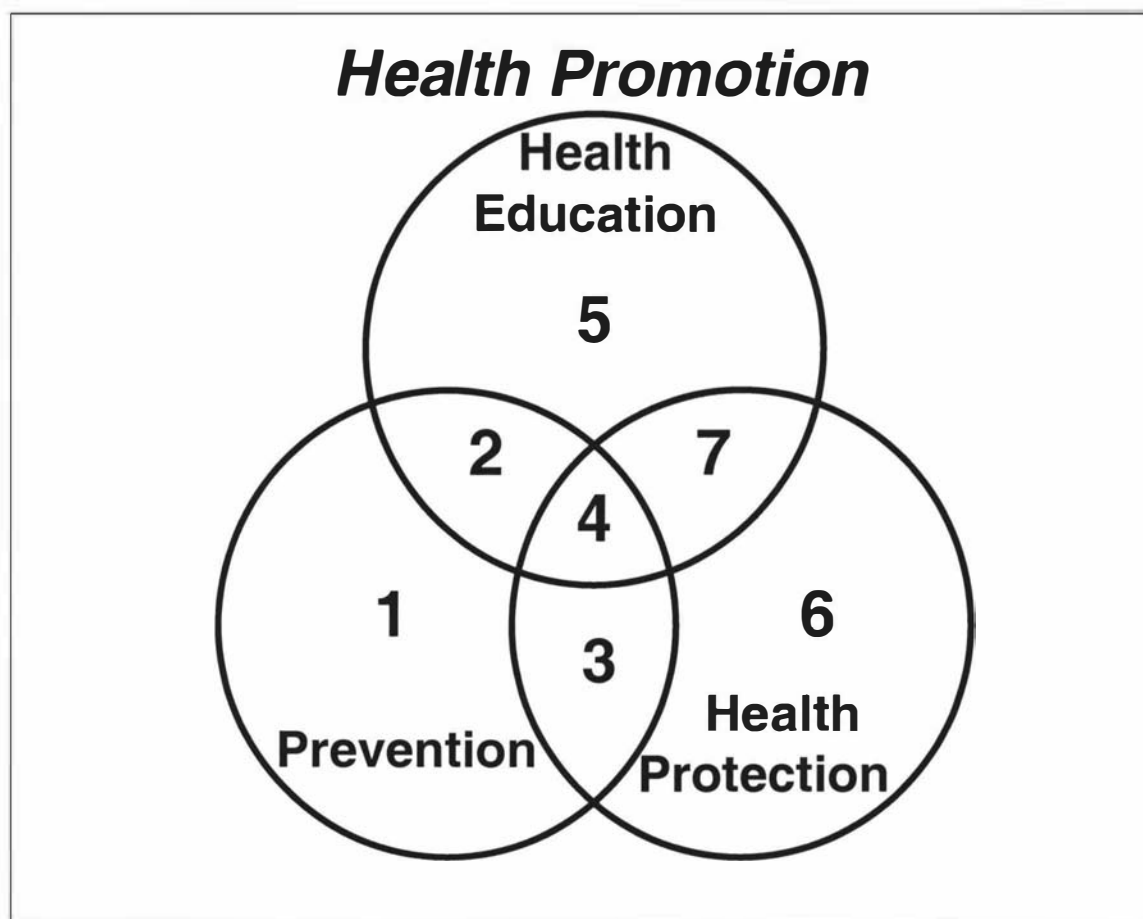


Figure 5 **A Model of Health Promotion**

Source: Tannahill (1985)

Tannahill (1985) developed a model of health promotion intended as a framework for defining, planning and ‘doing’ health promotion. The Tannahill model (Figure 5) comprises three overlapping spheres of activity: health education, prevention and health protection. This model identifies seven domains within these three spheres which are:

1. Preventive measures, such as screening, immunisation
2. Educational efforts to encourage the uptake of preventive services

3. Policy commitment to the provision of preventive measures
4. Education of policy makers
5. Health education of individuals and populations
6. The commitment of funds to provide facilities to promote positive health
7. Policy commitment to positive health education.

It is pertinent at this stage to discuss the concept of health education in the health promotion model. Downie *et al* (1995:36) argues that the 'modern approach to health education is explicitly aimed not only at prevention but also at the promotion of positive health'. Downie *et al* (1995:28) define health education as:

...a communication activity aimed at enhancing positive health and preventing or diminishing ill-health in individuals and groups through influencing the beliefs, attitudes and behaviour of those with power and of the community at large.

This educational process helps people to clarify their values (in relation to themselves, health, health-influencing behaviour etc.) and to acquire various lifeskills with an emphasis on fostering their self-esteem. In other words, education is about informing people so that they can make informed decisions. It is interesting to note that Smith (1979; cited in Downie, 1995) defines health education as:

.... the sum total of all influences that collectively determine knowledge, belief and behaviour related to promotion, maintenance and restoration of health in individuals and communities. These influences comprise formal and informal education in the family, in the school, and in society at large, as well as in the special context of health service activities.

Downie *et al* (1995:133) argue that "the provision of information is the foundation of health education action and is, undoubtedly, the most commonly adopted health promotion methodology'. In addition, Zajonc (1968) suggests that the mere repeated exposure of an individual to a stimulus has been shown to be sufficient to enhance his or her attitude towards it. In this research therefore, the provision of health advice and

information from any source is regarded as an education activity because it may 'influence beliefs, attitudes and behaviour'.

An assumption that is implicit in the concept of health promotion is that people will choose a healthy lifestyle if they are educated (advised) regarding the health outcomes of their behaviour. The problem with this assumption however, is that there is a growing body of research which indicates that education alone does not change people's behaviour. For example, Graham (1987) found that for women caring for children on a low income, smoking offered a means of coping even although they had high levels of awareness about the effect of smoking upon their health.

Critics of the health promotion model argue that the model has failed to address environmental factors (Davison and Davey Smith, 1995; Daykin and Naidoo, 1995; Parish, 1995). Daykin and Naidoo (1995) comment that "individually focused health promotion has been criticised for failing to take into account the structural constraints on people's lives". There is strong evidence that inequalities of health occur between different socio-economic groups". (Burrows *et al*, 1995) and a report by the Health Education Bureau in the Republic of Ireland (1986) recognises that individuals who wished to adopt a healthier lifestyle may be constrained by environmental and socio-economic factors beyond their control. O'Brien (1995:193) observes that "those who have sufficient resources can afford, when they choose, to purchase a three course meal at the healthy options food counter; those travelling on a much tighter budget must make do with coffee and cheap pastries". Any implementation of health promotion therefore, requires a co-ordinated strategy between the government, public sector and the public but Nettleton and Bunton (1995:44) argue that "attempts to prevent illness and promote health have failed ... at three levels: the political environment, the social environment and the physical environment". The health promotion model has also been criticised with regard to the underlying concept that lifestyle causes disease (Davison and Davey Smith, 1995; Le Fanu, 1986). Other critics have questioned whether behavioural changes will improve the health of individuals (Nettleton and Bunton, 1992; Thorogood, 1992) and whether education is effective (Croft and Sibert, 1992; Graham and Firth, 1992; Green, 1995).

Health promotion principles have been adopted and integrated as a core ingredient in the health services of many countries including the United Kingdom, Canada, Ireland and most Western European countries. In New Zealand, the current re-structuring that is being undertaken in the health sector incorporates the concept of health promotion. However, there is a growing concern that while health promotion has identified underlying structural factors affecting poor public health, the model is not delivering all that it promised (Parish, 1995). The concern is that a public commitment by many governments to a new vision of public health has failed to translate into policies for action that improve socio-economic factors. Reasons for this failure include the length of time required for policy development, government bureaucracy, finance and the potential conflict of interest between different stakeholders (Parish, 1995). It seems therefore, that although health promotion identifies the relevant factors affecting health, it appears to be less effective as a tool that to improve the health of populations and/or individuals.

Stears (1996) argues that health promotion principles can be used as a tool to address tourism health issues and accordingly has adapted Tannahill's generalised health model to travel. Stears (1996:217) suggests that 'the three overlapping areas in Tannahill's (1985) model generate seven 'domains', which correspond to existing and potential travel health promotion activities.' These activities are:

1. Preventive services – immunisation against diseases such as typhoid and medication (eg. anti-malarials);
2. Preventive health education – health education directed at changing the lifestyles of 'at risk' travellers;
3. Preventive health protection – regulatory controls and guidelines that apply to the travel industry and travellers (eg. driving regulations for tourists using hire cars);
4. Health education for preventive health protection – activities that stimulate a social environment conducive to the success of preventive health protection (eg. TV documentaries that highlight travel health problems and stimulate preventive health protection);
5. Positive health education – positive health education that changes tourist behaviour and decision making skills that will prevent travel-related illnesses (eg. using sunscreen to reduce sun exposure);

6. Positive health protection – application of ‘healthy public policy’ to prevent ill-health in travellers; and
7. Health education aimed at positive health protection – raising public awareness and support for travel health protection measures among policy-makers.

This implies that a strategy for addressing tourism health and safety issues should include preventive measures, tourist education and public policy initiatives. However, questions have been raised concerning the effectiveness of the health promotion model in improving the health of individuals within a community and therefore this thesis will examine whether the health promotion model can be used as a strategy for addressing international tourism health issues.

2.6 Psychology and the Tourism-Health Interface

One of the feeder disciplines of health promotion is psychology. The health promotion model is based on the concept that if individuals are educated concerning health and safety issues, they will modify their behaviour to adopt a healthier lifestyle. It has been argued that the modification of tourist behaviour is the most important factor in preventing negative tourist health experiences (Cossar, 1997; Stears, 1996). Although many variables (eg. perceptions, cultural conditioning and learning) contribute to explain tourist behaviour, motivation is considered the critical factor behind all behaviour (Fodness, 1994). Ryan and Robertson (1997:121) comment that “tourist behaviour possesses meaning only as a means of meeting motivations”. Consequently it is necessary to examine the literature concerning tourist motivation in order to identify the factors that affect the modification of tourist behaviour.

As is the case with other tourism research, research concerning tourism motivation is limited with little empirical research having been undertaken (Dann, Nash and Pearce, 1988; Mansfeld, 1992; Mill and Morrison, 1985). Pearce (1982:21) calls it a “rather fragmented field of inquiry” while Mansfeld (1992:204) expresses concern that “the lack of a well developed theoretical framework for travel motivation has not deterred some social scientists from using the theory or basing their research upon it”. Pearce (1993), in his work on tourist motivation, identifies tourist behaviour as creating new theoretical challenges and requiring a new focus. Features that are distinctive to

tourist motivation include the notion that tourism is discretionary in nature, is episodic, is future orientated, emphasises biological and cultural components and is influenced by its social context and economic factors. Wickens (1997:154) notes that “the behaviour of tourists is multifaceted. Their flight from everyday life is triggered by a variety of motives including natural beauty, different cultures, sunny climates, romance and sexual adventures”.

A number of models have been developed to explain tourist motivation and these include Plog's (1987) psychographic model which distributes the tourist population across a spectrum with psychocentrics at one end and allocentrics at the other. Psychocentrics prefer a familiar environment, use tour packages and have low activity levels whereas allocentrics like novel destinations, prefer variety and adventurous activities and travel independently. Smith (1977) has developed a typology that groups tourists according to their wish to adapt themselves to local norms while Crompton (1979) identifies nine motives for leisure travel which he divides into two broad groups, 'push' factors and 'pull' factors. The push factors are internal (psychological) factors while pull factors are external (situational) factors and Parrinello (1993:238) notes that “push motivations are generally accepted as the dominant factors. Pearce's (1993) 'developing travel career' model is based on Maslow's hierarchy of needs theory while Beard and Regheb (1983) have also developed a model based on Maslow's theory called the Leisure Motivation Scale. The motivational needs in this model include the intellectual component, the social component, the competency-mastery component and the stimulus-avoidance component. Ryan (1991) identifies nine motivators that explain why people travel to tourist destinations for holidays while Cohen (1972) describes four types of tourist travellers: the organised mass tourist; the individual mass tourist; the explorers and the drifters. These models are all simplistic and descriptive while in contrast, Iso-Ahola (1982) has developed the intrinsic motivation-optimal arousal approach to analyse tourist motivation. This approach does not offer a theory as a way of examining leisure motivation but argues that tourist motivation can be explained by different levels of causality. Iso-Ahola argues that individuals seek escape from boredom and look for different levels of stimulation which change during an individual's lifespan and according to the situation and social company an individual finds himself/herself in.

However, although these models of tourist motivation have been developed, many writers insist that there is much in tourist behaviour that is senseless and illogical (Urry, 1990). There is also a recognition that tourist motivation and associated behaviour cannot be explained using a single motive (Pearce, 1993) and therefore attempts to influence and change tourist health behaviour using motivational theory alone would appear to be of limited value. Furthermore, tourism motivation models have all tended to focus on intrinsic factors whereas it is argued by Harre, Clarke and de Carlo (1985) that most social action is extrinsically motivated because people explain their behaviour with reference to judgement by others. Vroom (1964) also argues that because tourist behaviour is chosen and outside of a work context, it is not necessarily intrinsically motivated and thus any attempts to understand and intervene at the tourism-health interface must recognise the importance of external social factors.

Ryan and Robertson (1997) identify seven psychographic groups of student tourists while Wickens (1994) identifies five groups of tourists. Carter (1997) reports that Glaswegian youths on holiday in Europe spend significant amounts of time engaged in suntanning behaviour even though they think it is boring. This is because the 'consumption of a tan' is a crucial indicator that they have been away. Likewise, Black (1997:173) in a study of sexual behaviour and travel notes that:

A significant theme emerging from respondents' accounts was the experience of external pressures to behave in certain ways and to conform to the group norms of interaction occurring within the social context. ... Pressure by peers to behave in certain ways... was most often described... In a social situation, pressure is particularly powerful.

Thus the social context of tourist behaviour must be considered when seeking to modify tourist behaviour. Having looked at the literature concerning the modification of tourist behaviour, it is important to examine the literature concerning the health experiences of tourists.

2.7 The Literature concerning Tourism Health and Safety

A number of studies undertaken in the United Kingdom document health problems experienced by UK holiday makers (Cartwright, 1992; Conway, Gillies and Slack, 1990; Petty, 1989). Dawood (1989) suggests that up to half of all international travellers are likely to experience some kind of adverse effect upon their health as a result of an overseas trip. Cossar *et al*, (1990) report that 36% of all travellers returning to Scotland reported illness. McIntosh, Power and Penman (1991) reports that 45% of those 65 years and over became ill while McEwan and Jackson (1987) cite a rate of 41% of travellers succumbing to illness. Another study found that 40% of the 2.1 million overseas trips undertaken by Australians in 1991 were to developing countries and over half (54%) of these tourists reported some kind of illness on their return (Behrens, Steffen and Looke, 1994). This equals 21.6% of all overseas trips taken by Australians.

The most common ailment suffered by travellers are alimentary problems with the attack rate exceeding 50% in some contexts (Cartwright, 1996). Du Pont and Khan (1994) comment that 40% of travellers in industrialised nations visiting less developed countries will develop diarrhoea. Looke, Mills, Kass, and Grove, (1992) note that 54% of tourists in an Australian survey reported illness or injury with 39% reporting diarrhoea; 26% reporting respiratory tract infection; 5% reporting an accident or injury; 2% reporting fever and 11% reporting other types of illness. Documented injuries sustained by travellers include lacerations, sunburn and heat exhaustion, sprains, insect bites (Grenfell and Ross, 1992), extremity trauma and head trauma (Johnson, Maertins, Shalit, Beirbaum, Goldman and Lowe, 1991). Page and Meyer (1996:663) also observe that “there has been little research into the occurrence and impact of accidents among international visitors and that the scale of tourist accidents and injuries remains largely unknown in many countries”. A number of studies have examined the health problems experienced by cruise ship passengers, the most common being gastro-enteritis (Werner, Hudgins, Morrison and Chin, 1976; Dannenberg, Yashuk and Feldman, 1982) and respiratory illness (Fitzgerald, 1986; Christenson, Lidin-Janson and Kallings, 1987; Di Giovanna, Rosen, Forsett, Silvertson and Kielen, 1992).

Research has also been conducted into the causes of deaths among tourists. The main causes of death for Scottish travellers were cardiovascular diseases among the older age-groups and trauma in the younger groups (Paxiao, Dewar, Cossar, Covell and Reid, 1991). Motor vehicle crashes are the leading cause of death for US citizens travelling overseas and trauma caused by road accidents is a major cause of air evacuations of the same group (Hartgarten, 1994). Bewes (1993:454) notes that:

...in many countries, overseas tourists run a greater risk of experiencing a road traffic accident than in their home region. Accidents kill 25 times more travellers abroad than infectious or tropical diseases and are by far the commonest cause of death or serious injury in travellers of all ages.

Prociv (1995) records that the main causes of death for Australian travellers overseas are heart disease (35%), predominately among older travellers, and fatal trauma (18%), primarily associated with younger people.

Recent studies show that personal safety is an important issue for travellers. Martin and Mason (1987:112) note that "there is a growing concern about the quality of the tourism experience in all senses, including the nature of the facilities used, the state of the environment visited and the health enhancing (or detrimental) features of the activities undertaken". Haywood (1990:201) argues "the needs and wants of tourists are not merely economic in nature. Tourists expect a destination to be safe and clean". Other studies emphasise this shift in focus by tourists from the economic cost of the tourist experience to concern with health and safety issues (Evans and Stabler, 1995; Ritchie, 1992). Japanese tourists are very concerned about safety (Nozawa, 1992) as are retired travellers (Quiroga, 1990) and women (Bovet, 1994). Hong Kong residents perceive safety as the most important attribute when choosing a destination for leisure travel (Mok and Armstrong, 1995). Safety and cleanliness were among the more important factors in the selection of a leisure destination cited by United States repeat visitors to Canada (Neiss, Joyal and Triets, 1995). Kelly (1993:2) comments that "concern with personal safety is a major factor in the decision making process through which individuals make their travel decisions".

Tourism health issues have commercial significance for insurance companies, air carriers and tour operators (Clift and Page, 1996). Ryan (1997) reports that for most insurance companies, claims were made for 10-12.5% of all travel policies issued, with medical claims accounting for between 40% -70% of all claims made¹. It is argued that negative health and safety occurrences can have a significant economic impact on a wide range of tourism businesses (Wilks and Oldenburg, 1995). Following a fatal mid-air collision in Milford Sound in 1989, patronage on scenic flights in Fiordland immediately fell by 50% and in 1996, tourist numbers were still below pre-crash figures (Greenaway, 1996). The rafting industry in Queenstown was reported to have initially lost half its clients and an estimated \$2 million in income as a result of the death of an English tourist in 1994 (Greenaway, 1996).

Tourism health and safety issues can also significantly affect the broader economies of tourism destinations at both the regional and national level. Behrens and Grabowski (1995) suggest that protecting the health of tourists not only protects the individual, but contributes to the nation's economic stability. Following an attack on tourists in Egypt in 1993, tourism fell by 28% in 1993 while earnings fell by 36%, a decline which was greater than the decline in tourism earnings experienced by Iraq (20%) in the wake of the Gulf War (Brayshaw, 1995). Following the coup in Gambia in 1994, British and Scandinavian tour operators ceased operations with the result that the Gambian tourism industry faced hotel closures and massive job losses at the height of the tourist season. This had a catastrophic effect on the Gambian economy as a whole (Sharpley, Sharpley and Adams, 1996). Tourism in India is regarded as a catalyst for economic development and an important source of foreign currency earnings. Following the plague scare of 1994, the more lucrative business travel segment fell by 50% from the previous year although there was little change in the holiday or VFR (Visiting friends and relatives) tourism segments (Grabowski and Chatterjee, 1997).

The primary and secondary health sectors of destinations are also likely to be affected by tourism health and safety issues (Wilks, Walker, Wood, Nicol and Oldenburg, 1995). Alleyne (1990) notes that "attention has to be paid to tourism's impact upon

¹ The variation in the percentage of claims being made between different insurance companies, is accounted for by the mixes in types of clients and types of risks being covered.

the health of the Caribbean people, as well as to the need for a health infrastructure supporting tourism's development". The Industry Commission (1991) of Australia reports that there was an increased patient load placed on Australian services by overseas visitors and that many may not be paying for the health services they receive. The Commonwealth Department of Tourism (1992) in Australia anticipates that additional pressures will be placed on the capacity of health and safety services to meet the needs of tourists while Wilks and Oldenburg (1995) estimate that up to 15,000 tourists to Australia might need medical treatment. Travellers do not leave their health problems at home; they remain present or even deteriorate during the time of travel (Handsuh, 1991), particularly in the case of older tourists. Thus it can be seen that tourist health problems can have very wide-ranging implications that affect a large number of different stakeholders.

2.8 Summary

The health problems that arise as a result of travelling to an unfamiliar environment can impact upon all stakeholders involved in the tourism process. Recent research has identified some of the health and safety problems experienced by tourists and has highlighted the complexity of the issues involved. Tourism can be regarded as a system and consequently systems models are very useful in addressing issues associated with the tourism process. The Tourism-Health Interface Model has been developed in this research to show how health issues can affect the overall tourism experience and to identify the factors that can influence the health experience of tourists. Tourism is an industry that affects many different sectors of the economy and therefore government involvement is necessary to address these issues.

Government involvement in tourism is broad, but in New Zealand tends to be primarily supportive and focuses upon marketing New Zealand as a destination. However, the role of the Government as a provider of health and medical services is still being debated. The health promotion model identifies structural and behavioural causes of ill-health and argues that these underlying causes must be addressed concurrently. Health promotion is based on the concept of the empowerment of individuals and assumes that if individuals are educated about the risks they face, they

will change their lifestyle. Health promotion has been criticised for failing to adequately address structural issues.

Scientific and economic factors limit the effectiveness of medical interventions to address tourism health issues and consequently a number of researchers have suggested that principles from the health promotion model should be applied to tourism health issues. Stears (1996) has shown how the three overlapping areas in Tannahill's model generate seven 'domains', all of which correspond to existing and potential travel health promotion activities. The success of travel health education depends on understanding tourist motivation and health behaviour models of psychology. Models have been developed to explain tourist motivation, yet these tend to be simplistic and descriptive.

The importance of tourism health issues has only recently been recognised and consequently, studies have been undertaken to examine the impact of these issues. These studies also show that tourism health issues have a commercial significance to the tourism industry and can also affect the health sector of both tourism generating and receiving countries. Having examined the literature pertaining to tourism health issues, the next chapter will outline the research question that this thesis explores.

Chapter Three

The Research Question

The preceding chapter has reflected the multi-disciplinary nature of research into the tourism-health interface, yet the research literature does not address the fundamental question regarding whether the travel health promotion model is an effective model for addressing international tourism health issues (Alleyne, 1990; Cossar, 1996, 1997). It has been suggested in Chapter 2.5 that a number of researchers have criticised the health promotion model as a means by which health problems within the wider community can be addressed (Davison and Davey Smith, 1995; Daykin and Naidoo, 1995; Nettleton and Bunton, 1995; O'Brien, 1995; Parish, 1995).

Kelly and Charlton (1995) suggest that the concept of health promotion is attractive because it provides a reconciliation between right and left wing philosophies; between the philosophies of individual responsibility and social determination. Yet does this reconciliation really occur or is it purely theoretical? Thorogood (1992) comments that intrinsic tensions exist within the health promotion model that have not been addressed, including the debate concerning agency versus structure; its ideological underpinnings; the reinforcement of structural divisions and forms of discrimination; and the articulation of new forms of social regulation. McQueen (1989) and Thorogood (1992) both argue that the model is powerless because of these inherent conflicts. McQueen (1989:342) comments "How else can one explain a public health rhetoric which argues that social conditions affect health outcomes and then in turn, argue that the appropriate solution is to eat better, exercise more, drink less and give up smoking".

Addressing the structural (environmental) causes of ill-health is one of the key strategies upon which health promotion is founded, yet a number of critics suggest that this strategy has failed. For example, Nettleton and Bunton (1995) argue that health promotion has failed to address the consequences of industrial capitalism

including social inequalities, poverty and pollution. Another criticism of the health promotion model highlights the failure of government to initiate policy and activities. Parish (1995) suggests that no clear health promotion policies have been developed and explains why this has occurred. He argues that governments are largely reactive to social movements rather than being a stimulus to them and lack of political will makes it difficult for targets to be achieved. Financial pressures on the health system keeps the focus on curative and restorative services rather than on health promotion activities. Health promotion is dependent on inter-sectoral collaboration and commitment across government departments, and given the inherent competition between departments and sectors of the economy, Parish suggests that this collaboration is unlikely to occur. Overall therefore, government is unlikely to initiate health promotion activities and therefore the rhetoric about health promotion does not match reality. Nettleton and Bunton (1995) suggest that health promotion has failed to address the consequences of industrial capitalism such as social inequalities, poverty and pollution. This failure by government to engage in health promotion activities has meant that the structural (environmental) causes of ill-health have not been addressed (Crawford, 1977; Doyal with Pennell, 1979; Draper, 1991; Townsend, Phillimore and Beattie, 1988).

These criticisms are likely to be even more valid in New Zealand where current government health policies emphasise the concept of 'user pays' and the creation of competitive bidding models. Overall, the government is seeking to reduce its role in the provision of health services, yet an assumption underlying the health promotion model is that there will be government involvement both in the development of policy and the initiation of activities. Thus it is important that the role of the government be more clearly defined before the health promotion model can be applied to tourism health issues in New Zealand.

The second key strategy for addressing health problems is behaviour modification through education. However, Davison and Davey Smith (1995:92) question the fundamental concept underlying health promotion, that disease is caused by lifestyle. They comment:

The suggestion that cardiovascular diseases and cancers which account for a high proportion of deaths in industrial societies are due to the 'lifestyle' of sufferers automatically brings forth the issue of culpability. If a disease is preventable by adopting (or desisting from) certain behaviours, then it follows that victims of such disorders are at least partially to blame for their predicament....

...health education and health promotion, have by overemphasising the individual's role, been guilty of oversimplifying disease causation.

Other critics argue that the focus on behaviour of health promotion activities has resulted in an over-simplification of the causes of disease (Davison, Frankel and Davey Smith, 1991). Le Fanu (1986:124) quite caustically comments "in all their self-righteous admonitions to the public, they appear blind to the serious consequences of their propaganda – that it misinforms the public about the complexity of disease, trivialises tragedy and blames patients for their illnesses". Davison and Davey Smith (1995) also suggest that focusing on behavioural issues does not take into account the fact that individuals may have different values and that health may not even be a top priority for all individuals. Accidents are regarded as preventable in the health promotion model, yet researchers argue that educational interventions fail to reduce accident rates because safety advice is not particularly useful for preventing specific accidental events (Croft and Sibert, 1992; Graham and Firth, 1992; Green, 1995). Thus it can be seen that much of the criticism of health promotion has focused on the effectiveness of the activity of education to improve the health of individuals.

Within health promotion, empowerment is another fundamental concept (Downie *et al.*, 1995). Empowerment occurs when individuals are educated about health issues and as a result, have the power to make lifestyle choices about their health. However, Thorogood (1992) suggests that this concept is a fallacy while Nettleton and Bunton (1995) question whether individuals can realistically make changes that improve their health, particularly when the causes of ill-health are structural. Overall, therefore, the health promotion model has come under criticism regarding its effectiveness as a means whereby the incidence of health problems in the wider community is being challenged.

A number of tourism researchers have questioned the effectiveness of travel health education activities in reducing the incidence of tourism health issues. For example, Behrens (1997:38) suggests that whether the factors affecting tourism health problems “can be influenced by education....has yet to be determined”. Carter (1997) also argues that the possibilities for modifying tourist behaviour by education with regard to suntanning appears to be limited. Over-exposure to the sun is regarded as a tourist health problem (Hobson and Dietrich, 1994; Wickens, 1994), yet Ross and Sanchez (1990) show that many tourists are willing to expose themselves to sun with little sunscreen protection even though they are aware of the risks of skin cancer. Wickens (1997) and Giddens (1992) comment that young tourists engage in health risks with regard to sexual activity even although they are aware of the risks. Kozicki, Steffen and Schar (1985) report that behaviour modification is hardly ever observed, while Mattila, Siitonen, Kyrönseppä, Simula and Peltola (1995) report that only 5% of a sample of 933 Finnish travellers who vacationed in Morocco had strictly adhered to generally accepted dietary recommendations. Behrens (1997:46) comments “whether targeting of individuals in the community is optimally combined with other health promotion activities or not needs further study”. Thus it would seem that a number of researchers are beginning to question the effectiveness of travel health promotion activities.

While arguing that 'health promotion has an important part to play in the travel and tourism industry of the 1990's, Stears (1996:216) identified five key challenges that needed to be addressed if an effective health promotion service is to be created for travellers nationally and internationally. The key challenges are:

1. acceptance of responsibility for providing travel health promotion to travellers;
2. establishing realistic objectives for promoting the health of travellers;
3. development of strategies to educate travellers about their own personal health risks and the problems they pose as visitors to the public health of different environments;
4. development of an informed approach to travel health promotion through effective intersectoral collaboration and health alliances;
5. development of thorough evaluation procedures to monitor the effectiveness of health promotion strategies offered to travellers.

Unless these challenges can be met, it is unlikely that travel health promotion will be effective, yet these challenges can only be overcome in an environment where there is a genuine commitment to improving the health of tourists. Overseas tourists visiting a destination have no political influence within a country of destination and often have little interaction with the residents of a country. As a result, it would seem that while governments are likely to be concerned about the social, economic and environmental impacts of tourism upon their own country, they are less likely to be concerned about the overall welfare of tourists. Pizam (1978) comments that where tourism activity is concentrated, resident attitudes towards tourism and tourists will be negative. Ritchie (1991), reporting on a survey of world tourism issues, suggests that many governments are now spending less on tourism. If the presence of tourists is resented by residents, it is even less likely that health promotion activities to reduce the incidence of tourist health problems will be undertaken, particularly if the tourists appear to be more wealthy than the residents. At the same time, financial constraints limit what the public health sector can provide and demands for curative and restorative services in the public health sector are therefore likely to take precedence over demands for health education activities for outbound tourists. Yet, tourism health issues are important and the strategies used to address tourism health issues must be appropriate. Cossar (1997:24) comments:

International travel and tourism are currently the world's fastest growing and, in financial value, largest industry. Throughout history, the movement of people from necessity, for commerce, recreation, or military purposes has been associated with the transmission of infection. The numbers of contemporary travellers allied to the speed of travel and the repercussions of world-wide changes in demographics, industry, the environment, and public health support mean that the opportunities for microbial adaption and global epidemic spread have never been greater.

It has been argued that travel health promotion is appropriate for addressing tourism health issues (Cossar 1997; Hartgarten, 1994; Stears 1996;), but is it really? Kelly and Charlton (1995:90) comment: "health promotion in its present form is riven with contradictions in theory and in practice". This chapter has highlighted some of those criticisms of health promotion including the intrinsic tensions within the model; the failure by governments to address the structural causes of ill-health; the over-

simplification of causes of disease; the failure of education to modify behaviour and the fallacy of the concept of empowerment. It is very likely that not only do these same contradictions exist when health promotion is applied to tourism, but that they are exacerbated by the international context within which tourism takes place. Yet because tourism research has tended to be descriptive and has focused upon discrete studies, the theoretical issues constraining travel health promotion have not been examined. Thus it is appropriate to evaluate the effectiveness of the health promotion model to address tourism health issues. If this strategy is conceptually flawed, then it is time that a more robust model be developed that can be used to reduce the incidence of international tourism health issues more effectively.

Two different views of evaluation pervade the literature on health promotion (Downie *et al*, 1995). From the first viewpoint, evaluation involves assessing an activity in terms of the aims or specific objectives of that activity. Evaluation is undertaken 'to demonstrate whether an activity has been successful or to what degree it has failed to achieve some stated aims' (Williams (1987:81). From the second viewpoint, 'evaluation involves assessing an activity by measuring it against a standard which is not necessarily related to the specific objectives or purpose of the activity' (Downie, *et al*, 1995:77). Evaluation is of considerable importance with respect to informing the design of future initiatives. In this research, the effectiveness of the existing travel health promotion activities of education, prevention and protection are to determine whether travel health promotion is an effective strategy for addressing tourism health problems in New Zealand. Accordingly, this thesis poses the research question:

Is the Health Promotion Model an appropriate strategy for reducing the incidence of international tourism health and safety problems in New Zealand?

It is also important to remember that tourism health problems have economic consequences and therefore travel health promotion strategies must also be evaluated to assess whether resources are used effectively and efficiently. If the travel health promotion strategies of education, protection and prevention are ineffective, it would seem necessary to develop more cost-effective strategies. Having identified the research question, it is now necessary to describe the methodology used to undertake this research.

Chapter Four

Research Methodology

4.1 Research Design

In order to examine the overall effectiveness of the travel health promotion model, it is necessary to evaluate the effectiveness of each health promotion activity in reducing the incidence of tourism health problems. Because much of the research that has been previously undertaken is fragmented and focuses on discrete tourism health issues, this research was designed to examine the impact of tourism health and safety issues on a number of key stakeholders within the broad confines of a single country. By examining the attitudes and actions of these various stakeholders towards tourism health issues, the overall effectiveness of the travel health promotion model can be evaluated. Accordingly, the research was designed so that an evaluation of the impact of tourism-health issues on a number of stakeholders could be undertaken.

This research comprises five surveys which were developed so that each survey addressed specific tourism-health issues associated with the stakeholder being examined that had previously been identified in the literature. Each survey also sought to examine conceptual issues associated with the health promotion model and each subsequent survey included questions relating to issues identified in the earlier surveys. This research was designed so that tourism-health issues relating to each of the three phases of the tourism process could be examined.

The first survey related to the pre-travel phase of tourism and focused upon the role of travel agents and the tourism industry in the dissemination of tourism-health information. The second survey focused on the impact of tourism-health issues on the primary health sector of New Zealand in all three phases of the tourism process. The third survey related to the travel phase of tourism and questioned overseas tourists in Fiji about their health experience and their attitudes concerning health issues. The fourth survey also focused on the travel phase of tourism by examining the health experiencing of overseas tourists in New Zealand and was conducted as a

discrete and separate section of the fifth survey examining tourists' attitudes towards health education activities. Education is the travel health promotion activity that is regarded by many as the most important, and consequently the fifth survey was designed to evaluate the effectiveness of travel health education activities in modifying the behaviour of both overseas tourists and residents in New Zealand. The present study is therefore based upon the more specific following research questions:

1. Does the structure of the tourism industry affect the ability of travel agents to give pre-travel health advice?
2. What advice do travel agents give to tourists?
3. What is the attitude of travel agents towards tourism health issues?
4. What is the impact of the outbound tourism upon the primary medical sector (GPs) and upon ACC in New Zealand?
5. What is the impact of inbound tourism upon the primary medical sector (GPs) and upon ACC in New Zealand?
6. What health problems do New Zealand outbound tourists experience?
7. What health problems do overseas tourists experience in New Zealand?
8. How effective is travel health education in reducing the incidence of tourist health problems?
9. Do socio-economic and/or psychographic factors affect the tourism health experience?
10. How effective is the travel health promotion model in reducing the incidence of tourism health problems?

In seeking to assess the effectiveness of the travel health promotion model, this thesis comprises two components, the first being explanatory research and the second being evaluative research. The explanatory research investigates the impact of tourism health issues upon travel agents, on the primary health sector, as well as upon inbound and outbound tourists in New Zealand. The evaluative research considers whether the travel health promotion model is effective in reducing the incidence of tourist health problems. Case study methodology has been selected as a methodology for the present study because it provides a means to conduct both evaluative and explanatory research. Theory building is an important part of case study methodology (Walton, 1992; Yin, 1989) and this is another reason why this methodology has been selected

because much of the previous tourism research has been descriptive and ideographic rather than developing or testing theory (Page, 1995; Pearce, 1993).

4.2 Case Study Methodology

A case study is a research method which focuses on the circumstances, dynamics and complexity of a single case, or a small number of cases (Bowling, 1997). Yin (1981a, 1981b) suggests that case study strategy is pluralistic and can be used for three purposes: exploratory, descriptive or explanatory. Yin (1989:23) argues that:

A case study is an empirical inquiry that:

- investigates the contemporary phenomenon within its real-life context: when
- the boundaries between phenomenon and context are not clearly evident: and in which
- multiple sources of evidence are used.

Case studies have a distinctive place in evaluation research (Cronbach, 1980; Patton, 1980). They are used to describe the real-life context in which an intervention has occurred and to explore those situations in which the interventions being evaluated have no clear, single set of outcomes (Yin, 1989). Tourism health issues are complex and the interventions proposed by the travel health promotion model are difficult to evaluate (Stears, 1996). Although case studies usually use both direct observation and systematic interviewing, they can be limited to quantitative evidence and need not always include direct, detailed observations as a source of evidence (Yin, 1989). An important aspect of case study methodology is that several pieces of information from the same case can be linked together and applied to some theoretical proposition. Case studies are undertaken to derive lessons which may have a more general application, or if the lessons are specific to a context, then it is important to identify the contextual constraints of the context. In this research, tourism health problems in New Zealand is the case study and accordingly, five surveys which focussed on different aspects of tourism health problems in New Zealand, were undertaken. The data derived from these surveys are descriptive of a process and the questionnaires were designed to generate quantitative data for statistical analysis.

Yin (1989) identifies the five components of a research design that are especially important for case studies:

1. A study's questions;
2. Its propositions, if any;
3. Its unit(s) of analysis
4. The logic which links the data to the propositions; and
5. The criteria for interpreting the findings.

The study's questions have already been outlined in the previous chapter. The study's proposition states that the health promotion model is an inappropriate model for addressing tourism health issues and that a new model needs to be developed which take into account the unique characteristics of tourism. The third component of research design, defining the unit of analysis, is a problem that has plagued many investigators using case study methodology (Yin, 1989). Cases can be events, social groups, organisations, processes, institutions, decisions, states of affairs and policies and the crucial difficulty is drawing boundaries around the central subject (Abbott, 1992). In this research, the unit of analysis is identified as tourist health problems in New Zealand. Health problems affect both inbound and outbound tourists in New Zealand and affect the two sectors of tourism and health. Case study methodology provides a means for examining tourism health problems in New Zealand from the perspectives of these stakeholders.

The 'logic linking of data to propositions' is the fourth component of research design and this occurs when several pieces of information from the same case are linked together and applied to some theoretical proposition. One way of doing this is pattern-matching (Campbell, 1975) and in this research, information is gathered from five surveys and linked to the theoretical proposition that the travel health promotion model is inappropriate as a model for addressing tourism health issues. The fifth component, the criteria for interpreting a study's findings, is undertaken in this research using statistical analysis.

Theory development prior to the collection of case study data is an essential step in doing case studies (Yin, 1989). Theory development occurs when the case study

results are generalised and can occur on the basis of empirical data collected. Analytic generalisation can be used in single case studies and is the main vehicle for generalising the results of a case study. In this case, the strategy of using travel health promotion to address tourism health problems in New Zealand is being examined and if this is found to be inadequate, it will be necessary to develop a modified or rival theory. This aspect of case study methodology makes it very appropriate as a research method because much previous tourism research has tended to be fragmented and methodologically unsophisticated (Page, 1995, Pearce, 1993).

Kidder (1981:7-8) identifies four tests to judge the quality of a case study and these are construct validity, internal validity, external validity and reliability. Construct validity is concerned with establishing correct operational procedures for the concepts being studied and is undertaken in two ways. The first is by using multiple sources of evidence and in this research, five separate surveys have been undertaken which examine different aspects of tourism-health problems in New Zealand. The second tactic used to increase construct validity is to maintain a chain of evidence, and this also occurs in this research because each subsequent survey is built upon information generated in previous surveys. Internal validity is concerned with establishing a causal relationship and identifying spurious relationships. This is undertaken using pattern matching which compares an empirically based pattern with a predicted one. Information has been generated from five different sources in this research and thus pattern matching takes place when the information generated in each survey is compared and any patterns that arise between the surveys are identified. Where possible, a degree of commonality is maintained throughout all questionnaires and this too helps to maintain the internal validity of the research. External validity is concerned with establishing the domain in which a study's findings can be generalised and has typically been a problem for case studies, which often do not use statistical analysis. However, in this research, statistical analysis is used and therefore the results should have greater external validity. Reliability is concerned with replication of the test elsewhere. Because this case study has been undertaken using quantitative research methods, and the surveys are modelled upon other research undertaken earlier, the reliability of this research should be increased.

Thus, the case study model provides a framework within which tourist health problems in New Zealand can be studied because it is both explanatory and evaluative and provides for theory evaluation and development. Case study analysis allows the complex issue of tourism health problems to be examined throughout three stages of the tourism process and from the perspective of numerous stakeholders.

4.3 Data Gathering Procedures

The research questions posed in this study require the gathering of information from a variety of sources in order to examine tourist health problems from different perspectives, thus fulfilling the requirements of case study methodology. The use of questionnaires provides an efficient means of gathering data across a wide field while the use of more than one questionnaire heightens the likelihood of validation of the research evidence gathered in earlier surveys. Four key stakeholders that are affected by tourist health problems in New Zealand are outbound tourists, inbound tourists, travel agents and general practitioners (GPs) (Clift and Grabowski, 1997, Clift and Page, 1996; Cossar, 1997; Stears, 1996). Each stakeholder group is affected in a different manner by tourism health issues and therefore five questionnaires were used to examine how each group was affected and to identify any underlying attitudes regarding tourism health issues. The selection of questionnaire methodology was linked to the key questions raised in this study and contained some common core questions in order to generate comparative considerations.

The degree of disclosure by each respondent is limited because the questionnaires have no interactive element. Each questionnaire was developed after consideration of the research questions and where possible, was modelled on previous research concerning the relevant stakeholder. Care was taken to ensure linkages existed between the five questionnaires and to ensure that the questions asked would generate the desired information. Key consideration was given to ease of completion requiring as little time as possible on the part of the respondents, as well as ensuring there was no ambiguity and that the responses could easily be formatted and analysed. Piloting the questionnaire is essential to eliminate ambiguous and misleading questions but does not necessarily remove the potential for bias. In each case, the questionnaires were piloted by 25 stakeholders who were not in the final respondent group.

4.3.1 The Survey of Travel Agents

A key concept of the travel health promotion model is that the overall incidence of tourism health problems will be reduced if tourists are given information regarding the risks they face because they will modify their behaviour accordingly (Cossar, 1997; Stears, 1996). Because of the intermediary role travel agents have in the tourism distribution channel, travel agents have been identified as an important source of health information for intending travellers (Behrens, 1997; Cossar *et al*, 1990; Grabowski and Behrens, 1996). Yet travel agents argue that it is not their business to provide detailed health information (Dawood, 1989). Within the travel health promotion model, travel agents are regarded as suitable stakeholders who can undertake the health promotion activities of preventive health education and positive health education. The aims of the survey of travel agents in New Zealand were:

1. To collect baseline information about the health information given by travel agents to their customers;
2. To examine the overall attitude of travel agents towards tourism health issues;
3. To examine how travel agents regard their role in the dissemination of tourist health information; and
4. To identify which sources of health advice travel agents consider to be the most appropriate for tourists.

Thus it can be seen that information generated in this survey can be used to examine the effectiveness of the travel health promotion activities undertaken in the pre-travel stage of tourism. In particular, this survey will examine issues associated with the education activity within the travel health promotion model.

The questionnaire, which expanded on the pioneering work in this field reported by Cossar *et al* (1990), was developed using both open and closed questions and was administered using a postal survey (See Appendix A). An explanatory letter was enclosed with each questionnaire, outlining the purpose of the survey together with a pre-paid reply envelope to facilitate responses. One follow-up mailout was undertaken. A total of 526 questionnaires were mailed during January to March 1996 to all travel agents listed in the 1995 edition of Telecom New Zealand's *Yellow Pages*

in Auckland, Waikato, Bay of Plenty, Wellington, Christchurch and Otago. The exact number of travel agencies in New Zealand is unknown, although the Travel Agents Association of New Zealand (TAANZ) has a total of 664 agency offices. This means that 79.2% of the estimated number of all travel agencies in New Zealand were surveyed. Some 314 questionnaires were returned, comprising a 59.6% response rate from an initial mailout and one follow-up mailout to chase non-responses. This equates to 47.28% of the estimated number of all travel agencies in New Zealand (664).

Table 4. 1 Regional Distribution of Travel Agents’ Survey and Responses.

Postal Regions	Number Mailed out	Number Returned	Response Rate
Auckland	218	136	62.4
Wellington	73	48	65.7
Christchurch	88	39	44.3
Waikato	65	30	46.1
Otago	40	28	70.0
Bay of Plenty	42	33	78.0
Total	526	314	59.6

The majority of travel agencies are located in the principal urban centres covered in this survey and in 1993, the majority of New Zealand’s 768,756 outbound travellers (Bywater, 1995) booked their trips in the major urban centres or smaller towns covered by the study. Thus this survey offers a comprehensive examination of travel agents in New Zealand. As Table 4.1 shows, response rates varied according to region within New Zealand, with higher response rates in the Bay of Plenty, Otago and Wellington. The results of this survey were analysed using the statistical program *Minitab Version 12.1*

4.3.2 The Survey of General Practitioners (GPs).

Within the travel health promotion model as described in Chapter 2.14, doctors engage in health protection and health education activities in the pre-travel and travel phases of the tourism process. There has been little research in New Zealand

concerning the impact of tourism-health issues on GPs apart from that undertaken by Kreichbaum and Baker (1996) regarding pre-travel health advice. Many researchers have suggested that GPs are the most appropriate source of travel health advice (Behrens, 1997; Clift and Page, 1996; Cossar, 1997; Wilks and Atherton, 1994) while nearly 60% of travel agents surveyed considered GPs to be the most appropriate source of health advice for travellers (Chapter 5.3). As a result, it was deemed necessary to gather information about how GPs regard their role in giving tourist health information. However, the role of GPs in the tourism-health interface extends beyond that of giving pre-travel health advice and includes treating sick or injured tourists while at their destination as well as treating New Zealand residents after they return home for health problems incurred during travel (Cossar, 1996). Thus the survey of GPs sought to generate information regarding the impact of tourism health issues at all stages of the tourism process. The aims of this survey were to:

1. collect baseline information about the pre-travel health advice given to tourists by GPs;
2. estimate how many pre-travel consultations occur in New Zealand in a twelve-month period;
3. estimate how many overseas tourists seek medical treatment in a twelve-month period;
4. identify the main health problems experienced by overseas tourists in New Zealand;
5. estimate how many New Zealand residents require medical treatment in the post-travel phase of tourism for health problems contracted during their travel;
6. identify the main health problems experienced by New Zealand residents during overseas travel; and
7. estimate the economic impact of tourism on GPs in New Zealand and on the Accident Rehabilitation and Insurance Compensation Corporation (ACC) in New Zealand.

This survey replicated the mailout process used in the survey of travel agents which employed a postal survey to elicit information regarding travel health advice given by travel agents in six regions of New Zealand, but in this case, the survey was refined

and developed to derive further information from GPs (Appendix B). In May 1997, a survey questionnaire was mailed to 615 general practitioners in six regions of New Zealand. Every third GP listed under 'Registered Medical Practitioners' in the 1997 edition of Telecom's *The Telephone Book* for Auckland, Wellington, Christchurch, Otago, Waikato and the Bay of Plenty (n=59; 9.59%) was selected (Table 3.2). An explanatory letter was enclosed with each questionnaire outlining the purpose of the survey together with a reply-paid envelope to facilitate responses. The GPs practising in these six regions comprise just under three-quarters (73.45%) of all registered GPs (2,728) and therefore 22.54% of all practising GPs in New Zealand were surveyed. A follow-up mailout to those who had not responded was conducted four weeks later in June 1997.

Table 4.2 Regional Distribution of Mailout and Responses from Survey of GPs

Region	Number mailed out	Percentage of Mailout	Number Returned	Response Rate (%)
Auckland	243	39.51	135	55.55
Wellington	78	12.68	42	53.84
Christchurch	99	16.09	58	58.58
Waikato	87	14.14	28	32.18
Bay of Plenty	59	9.59	32	54.21
Otago	49	7.96	33	67.34
Total	615	100.00	328	53.33

Table 4.2 shows that response rates varied between the regions with Otago having the highest response rate of 67.34% followed by Christchurch (58.58%), Auckland (55.55%), Bay of Plenty (54.23%), Wellington (53.84%) while Waikato had the lowest response rate of 32.18%. . From the initial mailout to 615 GPs, some 328 questionnaires were returned which equates to a 53.33% response rate. This also equates to 11.51% of all registered GPs (2728) in New Zealand practices and 15.60% of the all GPs in the six regions surveyed. Of the 328 questionnaires that were returned, only 314 were fully answered and were used for analysis. This response rate (53.33%) is similar to the 54% response rate of a postal survey (500 GPs) conducted by Thakurdas, Coster, Gurr and Arrol (1996) regarding computerisation in general practice, but is somewhat lower than the response rates of a postal survey of GPs in

Waikato (84%) and Taranaki (79%) concerning organisation of general practice (Gribben, Bonita, Broad, McAvoy and Raymond, 1995). A survey of 681 GPs in the Greater Glasgow region in 1990 had a response rate of 41% (Cossar *et al*, 1993) while a New Zealand survey examining the adequacy of advice given by GPs about malaria had an 83% response rate (Leggat, Heydon and Menon, 1997). Nevertheless, a response rate in excess of 50% for a postal survey is both valuable and significant given the problems of achieving statistically valid samples from respondents which have pressured workloads.

Previous communication with a number of GPs indicated few would complete any questionnaire requiring them to look up records so this survey asked for approximate numbers concerning their professional interaction with tourists during the previous twelve months. Thus while it is recognised that the responses to this survey were dependent on recall of events over a twelve month period by respondents, it was felt that this was the best that could be undertaken given the resources available for this research. It is recognised that the data generated in this survey provides an indication of the scale of the impact of tourism upon the primary health sector in New Zealand and future research is recommended to derive more robust data. Travel clinics and accident and emergency clinics were not surveyed because an initial approach to three of these clinics received no response. However, both these specialist services are likely to treat a significant number of inbound tourists and therefore the overall impact of inbound tourism on the primary health services of New Zealand is likely to be larger than that estimated in this study. The results of this survey are presented in three chapters of this thesis and focus on the role of the GP in the pre-travel, travel and post-travel phases of tourism. The results of this survey were analysed using the statistical program *Minitab Version 12.1*.

Overall therefore, this survey was conducted to examine issues associated with the education and prevention activities of travel health promotion. GPs are regarded as the primary providers of education and prevention activities and therefore any evaluation of the usefulness of travel health promotion as a strategy must examine how travel health promotion activities affect them. This survey also seeks to examine whether difficulties arise in applying the travel health promotion activities of

education and prevention and how effective these activities are in reducing the incidence of tourism health problems.

4.3.3 The Survey of Tourists in Fiji

Tourists are the stakeholders most obviously affected by tourism health problems and much of the previous research relating to tourism health problems has focused on their health experiences during the travel phase of tourism (Behrens *et al*, 1994; Cartwright, 1992; Clark and Clift, 1996; Conway *et al*, 1990; Cossar *et al*, 1990; McEwan and Jackson, 1987; McIntosh, Power and Penman, 1991; Petty, 1989; Steffen, Kane, Shapiro, Schoellhorn and Van Damme, 1994). Travel health promotion is based on the belief that effective education will cause tourists to modify their behaviour and lifestyle, which will therefore reduce the incidence of health problems experienced (Stears, 1996). Cossar (1997:23) argues that 'the biggest single contribution to be made in minimizing health problems in general and infections in particular is from effective public education and behavioural change.' Thus any assessment of the effectiveness of the travel health promotion model must analyse the health problems experienced by tourists during the travel phase of the tourism process and examine whether health education activities reduce the incidence of health problems experienced. The aims of this survey of tourists in Fiji are:

1. to gather basic information regarding the nature of health problems experienced by tourists in Fiji;
2. to estimate what percentage of tourists visiting Fiji experience health problems;
3. to estimate the percentage of New Zealand tourists who have received pre-travel health advice from travel agents;
4. to examine tourists' attitudes towards health issues;
5. to estimate the percentage of tourists who require medical treatment while in Fiji; and
6. to examine how effective pre-travel health information has been in reducing the overall incidence of health problems experienced.

Some 315 passengers were surveyed using a self-completion questionnaire (Appendix C) while waiting for their flights in the departure lounge of Nadi International Airport

between 26-31 August 1996. Respondents waiting for 13 flights were surveyed over the five-day period with flights to New Zealand specifically targeted. This was done to ensure that a large percentage of respondents were New Zealand residents so that the results were particularly relevant to tourism health problems in New Zealand. Respondents were approached on a random basis within the departure lounge and asked if they had been in Fiji for more than 24 hours in order to exclude any transit passengers also waiting in the departure lounge. Table 4.3 shows the number of passengers interviewed each day according to the flights they were travelling on.

Table 4.3 The Number of Respondents Surveyed from each Flight each Day.

Flight No.	26 August	27 August	28 August	29 August	31 August
NZ 84	24				
NZ 36	1	21			
NZ 51	24		29	18	8
FJ 302	1			2	
WR 420	1				
FJ 914 / QF 292	1	37			
NZ 35	1				
FJ 950 / QF 298		12			
FJ 442		31			
FJ 440			1	14	12
NZ 24				37	
NZ 47				25	
FJ 343 / 460					15
Total	53	101	30	96	35

A number of methodological problems were encountered during the course of this survey including:

- often only one person per couple or travel group was willing to complete a questionnaire;
- because there was no separate transit lounge, time was wasted approaching passengers who were in transit and thus not suitable as respondents for this survey

- the majority of flights departed between 6am - 9am so passengers were tired because of very early morning start and many were unwilling to complete the questionnaire;
- the use of self completion questionnaires resulted in some questionnaires not being fully completed;
- language barriers made it impossible to interview non-English speaking travellers;
- three interviewers from the Fiji Visitors Bureau were also interviewing passengers in the departure lounge during the same period of time; and
- two or three flights left within one hour on some days so a very small time frame was available in which to approach a large numbers of passengers.

The results of this survey were analysed using the statistical program *Minitab Version 12.1* and are recorded in Chapter 8 of this thesis.

Overall therefore, this survey sought to examine the effectiveness of all three activities of the travel health promotion, namely education, protection and prevention.

4.3.4 The Survey of Overseas Tourists in New Zealand.

Any broad analysis of tourist health problems in New Zealand must examine how inbound tourists are affected by such problems. The survey of GPs estimated the number of overseas tourists who require medical treatment in New Zealand during a twelve-month period. However, because the methodology used in that research asked respondents to estimate the number of tourists they treated, further research was necessary to more accurately establish this number. Case study methodology uses information from more than one source to ensure construct validity (Kidder, 1981) and as a means for linking data to the propositions. Therefore by undertaking a survey of overseas tourists in New Zealand, the results from the survey of GPs can be validated. It is also important to recognise that much of the previous research has focused upon tourist health problems in less developed nations with very little research being undertaken into tourism health problems in safe destinations (Wilks and Grenfell, 1997; Steffen, 1997). This survey therefore focuses on tourism health

experiences during the travel phase of the tourism process. Accordingly, the aims of this survey of overseas tourists in New Zealand are:

1. to estimate what percentage of tourists visiting New Zealand experience health problems;
2. to gather basic information regarding the nature of health problems experienced by overseas tourists in New Zealand;
3. to estimate the percentage of overseas tourists who require medical treatment while in Fiji; and
4. to assess how health problems affect the overall tourist experience.

Some 254 overseas tourists were interviewed at tourist locations in Auckland, Rotorua and Whangarei between November 1997 and January 1998. In this research, interviewers approached as many individuals as possible at the entrances to key tourist attractions in each of these New Zealand cities. Individuals were asked whether they were overseas tourists and if they answered affirmatively, they were then asked if they were willing to be interviewed. Initially it had been hoped that this survey could have been undertaken at an international airport in New Zealand, but permission to do this was not granted. In addition, this survey was expected to have a sample size of 350 tourists, but financial difficulties arose during the time surveying was undertaken which meant that only 254 tourists were able to be interviewed. The interviewers for this survey were all English speaking and therefore non-English speaking tourists could not be included in the sample and this sample cannot be regarded as truly representative of all tourists visiting New Zealand. However, it does provide an overview of the health problems experienced by some tourists in New Zealand but because of these limitations, these results must be regarded as preliminary in nature. It is therefore recommended that further research be undertaken to examine the health experiences of overseas tourists in New Zealand.

This survey was undertaken as a separate and discrete section within the survey which examined whether health advice influences tourist behaviour (See Appendix D). The results recorded in Chapter Eleven relate to the survey of overseas tourists in New Zealand and were analysed using the statistical programme *Minitab Version 12.1*.

4.3.5 The Survey regarding Health Advice and Behaviour

Travel agents and doctors have been identified as a key source of travel health advice, yet other sources exist including friends and relatives, guidebooks, travel brochures and government campaigns. Because health education is regarded by many as the most important travel health promotion activity (Cossar, 1997), this survey was undertaken to examine the effectiveness of all sources of health information and whether travel experience influences knowledge and/or the incidence of health problems. It has also been suggested that psychographic factors affect tourist health behaviour (Ryan and Robertson, 1997; Wickens, 1994) and this survey also examined whether any association exists between health behaviour and attitude (Appendix D).

This survey used for this research was initially piloted on fifty students at Massey University in Albany and some changes were made to the original questionnaire as a result of the pilot survey. A total of 381 respondents were surveyed in Auckland, Rotorua and Whangarei between November 1997 and January 1998. A stratified sample was constructed so that two-thirds (66.66%, $n=254$) of the respondents were overseas tourists while the remaining one-third (33.33%, $n=127$) were New Zealand residents. The overseas tourists included in this survey were interviewed at tourist locations in Auckland, Rotorua and Whangarei and the methodology is described in Chapter 4.3.4. In contrast, the New Zealand residents included in this survey were interviewed in shopping malls in each of these three cities. Interviewers approached as many individuals as possible at the entrance of shopping malls and asked whether they were willing to be interviewed. Initially it had been hoped that this survey could be done at an international airport in New Zealand, but permission to do this was not granted. A total sample size of 525 individuals was initially planned of which 350 would have been overseas tourists and 175 were New Zealand residents. However, funding difficulties arose after the interviewing process had begun which resulted in a much smaller survey being conducted. Accordingly, these results must be regarded as preliminary in nature and further research is recommended.

The survey questionnaire consists of three sections which examined factors associated with tourist health advice; the health experience of tourists on their first three overseas trips; and tourist attitudes towards health issues.

The section in the questionnaire assessing the health experience of tourists used a time-space budget methodology which is useful because behaviour patterns which are not normally observable because of the spatial and temporal extent can be recorded (Thornton, Williams and Shaw, 1997). Although time-space diaries are used in a number of social science disciplines, their use has been limited in tourism studies apart from some notable exceptions (Cooper, 1978; Debbage, 1991; Dietvorst, 1994; Murphy and Rosenblood, 1974; Pearce, D, 1988; Pearce, P, 1988). Recording may be based on one of four methods including recall for a specific period; recall for a 'normal' period; game playing and diaries (Thornton *et al*, 1997). The recall method has been used by Cooper (1978) and by Debbage (1991) who determined travel patterns at the intradestinational scale of the first six days of long holidays. This survey of overseas tourists and residents in New Zealand uses the recall method to examine the destinations visited by tourists on their first three overseas trips and the health problems they experienced during those trips. This thesis recognises that difficulties can arise using recall because respondents may easily forget relevant information. However, it was felt that the information gained would still be useful in identifying whether significant factors exist which influence the effectiveness of health education activities and whether travel experience is a significant factor affecting tourist health behaviour and the incidence of tourism health problems. This research was also undertaken to establish whether tourism health problems can be associated with particular groups of individuals.

The section of this questionnaire which sought to identify whether differences in attitude towards tourism health problems are discriminatory factors used a series of questions regarding attitudes towards tourism health problems. This section was modeled on research undertaken by Clark and Clift (1994) and replicated by Ryan and Robertson (1997). Factor analysis had been used in the previous research to examine patterns or relationships between a large number of variables and consequently, factor analysis was also undertaken in this research. Cluster analysis had been undertaken by Ryan and Robertson (1997) to identify clusters of student tourists based on attitude in order to establish if any linkage occurs between attitude and behaviour. The methodology used by Ryan and Robertson (1997) was employed in this piece of research and the aims of this survey were:

1. to examine the effectiveness of health advice from all sources in reducing the incidence of tourist health problems;
2. to assess whether or not tourists modify their behaviour according to the health risks they face;
3. to examine the health experiences of tourists over their first three overseas trips in order to establish whether psychographic factors are significant; and
4. to develop a tourist typology with regard to tourist health experiences.

This chapter has described how the research design was developed and has outlined the methodology used for each of the five surveys undertaken. As has already been indicated, this research focuses upon the impact of tourism health issues on four different stakeholders. The first of these stakeholders is travel agents who have been identified as a key channel through which tourism health and safety information can be disseminated to tourists (Behrens, 1997; Cossar *et al*, 1990; Grabowski and Behrens, 1996). However, no analysis has been undertaken to examine whether travel agents are suitable as a channel through which health information can be disseminated or how their role in the tourism industry affects their ability to undertake this task. Consequently, the following chapter will examine literature pertaining to these issues.

PART TWO

Chapter Five

The Role of the Travel Agent in the Tourism Industry

5.1 Introduction

Travel health education is one of the three core activities of travel health promotion (Stears, 1996). This activity can have either a preventive or positive focus and includes educational activities directed at influencing the lifestyle of tourists in order to reduce the risks of health problems. The pre-travel phase of the tourism process is regarded as the most important for information-gathering by tourists and it has been suggested that during this stage they can be educated regarding the health risks they face (Clift and Page, 1996). Behrens (1997:44) comments that “the travel industry needs to take more responsibility for ensuring travellers are made aware of the health risks relating to the planned journey or holiday, preferably before the package is sold”. Yet is this possible? Stears (1996:215) suggests that “the additional activity of promoting the health of travellers presents a definite challenge for the travel industry”. In assessing whether the health promotion is effective as a strategy for dealing with tourism health issues, it is necessary to examine how the structure of the tourism industry may affect the ability of travel agents to engage in the health promotion activity of health education. Therefore the research question addressed in this chapter is:

How does the structure of the tourism industry affect the ability of travel agents to provide health advice to tourists?

Travel agents play an important role in the tourism process as providers of information to intending travellers. Pearce *et al*, (1998:141) notes that the modern concept of the travel agent is “a professional adviser and booking facilitator for all travel requirements that are often subsumed under the umbrella of ‘the travel

industry’”. A survey of senior tourists visiting Canada identified travel agents as the second most important source of travel information for tourists after friends (McGuire, Uysal and McDonald, 1988) whereas a study of British travellers showed travel agents to be the most frequently used source of tourism information (Hsieh and O’Leary, 1993). Woodside and Ronkainen (1980) comment that ‘upscale’ white-collar travellers and those travelling by air used travel agencies extensively for information and bookings. Gitelson and Crompton (1983) argue that older people are more likely to use a travel agent than younger people while Snepenger, Meged, Snelling and Worral, (1990) report that nearly 70% of travellers travelling to an unknown destination used a travel agent to make their bookings. Duke and Persia (1993) show that those who booked foreign trips through travel agents valued ease of booking and that recommendations by travel agents were valued over the personal recommendations of friends.

Because travel agents are recognised as an important source of information and advice for travellers, they have been identified as an appropriate channel through which travel health advice can be offered to travellers. In both the United States (US) (Patterson, Niolu, McMullen and Jong, 1991) and the United Kingdom (UK) (Cossar, *et al*, 1993) travel agents have been cited as the best channel through which travel health advice can be disseminated because of their place in the tourism distribution channel. Hobson and Dietrich (1994) called for travel agents to take greater responsibility with regard to the information they give to intending travellers regarding health and safety issues. On the other hand, travel agents claim that they are not doctors and it is not their place to offer detailed health information. Dawood (1989:285), a practising medical practitioner, supports this claim by arguing that:

...many travel agents lack training or experience to know anything about the risks and rely on reference sources that are totally unsuitable ... They are unable to draw a distinction between health regulations which are an essential requirement of entry into a country for the purpose of protecting that country from imported disease and recommendations designed to protect the individual.

The tourism process is complex and any attempt to address tourist health issues must acknowledge this complexity and understand the role of the travel agent and other stakeholders within the tourism process. This thesis argues that their place in the tourism distribution channel is not sufficient reason why travel agents should be expected to provide travel health information, particularly if the structural and competitive environment in which they operate does not reward or even allow such behaviour. Travel health promotion emphasises the importance of education as a means of modifying tourism behaviour and thereby reducing the incidence of tourist health problems. This chapter will examine the changing role of the travel agent in the distribution channel and assess whether in practice, travel agents are a suitable vehicle through which health information can reach tourists.

5.2 The Role of the Travel Agent

The role of the travel agent is to provide information about travel products and to act as a convenient outlet to the public for sales of tours, tickets and travel services such as insurance or foreign exchange (Bennett, 1993; Holloway, 1985; Ryan and Cliff, 1997). Leiper (1995) notes that there are seven roles performed by travel agents for clients, and these are motivating, informing, booking, purchasing, planning, organising and supporting. As price becomes a less dominant feature and the market moves towards choice and value added services (Mayhew, 1987), the ability of the travel agent to understand his/her clients' needs and sort through the vast quantity of available information is critical. Kendall and Booms (1989:36) comment that "consumers rated the importance of all information expectations higher (more important) than their physical needs". In contrast, Le Blanc (1992) while identifying six factors that tourists regard as determining service quality from travel agents, found that competence (which includes in-depth knowledge of products, providing brochures on different destinations, informing customers of new products and services, having direct and immediate access to information, procedures followed by agencies) is the lowest rated factor. Complexity of and uncertainty concerning proposed trip plans are cited as primary reasons why potential buyers seek information from travel agents (Joint Travel Agent/Airline Economic and Value Study, 1978). Michie and Sullivan (1990:32) suggest that 'travel agents simplify the complex decision process by:

1. understanding client travel needs and expectations;
2. disseminating relevant travel information;
3. matching client needs and attributes of travel;
4. scheduling a pleasant and convenient itinerary; and
5. collecting payment.

It would seem from this literature therefore, that the travel agent is an appropriate channel through which travel health information can be dispersed to intending travellers. But before this assumption can be acted upon, it is critical that their role in the wider tourism distribution channel be fully examined. Travel agents not only have responsibilities towards their clients, but are intermediaries and have responsibilities to other stakeholders within the tourism distribution channel.

The tourism distribution channel is the means by which the tourism product reaches the tourist and this channel can be either direct or indirect. A direct channel occurs when suppliers sell directly to the consumers and an indirect channel occurs when it includes intermediaries such as tour operators and travel agents. Direct channels exist at individual company level and are primarily used for business travel, whereas indirect channels are used in the leisure market because of the complex nature of the tourism industry (Cooper, Fletcher, Gilbert and Wanhill, 1993; Go and Williams, 1993; Mayhew, 1987; Persia and Gitelson, 1993). However, the phenomenal growth of the internet is likely to mean that an increasing number of leisure travellers will book their travel directly with the principals via the internet. In the travel and tourism distribution system, a 'principal' is any producer or operator who has products to sell (airlines, tour operators, hotels and so on) and most principals sell their products to tourists using retail travel agents (Bull, 1995; Crossley and Jamieson, 1988; Middleton, 1994; Witt, Brooke and Buckley, 1991). The conventional concept of the channel of distribution requires tangible evidence of ownership of product or title, but because this does not occur with regard to services, there has been some debate concerning whether this concept of distribution channels can be applied to services (Bateson, 1992; Middleton, 1994). However, Kotler (1986:545) noted that "the concept of marketing channels is not limited to the distribution of physical goods. Producers of services ... also face the problem of making their output available and accessible to target populations". Donnelly (1976:57) defined a distribution channel

for services as “any extra corporate entity between the producer of a service and prospective users that is utilised to make the service available and/or more convenient, is a marketing intermediary for that purpose”. Thus a distribution channel does occur in the tourism industry with travel agents as the intermediaries bringing together the two sides of the tourism market; principals selling an element of the tourism product (the supply side) and intending tourists (the demand side) (Burkart and Medlik, 1981; Foster, 1985). The travel agent carries out separate functions towards the principals and the clients. Collier (1991:200) outlines these:

1. *For the client the travel agent provides:*

- A location where the potential tourist may seek information on various travel options;
- Advice on the various options available;
- An itinerary planning service;
- A booking or reservation system for various aspects of the tourist product such as transport, accommodation, excursions and attractions, transfers and insurance;
- Advice and help in procuring the necessary travel documents such as visa;
- An implied understanding that any advice given to, or action taken on behalf of, the client, will be given or undertaken with due skill and care, ie without negligence.

2. *For the principal the travel agent provides:*

- A location where the potential customer may acquire information on the product(s) and/or services(s) being offered by the principal;
- A location where the consumer can purchase the services and/or products of the principal;
- A revenue collecting service.

Travel agents therefore have a responsibility towards both the customer and the principal and suggestions that they have a moral responsibility to meet all the customer's needs for travel health information (Hobson and Dietrich, 1994) must be balanced against the relationship they have with their principals. It could be argued

that travel agents have a greater responsibility towards the principal because they have already entered into a contract of agency with the principal and are acting on their behalf rather than on behalf of the customer. Collier (1991:200) outlines the contractual duties of the travel agent towards the principal as being to:

1. comply with the agreement (contract) entered into between himself/herself and his/her principal;
2. exercise due skill and care in his/her dealing with clients in areas such as the provision of product information or advice, price quoting etc.;
3. disclose to the principal any information which the agent has which is likely to affect the decision of the principal to enter into a contract with the client;
4. act bona fide at all times and in the best interests of the principal.

Thus when dealing with tourism health issues, it must be recognised that although the travel agent performs different functions for both the customer and the principal, his/her primary task is as an agent selling the products/services of the principal. The customer does have the right to receive appropriate information regarding the service or product he/she is purchasing under the Fair Trading Act 1986, but it must be recognised that like any other agent selling products or services, the travel agent's primary contractual responsibility is towards his/her principal.

The customer pays no fee to the travel agent whose income is derived almost entirely from commission paid by suppliers for sales of their products with the rates of commission being approximately 10% (Burkart and Medlik, 1981; Cooper *et al*, 1993; Mill and Morrison, 1985; Poon, 1993). Calls for travel agents to make potential travellers aware of the health and safety risks that may or may not be associated with their intended travel must recognise that such an action could affect the income of the agent. Cooper *et al* (1993:193) comment that "the concept of impartial advice is also questionable in that, while agents want to meet their clients' needs, they are also mindful of the different rates of commission on offer and any bonuses". The ability of travel agents to generate turnover is crucial and controlling costs has been critical for survival (Cooper *et al*, 1993). Bennett (1993) also shows that with the increased speed of information transfer through the tourism distribution channel, revenue collected from customers is either transferred directly to the principal or at a much

faster speed thus reducing the travel agent's earnings from interest accrued. A survey conducted in 1991 in New Zealand concluded that the average net profit per annum for travel agencies before tax was only NZ\$19,000 per annum (Young, 1993).

Therefore in the course of selling a tourism product to a potential customer, it would be unlikely that travel agents will discuss health and safety issues that could make their product look unattractive and thus jeopardise a sale. Any call for them to do so on ethical or moral grounds seems to be unreasonable given that the same call has not been made to intermediaries selling other products (for example, alcohol or cars) that also have the potential to damage the health of those who buy them. Driving on New Zealand roads is a far more hazardous activity than travelling overseas, yet there has been no similar call for car salesmen to warn their potential buyers of such risks and jeopardise a sale and their long-term economic wellbeing.

5.3 The Legal Liability of Travel Agents

Unlike tour operators, travel agents do not purchase tourism products to resell (for example, airline seats or hotel beds), so it is the principal who bears all the risk of production while travel agents do not accept liability for the services offered by the principal (Seaton and Bennett, 1996; Witt *et al*, 1991). Wilks and Atherton (1994) have commented that travel agents have "wide legal duties not to engage in conduct that is misleading or deceptive or likely to mislead or deceive". This of course, is true of any person selling goods or services but does not mean that travel agents are responsible for providing extensive information about health issues that may be associated with a product they are selling. Wilks and Atherton (1994) cited three cases when calling for travel agents to have greater care, yet all three involved principals (tour operators or airlines) rather than travel agents. In contrast, the ruling in *Rootes v Sheldon*² in Australia in 1967 indicated that participants in a sport or pastime must accept some inherent risk with a particular sport and this was confirmed in a similar case in the United States. The principle of voluntary acceptance of risk was also applied in *Danieley v Goldmine Ski Associates, Inc*³ in the United States. In commenting on the ruling in this case, Downes (1996) a specialist in travel law at the

² *Rootes v Sheldon* (1967) *Commonwealth Law Reports*, 116,383

³ *Daniely v Goldmine Ski Associates Inc* 218 Cal App 2d III, 123 (1990).

University of Abertay Dundee, noted that he ‘assumed that the same ruling would apply to travellers in the EU under Article 5 of the Package Travel Directive’ which protects travel customers. The ruling in a case concerning a holidaymaker injured while white water rafting in the United States (*Diane Ferrari v Grand Canyon Dories*⁴) was that the customer had voluntarily accepted the risk of white water rafting and that the company had exercised reasonable care in arranging the services. Another ruling in the United States in 1995 (*Princess Hotels International Inc v Superior Court*⁵) held that a hotelkeeper had no duty to warn its guests of naturally occurring surf conditions off a public beach (Downes, 1996). In a case in Ontario (*Craven v Strand Holiday*⁶) the Ontario Court of Appeal held that tour operators could not be held liable for the acts and omissions of independent suppliers of services which formed the component parts of a package holiday. Downes (1996:85) noted that “the analysis was cited with approval in the UK and Australia. Courts in the USA took a similar view”. The recently implemented EC Package Travel Directive (Downes, 1996) covers issues such as misleading descriptive matter in brochures, financial security for travellers, advertising and the provision of false information concerning facilities and services such as flight times and information regarding passports, visas and health formalities. The Directive requires only that travel agents provide information regarding health formalities, but does not require them to provide extensive advice regarding health and safety issues in that country. The rulings in the cases cited above indicate that although travel agents must take care to provide accurate information about the product they are selling, their liability is limited. In fact, the ruling in *Princess Hotels International Inc v Superior Court* would indicate that the primary responsibility for gaining appropriate information regarding local health and safety issues at a destination lies with the customer, rather than with the travel agent. Furthermore, Stears (1996:224) notes that:

...a further concern might well be the potential litigation associated with information or health advice (or lack of it) which endangers clients’ health or lives. It is therefore expected that operators will provide the minimum of health information in their literature in order to comply with the law.

⁴ *Diane Ferrari v Grand Canyon Dories* (1995) 32 Cal App 4th, 248.

⁵ *Princess Hotels International Inc v Superior Court*, 33 Cal App, 4th 645 (1995)

⁶ *Craven v Strand Holiday* (1982) 142 DLR (3rd) 31.

Thus recent legal rulings are unlikely to persuade travel agents to supply additional information beyond the minimum regarding health formalities that is required and calls for travel agents to do so would probably go unheeded in current economic environment.

5.4 The Influences of the Tourism Channel on the Travel Agent

As has already been indicated, the travel agent is an important part of the wider distribution channel within the tourism process. The widespread implementation of information technology (IT) in the tourism channel has affected relationships within the channel and is likely to lessen the ability of travel agents to offer independent advice to their customers (Go and Williams, 1993). It is important to recognise that the travel distribution channel has been established for the benefit of the principal. The channel is carefully planned in advance by producers and serviced regularly with literature and computer links to facilitate and achieve a targeted volume of sales (Middleton, 1994). The benefits for the principal from using a direct channel are that it removes costs associated with the agent and places control of sales in the hands of the product providers. These costs include costs associated with installing reservation systems, costs of sales promotion aimed at motivating retailers and the costs of agent support, brochure distribution and display (Middleton, 1994). On the other hand, the advantage of using intermediaries such as travel agents is that they can provide a large number of geographically dispersed outlets that would otherwise be impossible for the principal to establish (Middleton, 1994; Mill and Morrison, 1985). As Middleton (1994:201) states, "there are other good marketing reasons for developing distribution or access systems, but the over-riding reason is to generate sales revenue additional to that which may be sustained solely by a good location". Not only does the use of intermediaries allow a parallel or alternative channel of distribution for suppliers, but intermediaries such as travel agents provide different types of services to consumers which adds value to the rest of the channel (Duke and Persia, 1993; Seaton and Bennett, 1996). The importance of the travel agent in the distribution channel is illustrated in the United Kingdom where travel agencies sold 80% of all airline tickets and 85% of all package tourism in 1990 (Poon, 1993). Because intermediaries have always acted on behalf of more than one principal they have had a certain level of

control in the channel because they could determine how much business any individual supplier received (Bitner and Booms, 1982). However, the introduction of IT has changed the balance of power and the control exercised by travel agents is now being eroded.

The adoption of IT in the tourism industry has been rapid because of the dependency on information throughout the entire distribution chain (Bennett and Radburn, 1991; Go and Williams, 1993). The relationship between principal and the retailer has been altered because IT has been introduced by the principals to increase their own competitive advantage (Go and Williams, 1993). Travel agents may benefit due to increased speed of bookings and information gathering, but communication costs for travel agents have actually increased (Bennett, 1990), whereas the principals have gained cost savings, increased productivity and product differentiation (Bennett, 1993; Bennett and Radburn, 1991). The principal has the greatest power because they supply the product, their organisations are larger and they control the information that travel agents receive (Bennett and Radburn, 1991). This has resulted in the problem of bias which occurs when travel agents offer products from a single principal and do not offer alternatives (Bennett, 1993). Bias happens because principals supply their own IT hardware and a lack of standardisation between IT systems and associated costs force travel agents to select one system over another. Because it is the principal who controls the information received by the travel agent during the normal course of transactions, the independence of travel agents has been greatly reduced. Thus suggestions that travel agents offer a wide range of products and make recommendations to their customers according to health and safety factors do not take into account the impact of technology within the tourism distribution channel. Bennett (1993) goes further and indicates that it is the technology itself that affects the information available to the travel agents. He comments (1993:260) that “the actual quality of the information in terms of reliability, accuracy and detail is ultimately dependent on the mechanism employed to transmit it between the different sectors and the consumer”. Thus the ability of the travel agent to offer impartial information to their customers about a wide range of products has been greatly reduced by the introduction of IT.

Principals are unlikely to supply health and safety information other than that conforming to international health requirements and thus travel agents would have to seek elsewhere (for example, use a database or recent travel guidebooks) for additional information. Given that travel agents' resources are already limited and economic constraints require that they keep costs to a minimum in order to survive, it is unreasonable to expect travel agents to expend additional resources seeking further information that is neither readily available nor easily accessible. It must also be recognised that another underlying reason for introducing IT is that it offers potential customers easy access to travel products. It is therefore unlikely that either the principals or their agents will supply additional information associated with certain destinations that may confuse their customers or create a negative impression.

Another recent change in the tourism distribution channel is the development of integrated networks by large principals. For example, Air New Zealand, along with its Australian associate Ansett Australia, has been invited to join Star Alliance – a global network of international airlines. Star Alliance brings together United Airlines, Lufthansa, Air Canada, Scandinavian Airlines, Thai Airways, Varig Brazilian Airlines (Reynolds, 1998). Integration is undertaken to give the principal greater control over the entire process and can be either vertical and /or horizontal. Go and Williams (1993:243) note that:

...when viewing the tourism industry from an external perspective it will be seen that integration within other parts of the travel industry is not only desirable but virtually mandatory. As the travel industry expands, an increasingly complex hierarchical system of transport, tourism and hotel networks is evolving.

Vertical integration occurs along the production process and can be either forward or backward while horizontal integration occurs when operations at the same level of the tourism distribution chain amalgamate (Cooper *et al*, 1993). Vertical integration has meant that retail travel agencies are purchased by either a tour operator or an airline in order to control the sale of their own product and to exclude the sale of a competitor's product. Ownership is not the only way in which control may be gained. Control can also occur through franchising whereby the parent company grants the smaller company the right to sell its products and use its brand name, but in return the firm is

not allowed to sell the products of its competitors. Horizontal integration has resulted in a decline in the number of independent travel agencies and their overall market share and an increase in the number of multiple agencies has increased (Cooper *et al*, 1993; Mill and Morrison, 1985). This is shown in New Zealand where in 1995, 374 travel agency members had some 750 retail travel agent outlets. The seven largest retail groups in New Zealand had 414 of the agencies which corresponds to over 50% of the market. An overall decline in the number of travel agencies has occurred in New Zealand since 1991 when there were 782 members of TAANZ (Young, 1993) compared to 664 in 1998 (TAANZ, 1998). A decline in the number of independent agencies is therefore likely to result in a corresponding decline in the level of impartial advice that is likely to be given to intending travellers.

5.5 Implications for Travel Health Promotion

Travel health education is one of the three core activities of the health promotion model and travel agents have been identified as a key channel through which travel health information can be disseminated. This research has shown that the structural nature of the tourism industry, along with the current economic environment, means that travel agents are unlikely to fulfill this role to any great degree. This has serious implications for the effectiveness of health promotion as a strategy for addressing tourism health problems because health education is a core activity and is the only activity which focuses on the behavioural causes of tourism health problems. The underlying concept of the health promotion model is that both behavioural and structural issues will be dealt with concurrently, yet this research suggests that structural factors in the tourism industry are likely to severely limit the involvement of travel agents in health education activities.

5.6 Summary

Travel agents have a responsibility to provide accurate advice to customers, but their role in the tourism distribution channel limits their ability to offer extensive health and safety advice to travellers. Their first responsibility is to their principals because they have already entered into a contractual relationship with them and are acting on their behalf. Financial constraints are likely to limit the amount of information that travel

agents give to intending customers, particularly when that information may reduce the attractiveness of the product being sold. Because travel agents sell services on behalf of principals, they do not have any legal liability for the tourism products they sell and so there is no legal reason compelling them to provide additional health information to customers. The introduction of information technology has changed relationships within the tourism distribution channel and is limiting the product options and associated information that travel agents receive. Integration within the tourism industry will significantly reduce the overall independence of travel agents and thus compromise their ability to act as an independent advisor to their customers.

Travel health promotion emphasises the importance of health education as a means of modifying tourist behaviour and thereby reducing the incidence of tourist health problems. Researchers have called for travel agents to play a greater role in this activity, yet the economic and structural nature of the tourism industry constrains the involvement of travel agents in health education activities. These constraints will limit the effectiveness of the health promotion model as a strategy for reducing the incidence of tourism health problems unless other stakeholders, which are easily accessible to travellers, can be established as channels to provide health education activities.

Having examined how the structure of the tourism industry affects the ability of travel agents to engage in health education activities, the next chapter will assess what information is given by travel agents to outbound tourists in New Zealand and examine their attitudes towards tourism health issues.

Chapter Six

The Survey of Travel Agents

6.1 Introduction

Education is a core activity of the health promotion model and in order to evaluate the effectiveness of this model as strategy for addressing international tourism health problems, it is necessary to evaluate the effectiveness of this core activity. It has been suggested by Clift and Page (1996:3) that “the effective interventions to reduce diverse potential risks to health associated with international tourism, require a co-ordinated strategy of intersectoral collaboration embracing epidemiology, primary health care, the travel industry and agencies of health promotion”. Stears (1996:216) acknowledges that accepting responsibility for providing travel health education is a major challenge that must be overcome before a “comprehensive and effective health promotion services is to be created for travellers nationally and internationally”. It has been suggested by researchers that travel agents are the most effective channel through which health information can be disseminated (Behrens, 1997; Cossar *et al*, 1990; Stears, 1996), yet little is known about how much information they provide to tourists in New Zealand. As a result, the two research questions asked in this chapter are:

1. What advice do travel agents give to outbound tourists in New Zealand?
2. How do travel agents perceive their role in the provision of health information to tourists?

In order to answer these two questions, a survey of travel agents in New Zealand was undertaken in 1996 to identify what health advice is given by travel agents to their customers, particularly with regard to destinations in the Pacific region. The survey began with general questions relating to the health advice given to travellers and then moved to a section regarding specific advice for eleven different Pacific destinations. Travel agents were also questioned about where they believed responsibility for dealing with tourism-health issues should lie. The method used is described in

Chapter 4.31 and involved 314 travel agents who completed and returned the survey questionnaire regarding tourism health issues.

6.2 The Importance of the Pacific as a Destination

Travel to the Pacific is an important component of all outbound travel from New Zealand with five destinations located in the Pacific ranked among the top ten for all outbound travel in 1993 (Bywater, 1995). In 1993, Australia was ranked first as a destination with 418,700 New Zealand visitors, followed by Hawaii with 63,000 visitors and Fiji with 41,400 New Zealand visitors (Bywater, 1995). The Cook Islands was ranked seventh, being visited by 13,400 New Zealanders, while Western Samoa was ranked ninth and visited by 12,600 outbound New Zealanders (Bywater, 1995). In this study, the Pacific region is defined as encompassing Tahiti in the east Pacific, Australia in the South Pacific and Papua New Guinea in the west Pacific (Figure 6).

Table 6.1 shows that Pacific-based travel accounts for one quarter or less of all travel booked for approximately half of the respondents and accounts for more than half of the travel booked for only 23.23% of respondents. It had been expected that travel agents would be familiar with the health issues associated with Pacific-based destinations because of New Zealand's location within the Pacific region. However, these results show that travel to the Pacific is not significant for the majority of travel agents in New Zealand. These agents would therefore need to search for additional health information pertaining to Pacific destinations if they wished to offer more than the minimum advice that is provided to them by their principals.

Table 6.1 The volume of Pacific-based travel booked through respondents

Pacific-based travel	Number	% of total travel booked
Less than 10%	58	18.47
10% - 25%	101	32.16
25% - 50%	69	21.97
50% - 75%	52	16.57
More than 70%	21	6.68
No response given	13	4.15
Total	314	100.00

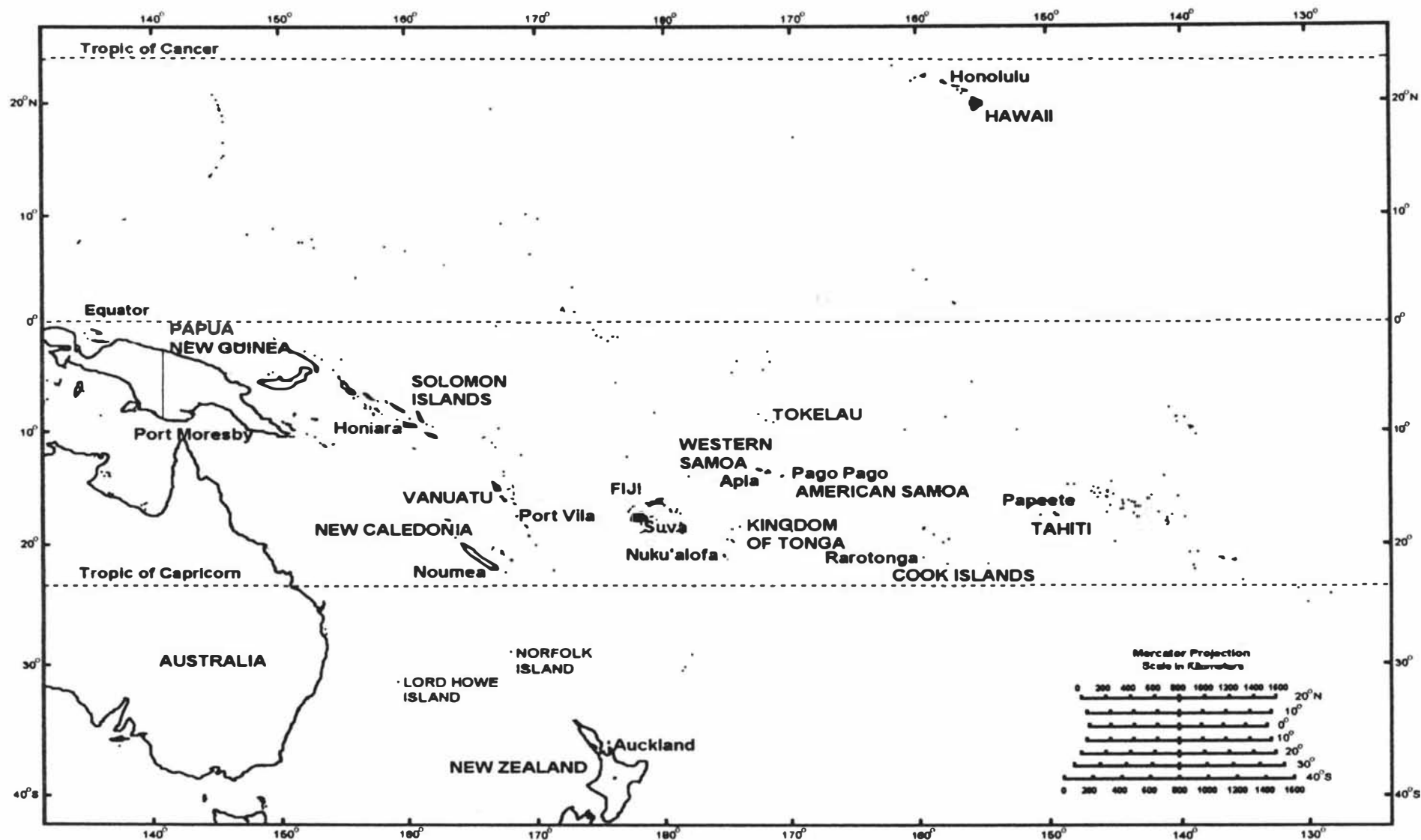


Figure 6 Map of the Pacific

Source: South Pacific Regional Environmental Programme (1996) Annual Report.

Table 6.2 **Number and Percentage of Respondents who had Visited Pacific Destinations at least once.**

Country	Number (n=314)	Percentage of Respondents
Australia	276	87.89
Hawaii	241	76.75
Fiji	233	74.20
Tahiti	161	51.27
New Caledonia	140	44.58
Cook Islands	127	40.44
Vanuatu	101	32.16
Tonga	85	27.07
Western or American Samoa	69	21.97
Solomon Islands	27	8.59
Papua New Guinea	23	7.32

Travel agents were asked which Pacific Islands they had personally visited at least once in order to assess whether travel agents' personal experience of individual destinations was used as a basis to provide accurate and informed advice to intending travellers (Table 6.2). Respondents could indicate more than one destination so the total exceeds 100%. Table 6.2 shows that Australia, Hawaii and Fiji had been visited by approximately three-quarters of all respondents, while Tahiti was visited by over half of the respondents. New Caledonia, Cook Islands and Vanuatu were visited by approximately one-third of all respondents, while the least visited destinations were the Solomon Islands and Papua New Guinea.

6.3 Sources of Travel Health Advice Considered by Travel Agents to be Appropriate

Although travel agents have been identified by researchers as being an important source of travel health advice (Behrens, 1997; Cossar *et al*, 1993; Patterson *et al*, 1991), it is necessary to examine how they regard themselves in this role. If travel agents do not view themselves as an appropriate channel for travel health advice, their involvement is likely to be minimal and other channels may need to be identified and established if travel health education activities are to be effective. Respondents were therefore asked to identify what sources of travel health advice they considered to be

the most appropriate for intending overseas travellers. Some eight sources of travel health information were listed on the questionnaire:

- the New Zealand Ministry of Health leaflet (*Passport to Healthy Travel*),
- travel agents,
- the traveller's own General Practitioner (GP),
- pharmacies,
- travel guides (*Lonely Planet Guidebook*, *Fodors*),
- airlines,
- tour operators' brochures,
- other sources.

Respondents were asked to rank the sources using one for the most important source, two for the second most important source through to six for the least important. If they did not consider the source to be appropriate, respondents were asked to score a zero. In some cases, respondents ranked more than one source with the same ranking and not all sources were ranked by all respondents. Therefore, the responses do not always equal 100%. The results were weighted⁷ and totalled to indicate which sources were regarded as the most important overall. These results show that opinion varies widely among travel agents concerning the appropriateness of different sources of health information (Table 6.3). The weighted totals show that overall travel agents regard GPs as the most appropriate source of health advice followed by the Ministry of Health booklet (*Passport to Healthy Travel*), travel agents, pharmacies, travel guides, tour operators' brochures and airlines.

Nearly 60% of all respondents identified the traveller's GP as the most appropriate source of travel health advice, while one third considered the Ministry of Health leaflet (*Passport to Healthy Travel*) to be the most appropriate source. It is interesting to note that pharmacies, which is the only other health sector source listed in this questionnaire, were regarded as the fourth most important source, whereas the

⁷ One was multiplied by seven, two was multiplied six and so on. The totals were then added.

Table 6. 3 How respondents view the different sources of health advice (by percentage)

Very Important															Unimportant														
Source of travel health information	1		2		3		4		5		6		0		Weighted Total														
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%															
Traveller's own GP	188	59.9	84	26.7	43	13.6	22	7.0	7	3.0	6	1.9	0	0	1,806														
Health Dept. booklet (<i>Passport to Healthy Travel</i>)	100	31.8	70	22.2	57	18.1	30	9.5	20	6.3	15	4.7	23	7.3	1,323														
Travel agents	50	15.9	54	17.2	24	7.6	9	2.8	2	0.6	6	1.9	27	8.5	703														
Pharmacies	18	5.7	32	13.3	50	15.9	38	12.1	28	8.9	38	12.1	10	3.18	676														
Travel guides (for example, <i>Fodors</i>)	17	5.4	31	10.2	20	6.3	47	14.9	53	16.8	45	14.3	36	11.4	629														
Tour Operators brochures	13	4.1	25	7.9	22	7.0	25	7.9	29	9.2	78	24.8	92	29.2	502														
Airlines	7	3.0	14	4.4	14	4.4	14	4.4	26	8.2	90	28.6	52	17.9	300														
Other sources	13	4.1	4	1.2	0	0	0	0	0	0	10	3.1	20	6.3	158														

tourism sector principals (airlines and tour operators) were regarded as the least appropriate source of travel health information.

Only 15.9% identified travel agents as the most appropriate source of travel health advice. These results contrast with previous research in the United States (Patterson *et al*, 1991) and the United Kingdom (Cossar *et al*, 1990) which suggested that travel agents are the most appropriate source of advice. However, these results support Dawood's (1989) argument that travel agents do not consider it is their business to provide detailed health information and also concur with those of Gorman and Smyth (1992) who report that travel agents in Northern Ireland consider their training in health matters to be deficient.

Respondents could indicate if they felt a source was inappropriate by using a zero. Some 29.2% of respondents regarded airlines as inappropriate sources of health information, 17.9% regarded tour operators' brochures as inappropriate while 8.5% of all respondents regarded travel agents as inappropriate sources of advice. Overall, these responses show that many travel agents do not regard tourism health problems to be the responsibility of the travel sector. Although their position in the tourism distribution channel would appear to make travel agents the most suitable source of pre-travel health advice, these results suggest they do not accept that responsibility. In fact, these results indicate that many travel agents regard the provision of travel health advice to tourists to be the responsibility of the health sector or government rather than of the tourism sector.

These findings have serious implications when attempting to address tourism health issues because a significant shift in attitude among travel agents would need to occur before travel agents can be regarded as an appropriate channel through which travel health and safety advice can be disseminated. Such a shift in the attitude of travel agents is unlikely to occur without a corresponding shift in attitude within the wider tourism industry but in New Zealand's current economic climate this would seem unlikely to occur. These findings suggest that there needs to be an increased emphasis on the importance of health and safety issues during the training of travel agents. This would be one way that a change in their attitudes towards these issues could be made. Stears suggests that the first key challenge to applying travel health

promotion is 'an acceptance of responsibility for providing travel health information to travellers' (1996:216). The results of this survey suggest that travel agents do not accept responsibility for providing travel health information and unless some other agency or group of stakeholders accepts this responsibility, the travel health promotion model will be ineffective in reducing the incidence of travel health problems.

6.4 Frequency of Health Advice Given by Travel Agents

Respondents were asked how often they gave health advice to their clients. Table 6.4 shows that 45.22% of respondents *always* or *nearly always* give advice while just over 20% *very rarely* or *never* give health advice. Packham (1995) found that 64% of travellers who experienced travel-related illness did not receive advice from travel agents while Cossar *et al* (1990) found that only 22% of travellers surveyed in Scotland had received health advice from travel agents. A study in Australia showed that only 12% of travellers to Bali relied on their travel agent as their sole source of advice and that for 59% of those interviewed, the travel agent was a part source (Grayson and McNeil, 1988).

Table 6. 4 The Frequency with which Travel Agents Give Travel Health Advice.

Frequency with which health advice is given	Number of responses	Percentage
Always	69	21.98
Nearly always	73	23.24
Sometimes	107	34.08
Very rarely	55	17.52
Never	10	3.18
Total	314	100.00

These findings are similar to those in a study conducted in the United Kingdom by Grabowski and Behrens (1996) which showed that up to 60% of travellers to malaria

endemic regions may not receive any health warning when purchasing their tickets from travel agents. Yet it is pertinent to note that since 1990, the Ministry of Health in the United Kingdom has actively sought to increase travellers' awareness of tourism health problems by means of advertising campaigns (Stears, 1996). At the same time, the EU Travel Directive (Commission of European Communities, 1992) has increased the legal obligation on travel agents in the United Kingdom to provide advice regarding health formalities, although they are not required to provide extensive advice regarding health and safety issues in a destination. Therefore, even although legal obligations exist in the UK for travel agents to provide information regarding health formalities, the percentage of travel agents in New Zealand who routinely offer travel health advice appears to be similar. This similarity between UK and New Zealand travel agency practice may be due, in part, to the New Zealand travel agency examinations being based on the UK qualifications. Further research is indicated to examine the syllabi of travel agency training content in order to assess how important an issue is the provision of health and safety advice. However, although it is likely that deficiencies do exist in the training of travel agents with regard to tourism health and safety issues, overall these results question the effectiveness of legislation as a means by which tourism health and safety issues can be addressed. It had been expected that a lower percentage of travel agents in New Zealand would routinely give health advice because of legislation in the United Kingdom, but this did not occur.

It was surprising to find that respondents who sell a higher percentage of Pacific-based travel tend to provide health advice less frequently than those respondents who sell a lower percentage of Pacific-based travel. Table 6.5 shows that over half of the respondents with 75% or more of their travel being Pacific-based either *very rarely* or *never* give travel advice while 44.64% of respondents with 10% or less Pacific-based travel *always* or *nearly always* given health advice. Thus familiarity with a destination by travel agents does not necessarily result in increased information being given to tourists.

Table 6. 5 The Frequency with which Health Advice is Given According to percentage of Pacific-based travel sold.

% of Pacific-based Travel	Always		Nearly Always		Sometimes		Very Rarely		Never	
	No.	%	No.	%	No.	%	No.	%	No.	%
10% or less	12	21.43	13	23.21	14	25.00	13	23.21	4	7.14
10 – 25%	22	22.68	24	24.74	30	30.93	19	19.59	2	2.06
25 – 50%	14	20.29	23	33.33	25	36.23	6	8.70	1	1.45
50 – 75%	8	15.38	10	19.23	26	50.00	7	13.46	1	1.92
75% or more	3	15.00	2	10.00	4	20.00	9	45.00	2	10.00

To gain a more accurate understanding of the level of health advice actually given to travellers, respondents were also asked to specify how many minutes they usually spend talking with customers about health issues. Table 6.6 shows that only 2.24% of travel agents spend more than 5 minutes talking to customers about health issues, with 22.62% spending 2-5 minutes, 38.21% spending 1 - 2 minutes, 23.88% spending less than one minute and 7.96% spending no time at all talking about health issues.

Table 6. 6 The length of time spent by respondents talking to customers about tourism health problems.

Time spent talking about health issues	Number	Percentage
No time	25	7.96
Less than 1 minute	75	23.88
1-2 minutes	120	38.21
2-5 minutes	71	22.62
More than 5 minutes	7	2.24
No response given	16	5.09
Total	314	100.00

The percentage of respondents who indicated that they spent no time talking with clients about health issues (7.96%) is much higher than the percentage who had previously indicated that they never gave health advice (3.18%) as shown in Table 6.4. It is likely that the responses to the more specific question regarding the actual time spent discussing health issues are more accurate which suggests that approximately 10% of travel agents never give health advice. Approximately one-third of travel agents spend either no time or less than one minute talking about

tourism health problems, which would indicate that the level of advice being given by these travel agents to their customers is probably limited to commenting only on international health requirements.

Table 6. 7 Length of Time Spent Talking with Clients According to How Often Advice is Given.

Frequency of Advice	No time		Less than 1 Minute		1-2 Minutes		2-5 Minutes		More than 5 Minutes	
	No.	%	No.	%	No.	%	No.	%	No.	%
Always	1	1.67%	0	0	3	2.86	14	26.42	7	70.00
Nearly always	4	6.67%	9	13.04	39	37.14	22	41.51	1	10.00
Sometimes	23	38.33%	35	50.72	45	42.86	15	28.30	1	10.00
Very rarely	26	43.33	25	36.23	17	16.19	2	3.77	1	10.00
Never	6	10.00	0	0	1	0.95	0	0.95	0	0
Total	60	100.00	69	100.00	105	100.00	53	100.00	10	100.00

Cross tabulation shows that travel agents who consistently talk with their clients about tourism health problems also spend longer talking with their customers about health issues (Table 6.7). Not all respondents answered the question and so the total equals 297.

6.5 The Impact of the Mode of Travel and Destination on the Advice Given

Some 54.6% of respondents indicated that the mode of travel affects the type and level of advice given. While 'mode of travel' refers to whether tourists are package tourists or backpackers, one respondent commented at this point that “the amount of time spent (discussing health issues) depends on where the people are going”. It is interesting to note that approximately three-quarters of all outbound New Zealand residents travelled to the low risk destinations of Australia, the United States, the United Kingdom and Fiji in 1993 (Bywater, 1995). Therefore if destination is a factor affecting the health advice given to outbound tourists in New Zealand, it would seem that travel agents in New Zealand appear to be providing a reasonable level of health advice, considering the high percentage of tourists who travel to low-risk destinations.

6.6 Sources of Travel Health Advice Used by Travel Agents

With the increasing dependence of travel agents on information technology, respondents were asked whether they would use a travel health database. Some 59.9% said that they would use a health database if one was available. These results compare favourably with those in a study undertaken by Cossar *et al* (1993) in the United Kingdom in which only 36% of the travel agents surveyed were interested in having access to a travel health database. The willingness of travel agents to use a health database has important implications for addressing tourism health issues in New Zealand. Travel agents quite rightly argue that they do not have the skills or training to advise tourists about health risks (Dawood, 1989). If a database could be established by qualified medical professionals that identified medium- and high-risk destinations, these results suggest that many travel agents would be willing to advise customers travelling to those destinations to visit their GP for accurate information and preventive activities. However, such a database is only likely to be established if responsibility for tourism health problems is accepted by the public health sector and the establishment and on-going maintenance of the database is funded accordingly.

Table 6.8 shows that the willingness of travel agents to use a database varies according to the length of time they spend talking about tourism health problems. Respondents who currently spend no time talking about tourism health problems with customers appear to be less willing to use a travel database. In contrast, however, three-quarters of the respondents who spend more than two minutes talking about health issues would be willing to use a database. Thus the propensity to use a database increases with the length of time currently spent discussing health issues with clients. In other words, those travel agents who already give advice would be most likely to use a database whereas for those who do not, lack of accurate information is not a critical factor. Therefore unless the overall attitude of travel agents can be changed or another channel can be developed for disseminating health advice to tourists, the strategy of travel health promotion will be ineffective because the activity of health education will not be undertaken.

Table 6. 8 Willingness to Use a Database According to the Length of Time Spent Talking with Clients

Time spent Talking with Clients	Number	Percentage
No time	7	28.00
Less than 1 Minute	40	55.56
1-2 Minutes	71	60.68
2-5 Minutes	53	75.71
More than 5 Minutes	6	85.71
Total of all respondents	177	60.82

(chi square = 20.222, df = 4, *p*= 0.000)

A further source of travel health information that is easy to use by both travel agents and travellers is the Ministry of Health publication *Passport to Healthy Travel*. This 15-page booklet outlines basic principles of travel health care. These include the need to take care with food and water, vaccinations for specific regions, what to take in a first aid kit, how to deal with diarrhoea, taking care in the sun, preventing AIDS/HIV and ways to reduce accidents occurring when travelling. When questioned about the value of using this booklet, some 40% of respondents indicated that they *never* used it. A further 17.5% *very rarely* use the leaflet while 15% *nearly always* and 10.5% *always* use it. Some 42% of respondents commented that they had ‘never seen the booklet’ which is of concern given that respondents identified it as the second most appropriate source of travel health information. These results suggest that along with the need for a change in the attitude of travel agents towards health issues, it is important that appropriate information channels be established to increase the likelihood that accurate information will be disseminated to tourists. Other results from a survey in Seattle (Patterson *et al*, 1991) also suggest that easily accessible information is an important factor to be considered with regard to dealing with tourism health problems.

6.7 Advice Regarding Medical Insurance

Travel agents were asked how often they advised clients to take out medical insurance. Some 90.76% indicated that they *always* advised this, with a further 2.87% stating that they *nearly always* did (Table 6.9).

Table 6.9 Frequency with which respondents advise Clients to Take out Medical Insurance

Advise Clients to take out Medical Insurance	Number	Percentage
Always	285	90.76
Nearly Always	9	2.87
Sometimes	5	1.60
Very Rarely	2	0.64
Never	4	1.26
No response given	9	2.87
Total	314	100.00

6.8 Health Advice Provided by Travel Agents in Relation to Specific Health Risks

Steffen and Du Pont (1994) identified preventive actions that can be taken to reduce the incidence of travel health problems including: vaccinations, malaria pills, care to ensure food and water is clean, the need to prevent insect bites and to take care in the sun. Respondents were asked how often they raised these issues with their clients and the responses were weighted⁸ to identify the advice most frequently given by travel agents to their customers. Respondents could rank more than one category with the same ranking and thus the totals do not equal 100%. As Table 6.10 shows, the advice most frequently given is to ensure that food and water is clean, followed by vaccinations, taking care in the sun, preventing insect bites and malaria prevention.

Travellers' diarrhoea is the most common travel-related ailment for tourists and is primarily associated with travel to developing countries in tropical or subtropical regions (Cartwright, 1996). Attack rates may exceed 50% in some destinations and is caused primarily by eating and/or drinking contaminated food or impure water. A number of other more severe illnesses can also be contracted by ingesting impure food or water and these include cholera, typhoid, giardia, bacillary dysentery, viral gastroenteritis, worms and bilharzia. Yet as Table 6.10 shows, less than two-thirds

⁸ One was multiplied by seven, two was multiplied six and so on. The totals were then added.

(60.8%) of travel agents *always* or *nearly always* recommend that travellers take care to ensure food and water is clean while 12.2% *rarely* or *never* give such advice.

Malaria has been called the most underestimated of all tropical diseases because the parasite causing the disease is becoming increasingly resistant to single-drug prophylactics (Petty, 1989). Other studies suggest that tourists visiting malarial regions are being not adequately warned of the risks they face or of the need to take malarial prophylaxis. Behrens and Grabowski (1995) examined the information given to travellers intending to visit the malarial regions of the Gambia, Kenya and India, and found that only 24% of travel agents mentioned the risk of malaria before they were prompted, a further 51% mentioned malaria when prompted, and only 29% suggested visiting a health professional before travelling. A US study showed that only 28% of travellers to malarial areas received any kind of notification from their travel agent that malaria might be a possible hazard (Dawood, 1989). The results of this survey show that a similar percentage of New Zealand travel agents advise their customers about malaria.

Malaria, dengue fever and Ross River virus are all transmitted by mosquitoes and the risk of contracting these diseases can be substantially reduced if measures are taken to prevent being bitten by mosquitoes. As Cossar (1996:37) argues, "it is important to note that no current anti-malarial measures can guarantee absolute protection although if all mosquito bites can be avoided then infection will not occur". Furthermore, Rudkin and Hall (1996:97) comment that "the protection of dengue fever in tourists ...depends on avoiding infection as there are no vaccines available to prevent the disease". It is therefore concerning to note that just over one-third of all respondents in this survey (36.72%) either *rarely* or *never* advise their clients to take care to prevent insect bites when travelling overseas.

Some 52.6% of respondents *always* or *nearly always* advise tourists regarding vaccinations while 59.2% of respondents either *rarely* or *never* give advice regarding the need to take care in the sun. Overexposure to the sun is linked to three skin cancers: basal cell carcinoma, squamous cell carcinoma and malignant melanoma.

Table 6. 10 Frequency with which health advice is given to travellers

Type of health advice given	Always		Nearly always		Sometimes		Rarely		Never		Weighted Total
	No.	%	No.	%	No.	%	No.	%	No.	%	
Care with food and water	114	36.3	77	24.5	51	16.2	28	8.9	18	5.7	1134
Vaccinations	94	29.9	58	18.4	85	27.0	31	9.8	21	6.6	1105
Need to take care in the sun	114	36.3	72	22.9	73	23.2	21	6.6	15	4.7	1063
Need to prevent insect bites	35	11.1	57	18.1	92	29.2	63	20.0	44	14.0	849
Malaria pills	42	13.3	42	13.3	77	24.5	57	18.1	68	21.6	338

It has been argued that over two million cases of cancer in the United States will be attributable to people who are “exposed to short but intense exposure to sun which is characteristic of short break tourism to sun destinations which only give the tourist a few days to work on their tan” (Hobson and Dietrich, 1994:27).

The sun is a major component of a holiday for many people and a suntan embodies the ideas of health and attractiveness. As Carter (1997:149) comments in a study examining young Glaswegian tourists’ attitudes towards suntan:

...the sun is an important and influential element in many forms of tourist consumption. In the periods before, during and after travel a suntan was perceived as a necessary component of the holiday... What is clear is that young Glaswegians (and maybe others from northern European cities) have a view of the tan which is firmly embedded in beliefs about attractiveness, health, beauty and being able to take part in the club culture. To change these views would require a massive cultural shift in many diverse areas, particularly in the production and reproduction of body images.

These attitudes are not restricted to residents of the Northern Hemisphere, nor to holiday activities, but are also held by many New Zealanders. McGee, Williams, Cox, Elwood and Bulliard (1995:510) comment in a survey of New Zealanders that “over 40% of young adults... agreed that a tan enhanced their self-image and made them feel more healthy and attractive”. Excessive exposure to the sun is a major cause of skin cancer and melanoma has become a major public health problem in New Zealand (McGee *et al*, 1995). New Zealand has the highest mortality rate for melanoma deaths in the world (Alexander, 1997) and the Cancer Society has carried out melanoma prevention programmes from the early 1980s. These include the ‘Slip, Slop, Slap’ television campaigns as well as more focused melanoma awareness campaigns which have targeted high-risk groups each year. Yet in spite of these campaigns, “on any sunny weekend in summer approximately three-quarters of adult New Zealanders will be out in the sun for relatively long periods of time, and many will get sunburned” (McGee *et al*, 1995:508).

Sunburn is one of the most common health problems experienced by tourists, yet it is recognised that although tourists are aware of the link between sun exposure and cancer, a substantial number are still prepared to expose themselves because of the prevailing social attitudes associated with a suntan (Ross and Sanchez, 1990; Wickens, 1997). However, it would seem that excessive sun exposure due to the climate of New Zealand and lifestyle of its residents is more likely to lead to the development of melanoma than excessive sun exposure during short holidays overseas. Given that the public health campaigns regarding excessive sun exposure have had little noticeable impact in New Zealand, it is unrealistic to expect that advice from travel agents will change the behaviour of intending tourists, particularly as many regard spending time in the sun as a form of relaxation.

Further analysis shows that statistical differences exist between the advice given by respondents according to the percentage of their business that is Pacific-based with regard to two health issues: vaccinations and the need to take care with food and water. Approximately one-quarter of the travel agents with 75% of their business being Pacific-based *never* give advice on vaccinations compared to 2 – 11% of all other travel agents (chi square = 33.804, df = 20, $p < 0.05$). Only one-third of respondents with 75% of their business being Pacific-based travel *always* or *nearly always* discuss vaccinations compared to 60-75% of all other travel agents.

A similar pattern occurs with regard to advice to take care to ensure food and water is clean (chi square = 42.486, df = 20, $p < 0.005$). Approximately 40% of the respondents with 75% of their business being Pacific-based *very rarely* or *never* give advice concerning food and water compared to 8-20% of all other respondents. Research by Bloland, Lobel, Gartner, Klump, Schwartz and Campbell (1991) indicates that tourists visiting friends and relatives (VFRs) are less likely than other tourists to be given pre-travel health advice. Travel agents who have the highest percentage of Pacific-based travel may have a large number of VFR customers and this could explain why they rarely give health information.

6.9 Health Advice Given for Individual Destinations in the Pacific

Respondents were then asked to identify which specific health issues they raised with intending travellers to specific destinations in the Pacific and their responses were compared to the health risks identified in the Lonely Planet Guidebook for each Pacific Island destination. These guidebooks are viewed by travellers as an authoritative source of travel advice (Lawton and Page, 1997) and although critics of such information sources may argue that the information contained within is written by journalists, it is nevertheless, based on World Tourism Organisation data and more importantly, is easily accessible to travel agents and tourists alike.

Table 6.11 shows that only one health issue is discussed by half of respondents (51.59%) with their customers and that is the need to take care with food and water in Papua New Guinea. Overall the responses to this question indicate that there is a diversity of health advice given by travel agents in relation to Pacific Island destinations with the general level of advice given being very limited in nature and scope. Such findings tend to confirm the results of a Dutch survey cited by Dawood (1989), which indicates that travellers using a travel agent as the sole source of advice were at a marginally greater risk of illness than those who had not troubled to seek advice from any source.

Travellers visiting Australia and Hawaii are least likely to receive health advice thus reinforcing the common perception that these are both very safe destinations (Table 6.11). It is interesting to note that 37.26% and 38.22% of travel agents recommended that their clients take care in the sun when visiting Australia and Hawaii respectively while between 31-40% of respondents recommended that travellers take care in the sun for all other Pacific destinations.

Australia is regarded as geographically positioned within a major malaria and dengue fever zone which means that for some tourists, advice should be provided concerning mosquito-borne diseases (Bryan, 1993), yet only 12.42% of respondents advised clients visiting Australia to take care to avoid insect bites. This is particularly concerning because outbreaks of dengue fever (a mosquito-borne disease) have occurred in both Townsville and Cairns in 1992 and 1995. Ross River virus is also

Table 6. 11 **Percentage of respondents who give health advice for each Pacific destination**

Destination	Vaccinations		Malaria		Food/Water		Avoid Insect Bites		Care in Sun	
	No.	%	No.	%	No.	%	No.	%	No.	%
Australia	4	1.27	5	1.59	11	3.50	39	12.42	117	37.26
Hawaii	6	1.91	3	0.96	15	4.78	25	7.96	120	38.22
Fiji	12	3.82	11	3.50	102	32.48	95	30.25	126	40.12
Tahiti	11	3.50	9	2.86	89	23.24	73	23.24	108	34.39
W/A. Samoa	16	5.09	21	6.68	132	42.03	89	23.24	96	30.57
Tonga	16	5.09	15	4.07	133	42.35	88	28.02	101	32.16
New Caledonia	14	4.45	10	3.18	85	27.07	69	21.07	101	32.16
Cook Islands	17	5.41	15	4.07	100	31.84	94	29.93	106	33.75
Papua New Guinea	62	19.74	100	31.84	162	51.59	118	37.57	101	32.16
Solomon Islands	62	19.74	100	31.84	145	46.17	115	36.62	101	32.16
Vanuatu	28	8.91	53	16.87	117	37.26	93	29.61	98	31.21

transmitted by mosquitoes and is common throughout Australia, with cases being reported in Sydney's western suburbs in 1997 (Batchelor, 1997).

Hawaii is the leading destination in the USA for New Zealanders, with 63,000 travelling there in 1993 (Bywater, 1995). It is considered to be a very safe destination and the advice given by respondents indicates this. Nonetheless, it was interesting to note that a small percentage of respondents suggested that their clients take care with food and water (4.78%), avoid insect bites (7.96%) and take care in the sun (38.22%).

Fiji is the third most popular holiday destination for New Zealanders with 28,300 departures in 1993 (Bywater, 1993). Kay (1993:73) states that "in Fiji the most basic rule of thumb is to be very careful about drinking water in villages ... boil it or treat it with purification tablets". However, less than one-third (32.48%) of respondents mention the importance of taking care with food and water to their customers. Other illnesses common in Fiji and caught through contaminated food or water are giardia, dysentery, bacillary dysentery, amoebic dysentery, viral gastroenteritis, worms and bilharzia.

Malaria is not a problem in Fiji, although 3.50% of respondents routinely discuss this health risk with customers visiting this destination. Dengue fever is endemic in Fiji with regular outbreaks of the disease occurring, yet only 30.25% of respondents recommended that travellers take care to avoid insect bites when visiting this destination. An outbreak of dengue fever in Fiji occurred in 1997 after this research was completed, and it is not known whether the percentage of travel agents now warning tourists about this health risk has increased.

Tahiti is malaria free and no inoculations are required. Care with food and water was recommended by 23.24% of respondents. According to Tahiti Tourism's (1995: 9) *Tahiti for Kiwis 1995 Guide*:

...tap water in Tahiti is generally safe to drink, and is regularly tested. In the outer islands, water is collected through catchments, from springs, and bores, and can vary in quality. Sometimes the change in water can affect sensitive stomachs, which is worth observing as a routine warning to visitors.

In the *Lonely Planet Guide*, Fay (1992) also mentions that there are water-borne parasites on the outer islands, and raises the problem of ciguatera poisoning (ie. eating poisonous fish). According to Neumann (1996: 168):

...ciguatera poisoning (CPF) the most common type of marine food poisoning, is especially widespread in the Pacific region. The incidence of this health problem appears to be on the rise, in spite of an improved understanding of preventive measures. The precise incidence of CPF is unknown. In Guam, Fiji and French Polynesia, emergency rooms see many cases a week. Estimates range from 100 to 600 cases/10,000 population per year and fatalities at 0.1% of cases. In the Gambier islands of Polynesia, the incidence may be 2,300 cases per 10,000 population per year'.

Neumann (1996: 169) also observes:

..short of abstaining from eating fish, preventing CPF is difficult. Fish themselves have no tell-tale signs. The toxin is heat stable and not inactivated by freezing, drying, salting, smoking or marinating. Tests to identify contaminated fish prior to consumption are not sensitive, specific or practical.

Tourists can be contract dengue fever can be caught during certain times of the year when mosquitoes 'are very rampant in the islands' (Fay, 1992:42) yet only 23.24% of respondents recommend that customer take care to prevent insect bites in Tahiti.

Western or American Samoa is the ninth most important destination for all departures from New Zealand with 12,600 visitors from New Zealand in 1993 (Bywater, 1995). In mid 1993, four villages in Western Samoa were contaminated with typhoid-causing bacteria with at least 110 confirmed cases (Swaney, 1994). As a result, although typhoid vaccinations are not required for entry to Western Samoa, they are recommended. Tetanus, DPT, polio and hepatitis A vaccinations are also recommended and so it is concerning that only 5.09% of respondents even raise the issue of vaccinations with their clients. The Samoas are free from malaria and dengue, although 23.24% of respondents still recommend that their customers take care to avoid insect bites.

Diseases that can be contracted in Tonga through contaminated food or water include food poisoning, giardia, amoebic dysentery, bacillary dysentery, viral gastroenteritis, typhoid and hepatitis A, yet care with food and water was recommended by only 42.53% of respondents. Typhoid and hepatitis A can be contracted in Tonga, yet vaccinations were only mentioned by 5.09% of respondents. Care to avoid insect bites was recommended by 28.02% although Tonga is currently free of both malaria and dengue fever.

New Caledonia was the ninth most popular holiday destination for New Zealanders in 1993 with 5,300 visitors travelling there in that year (Bywater, 1993). Although tap water in New Caledonia is safe to drink except on the Loyante Island of Ouvea where the water is saline, there are a number of illnesses that can be contracted by eating contaminated food and water and these include amoebic dysentery, bacillary dysentery, viral gastro-enteritis, hepatitis, giardia, bilharzia and worms. Care with food and water was recommended by just 27.07% of respondents for travellers to New Caledonia. CPF is also a health problem for visitors to New Caledonia and while malaria is not endemic, an epidemic of dengue fever in 1989 highlights the need to avoid insect bites, a feature which only 21.07% of respondents regularly advised clients about.

The Cook Islands is the seventh most popular overseas destination for New Zealanders with 9,200 visitors travelling there in 1993 (Bywater, 1995). Dengue fever has also been reported in the Cook Islands yet only 29.93% of respondents regularly advised clients to take care to avoid insect bites.

Papua New Guinea (PNG) is the least visited of all Pacific destinations with just 7.32% of respondents stating that they had personally visited it. It is also the least developed of all South Pacific destinations and presents the greatest health risks. Malaria is a serious health risk in PNG and taking malaria prophylactics is essential for all visitors to this destination yet only 31.84% of the respondents raise the issue of malaria with their customers. A tetanus booster is also highly recommended yet only 19.74% recommended vaccinations. Dengue fever is another ever-present health risk in PNG and approximately one third (37.57%) of respondents recommended that the need to avoid insect bites. Town water is drinkable but outside the main towns, water

should always be purified before drinking it. Diseases that are contracted through ingesting contaminated food and/or water include giardia, amoebic dysentery, bacillary dysentery and worms. Approximately one half of the respondents (51.59%) recommended that their clients take care with food and water.

The Solomon Islands are the second least visited Pacific destination with just 8.59% indicating they had been there (Table 6.2). No vaccinations are required although it is recommended that travellers have hepatitis A, polio and typhoid vaccinations if they plan to travel outside the major tourist centres. Just 19.74% of respondents discussed vaccinations with their clients. Malaria is a serious public health problem in the Solomon Islands with four kinds of malaria being widespread. There are regular spraying programmes in the capital of Honiara although emphasis is now being placed upon improved sanitation. Despite this, the number of malaria cases per year has increased to 37.5% of the population. The risk is distinctly higher in country areas and during the hot monsoonal summer (Harcombe, 1993). Malaria pills are only recommended by 31.84% of respondents to tourists visiting the Solomon Islands although Harcombe (1993:61) notes that “any visitor who stays exclusively in the capital would be most unlikely to contract this malady”. Dengue fever and Santa Cruz fever are also vector borne diseases that can be contracted in the Solomon Islands, yet only 36.62% of respondents recommended the need to avoid insect bites at this destination. Harcombe (1993) also notes that sandfly bites are hard to heal. Water purity cannot be relied on and diseases that can be contracted from contaminated food and/or water include amoebic dysentery, bacillary dysentery, viral gastroenteritis, cholera, hepatitis A, giardia and worms. Less than half of the respondents (46.17%) recommend the need to take care with food and water when visiting this destination.

Malaria is also Vanuatu’s major health risk and only Port Vila and Futuna Island are considered free of malaria, yet only 16.87% of respondents discuss malaria with their customers. There have been outbreaks of dengue fever in Vanuatu with an outbreak in 1989 that killed seven people and affected 400 others (Harcombe and O’Byrne, 1995). However, only 29.61% of respondents recommend the need to avoid insect bites when in Vanuatu. Water is normally safe for drinking in the major urban centres, but it is recommended that visitors boil it unless they are absolutely sure of its

purity (Harcombe and O'Byrne, 1995). Parasite infections of the spinal cord are endemic in Vanuatu and can be contracted by eating uncooked, green leafy vegetables – particularly lettuce or watercress. Ciguatera is also common and no reef fish should be eaten. However, in spite of all these health risks, just over one-third of respondents (37.26%) indicated the need to take care with food and water.

These results show that although travel agents can advise their clients on the health regulations for entering a destination, they do not consistently give appropriate health advice to their clients. Even within a single geographic region such as the Pacific, health risks vary considerably between countries with destinations such as Hawaii and Australia being relatively safe while other destinations such as PNG, the Solomon Islands and Vanuatu contain a number of serious health risks for tourists. Clearly these results indicate that travel agents are not aware of the health risks posed at Pacific-based destinations. As a result, it would seem that a key issue concerning tourist health information that must be addressed is how to ensure that accurate health advice and information is given to tourists.

6.10 Implications for Travel Health Promotion

Health promotion has three core activities which are education, protection and prevention. Cossar (1997:23) comments that:

...for tourists, the biggest single contribution to be made to minimising health problems in general and infections in particular is from effective public education and behavioural change....Basic educational messages such as avoiding any mosquito bites means no chance of malaria and thus the rationale of using an impregnated mosquito net, appropriate clothing and insect repellents needs to be reinforced. Travellers also need to be made aware of the disease implications when travelling, with stress placed on appropriate behaviour modification in relation to personal hygiene, food handling, sexual behaviour and drug use.

The results of this survey of travel agents indicate that a large percentage of travel agents within New Zealand are not currently providing appropriate travel health information and do not consider they have any role to play in the travel health

education process. The previous chapter highlighted the obstacles caused by structural factors within the tourism industry that make it difficult for travel agents to provide appropriate health advice while this chapter shows that many travel agents do not wish to be involved in travel health promotion activities. Consequently, health promotion will be ineffective as a strategy to reduce the incidence of tourism health problems if travel agents are either unwilling or unable to provide health information to tourists and no other channel is established for education activities. It was surprising to find that the percentage of New Zealand travel agents who offer health advice to their customers is similar to that in the United Kingdom where extensive travel health promotion campaigns have been conducted (Thomas, Clift and Madden, 1997).

It would therefore seem that unless tourism health problems are recognised as a public health sector problem and other information channels, apart from travel agents be established for disseminating health advice, a core activity of the health promotion model will not occur in New Zealand. Yet the health promotion model is based on the concept that all three activities will occur concurrently. This severely limits the effectiveness of health promotion as a strategy for reducing the incidence of tourism health problems.

6.11 Summary

A percentage of travel agents do not appear to regard themselves as the most appropriate source of pre-travel health information. The tourists' own GP was considered to be the most appropriate source of advice followed by the Ministry of Health leaflet (*Passport to Health Travel*), travel agents and pharmacies. This indicates that many travel agents regard tourism health issues as being the responsibility of the health sector rather than of the tourism industry.

Less than half of the respondents (40%) regularly talk with their customers about tourism health problems, which is similar to the percentage in the United Kingdom. It had been expected that public health campaigns and issues of legal liability in the United Kingdom would have resulted in a higher percentage of travel agents offering appropriate advice in that country and therefore these results question the

effectiveness of travel health promotion campaigns undertaken in the United Kingdom.

Although many of the respondents had visited specific destinations in the Pacific, only a small minority had accurate knowledge concerning the health risks associated with many of those destinations. Health risks within the Pacific region are diverse and each destination poses different risks. Travel agents with a higher percentage of Pacific-based travel appear less likely to give health advice to their customers. This could be because a high percentage of their customers are VFR tourists and therefore less likely to receive pre-travel health advice. This chapter argues that over-exposure to the sun is a public health risk rather than a travel-related risk and it is unreasonable to expect the tourism industry to take responsibility for changing tourists' behaviour with regard to sun exposure.

Over half of the respondents indicated that they would be prepared to consult a travel health database. Given the current high uptake of IT within the travel industry, this may be one way of increasing the accuracy of information given by travel agents to their customers and increasing the number of travellers advised to seek pre-travel medical advice where appropriate. However, this will only be established if tourism health issues are accepted as the responsibility of the public health sector and travel agents are educated regarding the importance of this activity.

Education is a core activity of the health promotion model, yet this survey suggests that only a small percentage of tourists are advised by travel agents about health risks even though travel agents are regarded as the key provider of health advice. Consequently it would appear that travel health education activities are very limited in New Zealand. Given that all three activities should take place concurrently, this must significantly reduce the effectiveness of the remaining travel health promotion activities and the overall effectiveness of health promotion as a tool for addressing tourism health issues. Travel agents identified general practitioners (GPs) as the most appropriate source of travel health advice and the following three chapters examine how GPs are affected by outbound and inbound tourism in New Zealand.

PART THREE

Chapter Seven

The Role of the General Practitioner in the Provision of Pre-Travel Health Information in New Zealand.

7.1 Introduction

Education and prevention are two core activities of health promotion that fall within the ambit of qualified medical practitioners. Accordingly, any evaluation of the effectiveness of the health promotion model as a strategy to reduce the incidence of tourism health problems in New Zealand must seek to establish what percentage of outbound tourists visit a GP for education or preventive services before they travel. In the survey of travel agents, nearly 60% of respondents identified GPs as the most appropriate source of health information while a number of researchers have also argued that they are the most important (Behrens, 1997; Clift and Page, 1996; Cossar, 1997; Wilks and Atherton, 1994). However, no research has been undertaken regarding the attitude of GPs towards tourism health issues and how tourism impacts upon their practices. In the United Kingdom, pre-travel health services are mainly provided through general practice (Sloan, 1993), while in New Zealand the level of GP involvement in tourism is unknown. Consequently, the two research questions that are addressed in this chapter are:

What is the attitude of GPs towards tourism health issues?

What is the impact of outbound tourism upon GPs in New Zealand?

Accordingly, a survey of 315 GPs was undertaken in New Zealand in 1996 in order to examine the impact of tourism health issues upon GPs in each of the three phases of the tourism process. This chapter will present the results of the section of the survey relating to the impact of tourism health issues in the pre-travel phase of the tourism process. First however, it is pertinent to examine the literature that pertains to the overall role of the GP in all phases of the tourism process.

7.2 Literature Review

A study by Arnold (1990) in the UK showed a 65% preference for pre-travel health advice to be provided by GPs while Chatterjee (1994) noted that general practitioners had been consulted by 45% of the international travellers surveyed at a travel clinic in Calcutta. Two studies relating to the role of GPs in tourism include that by Salib and Brinacombe (1994) who studied 225 serious incidents treated at the Ayers Rock medical centre, and a pilot study of 150 overseas visitors who were treated by general practitioners which was conducted by White, Jackson and Grenfell (1995). Cossar *et al* (1990) found that 11% of travellers in Scotland sought pre-travel advice from their GP, 9% required the services of a doctor while abroad and 5% after returning home. In contrast, Reed, McIntosh and Powers (1994) found that 58% of those aged over 65 needed to see a GP on return if they had suffered illness while abroad while Reed *et al* (1994) found that of 273 travellers who became ill while abroad, 24% saw a doctor while still overseas and 48% saw a doctor on return. This equated to 20% of all travellers visiting a GP on return. Reed *et al* (1994) also suggested that “the workload on general practice generated by returning ill travellers is greater than previously reported” (1994:197).

In another study of travellers who sought medical attention after returning from their travel, Packham (1995) found that 56% of all patients and 81% of those who had travelled to high-risk areas had visited their GP before travelling. A study of Australians who attended a travellers' clinic before travelling overseas, reported that 54% suffered illness or injury and 11% visited a doctor while away (Looke *et al* 1992). An earlier study showed that 75% of tourists from Australia who visited Bali, sought pre-travel health advice from their family doctor (Grayson and McNeill, 1988). Leggatt *et al* (1997) surveyed 400 GPs regarding the health advice given by them to their patients, but no research has been undertaken regarding the impact of tourism upon GPs or how they regard their role in the tourism process. As a result, this survey of GPs was conducted and this chapter will present the results relating to the involvement of GPs in the provision of pre-travel health information.

7.3 The Number of Pre-Travel Consultations Undertaken by GPs

GPs were asked how many patients they had seen for pre-travel advice and/or travel vaccinations in the past twelve months. Responses ranged from 1 to 720 (60 per month) with respondents seeing a total of 11,167 patients. Table 7.1 shows that Auckland respondents saw 4,805 patients, while respondents from Wellington saw 1,582 patients and those based in Christchurch saw 1,940 patients. Waikato respondents saw 730 patients while those from Bay of Plenty saw 1,056 patients and respondents from Otago saw 1,054 patients. All respondents in Christchurch and Otago had seen at least one traveller for pre-travel advice, while 97.56% of Wellington respondents, 96.77% of Bay of Plenty respondents and 94.54% of the Christchurch respondents all saw at least one patient for pre-travel health advice in the previous twelve months.

The average number of patients seen by all respondents was 35.56. Table 7.1 shows that significant differences occurred in the mean number of patients seen according to the region of respondents (chi square = 207.787, df = 170, $p < 0.05$). Wellington respondents had the highest mean (38.59), followed by respondents from Auckland (37.83), Christchurch (35.27), Bay of Plenty (34.06), Otago (32.94) and Waikato (26.07). The total number of pre-travel medical consultations in each of these six regions can be calculated by multiplying the regional mean by the total number of GPs in each region (Table 7.1).

In order to get some idea of the overall order of magnitude of pre-travel health consultations undertaken by GPs, the overall mean (35.56) is multiplied by the total number of GPs in New Zealand (2,728) and equals 97,007 (Table 7.1). One assumption underlying this 'grossing up' is that the mean number of consultations undertaken by non-respondents to this survey would be equal to that of respondents.

To place this figure in context, 996,446 residents left New Zealand for a period of less than twelve months in 1996, when this survey was conducted, (Statistics New Zealand, 1998) and thus it is estimated that 9.73% of all outbound tourists from New Zealand visited their GP for pre-travel health advice or vaccinations. Approximately

75% of all outbound New Zealand tourists travel to the relatively safe destinations of Australia, the United Kingdom, the United States and Fiji (Bywater, 1995). This means that 25% visit destinations that pose some health risks and if only 9.73% of all outbound tourists seek pre-travel advice, then approximately 15.3% of outbound tourists travel to high- or medium-risk destinations without seeking any pre-travel medical advice. This equates to approximately 152,456 tourists who travel to medium- or high-risk destinations yet do not seek pre-travel advice from their GPs.

Pre-travel health services are primarily provided through general practice in the United Kingdom and the Ministry of Health has conducted a number of publicity campaigns to raise public awareness of tourism health problems, yet the percentage of tourists who seek pre-travel medical advice in New Zealand (9.73%) is only a little lower than in the United Kingdom. Some 14% of British students visiting Malta visited a GP for pre-travel health advice (Clark and Clift, 1994) while Cossar, *et al* (1990) found that 11% of travellers had sought pre-travel health advice from GPs. However, it is important to recognise that the methodology used in this survey differs from that used in these other studies and therefore caution must be used in comparing these results and further research is needed to validate these results.

Other research has shown that a critical factor affecting the percentage of travellers who seek pre-travel medical advice is destination. Berger and Dan (1993) commented that a certain amount of self-selection occurs for pre-travel medical advice while Packham (1995) notes that differences occur according to the regions people were visiting with some 81% of those who had travelled to high-risk destinations visiting GPs. Reed *et al* (1994) found that the difference in the level of pre-travel medical advice sought depended upon the destination with 68% of those travelling to high risk destinations and 14% of those travelling to safe destinations receiving pre-travel health advice from GPs. Lobel, *et al* (1993) noted that 42% of American travellers visiting less developed countries had consulted physicians prior to travel. Some 45% of all international travellers visited a GP before visiting India (Chatterjee, 1994) as did 75% of Australians travelling to Bali (Grayson and McNeill, 1988). Some 50% of Australian travellers to Asia and Africa had sought or were given pre-travel medical advice (AGB McNair, 1994), while Kollaritsch and Wiedermann (1992) found that 91.4% of Austrian travellers visiting the tropics had sought pre-travel advice on

Table 7. 1 **Number of pre-travel consultations conducted by GPs in New Zealand in past twelve months.**

Region	Response Rate (%)	Number of Pre-travel Consultations	Mean	Standard Deviation	Total Number of GPs in Region	Estimated Total Number of Pre-Travel Consultations
Auckland	55.55	4,805	37.83	87.37	852	32,231
Wellington	53.84	1,582	38.59	48.08	281	10,562
Christchurch	58.58	1,940	35.27	37.96	346	12,203
Waikato	32.18	730	26.07	25.71	170	4,431
Bay of Plenty	54.21	1,056	34.06	34.21	195	6,641
Otago	67.34	1,054	32.94	52.05	130	4,282
Total for 6 regions	53.33	11,167	35.56	61.69	1,974	70,350
Total for New Zealand			35.56		2,728	97,007

prophylaxis. Therefore when interpreting these results, it is important to look at the destinations New Zealand residents are visiting. Some 71.6% of all outbound New Zealand residents travelled to Australia, the United States, the United Kingdom and Fiji (Bywater, 1995) and as these destinations are considered to pose a very low health risk, it is unlikely that those visiting them would seek pre-travel medical advice. It is also likely that a large number of travellers to these destinations visit friends and relatives (VFR) and it has already been shown that these are even less likely to seek pre-travel health advice (Bloland, Colmenares, Gartner, Schwartz & Lobel, 1995).

Table 7.1 shows that a large standard deviation occurs in the responses from Auckland GPs indicating that a wide variation exists between GPs in Auckland concerning the number of patients seeking pre-travel advice. One reason that could explain this variation is that differences occur between areas within Auckland in the propensity to travel and the type of travel predominately undertaken.

A GP is regarded as a full-time equivalent if his/her workload exceeds 4,000 consultations per year, with the overall mean workload equalling 6,995 consultations per year (Malcolm, 1993). It is therefore estimated that the total number of intending tourists who seek pre-travel medical advice within a twelve-month period (97,007) would equal the full-time workload of 13.8 GPs.

7.4 Time Spent in Pre-Travel Health Consultations

General practitioners were asked how much time they spent with a patient giving pre-travel advice or vaccinations. Table 7.2 shows that over two-thirds (69.11%) of all respondents indicated they spent more than ten minutes talking with each patient, 26.75% spent between five and ten minutes while 4.14% spent less than five minutes. A number of respondents indicated that the time they spent with patients was closer to fifteen minutes. No research has previously been undertaken regarding the length of time spent by GPs advising patients about travel-health issues.

These results show that a significant difference occurs between the time spent talking about tourism health problems by travel agents and the time spent by GPs. It has been shown in Chapter 5.5 that only 2.3% of travel agents spent more than five minutes

talking with customers about tourism health problems compared to 95.86% of the GPs. However, although GPs may spend far more time talking about health issues with travellers, previous research has suggested that the advice given by them is not always accurate (Gagneux, Blochliker, Tanner and Hatz, 1996; Keystone, Dismukes, Sawyer and Kozarsky, 1994; Usherwood and Usherwood, 1989). Keystone *et al* (1994) found that only 40-50% of family physicians in Ontario, Canada gave accurate information regarding drug regimes for malarial prophylaxis. A study in Michigan showed that only 23% of the clinics could accurately identify immunisation for travellers (Pesch, Haitaian, Leman and Band, 1992). Grayson and McNeil (1988) found that 83% of travellers who sought pre-travel health advice from their family doctors before travelling to Bali received no other health advice, while 15% received no pre-departure vaccinations. As a result, GPs in this survey were asked questions about the health issues they discussed in pre-travel consultations.

Table 7. 2 Length of Time Spent by GPs giving Pre-Travel Health Advice

Amount of time spent in pre-travel consultations	Number	Percentage
Less than five minutes	13	4.14
Five to ten minutes	84	26.75
More than ten minutes	217	69.11
Total	314	100.00

7.5 Health Advice Given by GPs for Pacific Destinations

As in the survey of travel agents, GPs were asked to identify which basic health issues they raised with patients travelling to specific destinations in the Pacific. In addition, GPs were asked to indicate whether they gave advice concerning safe sex practices. This issue had not been raised in the survey of travel agents as it was felt that it would be highly unlikely that travel agents would raise such a personal matter in the normal course of their business. However, given the privacy surrounding a consultation between a patient and their GP and the public health implications of HIV/AIDS, it was felt that GPs might address this issue with intending travellers.

Table 7. 3 Advice given by GPs for Specific Destinations in the Pacific

Destination	Vaccinations		Malaria pills		Food or water		Insect bites		Care in the sun		Safe sex practices	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Australia	75	20.89	23	7.32	49	15.61	118	37.58	235	74.84	168	53.50
Hawaii	90	28.66	24	7.64	68	21.66	94	29.94	230	73.25	174	55.41
Fiji	132	42.04	38	12.10	203	64.65	166	52.87	229	72.93	162	51.59
Tahiti	133	42.36	51	16.24	195	62.10	154	49.04	225	71.66	162	51.59
W. & A. Samoa	167	53.18	75	23.89	214	68.15	185	58.92	218	69.42	160	50.96
Tonga	165	52.55	61	19.43	222	70.70	180	57.32	216	68.79	162	51.59
New Caledonia	146	46.49	79	25.16	204	64.97	170	54.14	214	68.15	85	27.07
Cook Islands	146	46.49	62	19.74	215	68.47	185	58.17	214	68.15	154	49.04
Papua New Guinea	249	79.30	274	87.26	273	86.94	250	79.62	215	68.47	161	51.27
Solomon Islands	236	75.16	261	83.12	262	83.44	244	77.71	214	68.15	154	49.04
Vanuatu	229	72.93	238	75.80	260	82.80	240	76.43	215	68.47	154	49.04

Table 7.3 shows that not only do GPs spend considerably more time talking with their patients about tourism health problems, but the level of advice is far more comprehensive than that provided by travel agents. Given that GPs are aware of the health issues associated with over exposure to the sun and that it is a public health issue, it was not surprising that the need to take care in the sun at all destinations was raised by more than two thirds of all GPs (68.15% -74.84%), compared to only one-third of travel agents.

Malaria prophylaxis is the most important preventive activity for tourists travelling to medium- or high- risk destinations. It is therefore very concerning to note that such a small percentage of outbound New Zealand tourists receive preventive services from their GP. Malaria is endemic in Papua New Guinea, the Solomon Islands and Vanuatu yet only 87.26%, 83.12% and 75.80% of respondents raise the issue of malaria prophylaxis with patients travelling to these destinations respectively. Although the percentage of GPs giving advice on malaria prophylaxis is significantly higher than that of travel agents for these three destinations (41.08%, 31.84% and 6.87%), it is still concerning to find that up to a quarter of patients who visit their GP for pre-travel advice may not be informed of health risks.

These results can be compared with those of another study undertaken in New Zealand in 1996 in which 97% of GPs reported that they 'usually' gave advice concerning malaria to their patients (Leggat *et al*, 1997). However, it was interesting to note that Leggat *et al* (1997:320) also commented that "one of the major limitations of self-administered questionnaires is that what people report may differ from what they actually do". Therefore, it would seem likely that the responses given in this survey about specific locations are more likely to be accurate.

The side effects that can arise using malaria prophylaxis are well documented (Clift, Grabowski and Sharpley, 1997), and there is widespread debate about the cost effectiveness of prophylaxis (Behrens and Roberts, 1994). However, it was expected that GPs would at least have discussed this issue with patients, particularly with those travelling to Papua New Guinea. It must also be recognised that the New Zealand recommendations on the prevention of malaria "encourage the prevention of mosquito bites and the use of chloroquine alone where trips are brief and risks of malaria low.

This would be appropriate for the great majority of New Zealanders who travel to malarious areas” (Wallace, Thomas and Ellis-Pegler, 1992).

It was concerning to note that 24-29% of respondents did not advise their patients visiting the high risk regions of Papua New Guinea, Solomon Islands and Vanuatu to take care to avoid insect bites. Only one-third of GPs (37.58%) recommended that their patients take care to avoid insect bites when visiting Australia which has had outbreaks of both dengue fever and Ross River Virus. Other destinations in which dengue fever is endemic include Fiji, Tahiti, New Caledonia, Cook Islands, Papua New Guinea, the Solomon Islands and Vanuatu, yet between half to three quarters of respondents did not recommend their patients avoid insect bites when travelling to these destinations. Not surprisingly, care with food and water was recommended by few respondents to travellers to Australia (15.61%) and Hawaii (21.66%), and by between 60-80% of respondents to travellers to all other destinations.

Holidays are widely associated with increased opportunities for sexual encounters and research has shown that young people take more sexual risks on holiday than they would at home (Thomas, Clift and Madden, 1997). The spread of HIV/AIDS has been identified as a major public health issue, but it appears that many GPs in the primary health sector are still uncomfortable speaking about this issue with their patients. The issue of safe sex was raised by approximately half of the respondents for all destinations. A number of respondents indicated that their willingness to raise this issue depended upon the patient concerned, while a small number of respondents indicated that although they currently did not raise this issue, they would do so in the future as a result of completing this questionnaire.

Overall therefore, these results show that the advice given by GPs is far more accurate and comprehensive than that given by travel agents in New Zealand yet tourists who visit their GP for pre-travel health advice represent only a small percentage (12.5%) of all outbound tourists.

7.6 Sources of Travel Health Advice Used by GPs

Some 91.27% of respondents had seen or used the Ministry of Health booklet *Passport to Healthy Travel* compared to approximately 60% of travel agents as is described in Chapter 5.7. This suggests that a more effective distribution channel exists between the Ministry of Health to GPs than between the Ministry and travel agents. Easy access to accurate information is an important factor in any health education activity (Patterson *et al*, 1991) and these results again highlight the need to develop effective channels through which information can be disseminated to tourists.

7.7 Appropriate Sources of Travel Health Advice for Tourists

GPs were asked to identify which sources they regard as appropriate for providing health advice to intending travellers. Along with the seven categories used in the survey of travel agents, two extra categories were added in this survey: *travel health clinics* and *public health programmes*. These two categories were added to examine how GPs view the introduction of specialised travel health clinics and whether they regard tourism health problems as a public health issue or not. Respondents were asked to rank the categories using one for the most appropriate, two for the second most appropriate and so on. If they did not think a category was appropriate, respondents were asked to use zero. In some cases, respondents ranked more than one source with the same ranking or did not rank all sources and so the totals do not equal 100%. The results were weighted and totalled⁹ to indicate which source respondents considered to be the most appropriate overall (Table 7.4).

Some 72.9% of respondents regard GPs as the most appropriate source of travel health advice, compared to only 27.7% for the Ministry of Health booklet, 24.8% for travel medicine clinics, 14.6% for travel agents and 11.1% for public health programmes. Respondents could indicate if they felt a source was inappropriate by marking it with a zero. Some 49.6% indicated that airlines were inappropriate,

⁹ One was multiplied by seven, two by six and so on. The totals were then added.

Table 7. 4 How Respondents Rank the Different Sources of Health Advice

Source of Travel Health Advice	Important										Unimportant				Weighted
Advice	1		2		3		4		5		6				Total
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	
General practitioners	228	72.9	53	16.8	15	4.7	0	0	0	0	0	0	8	2.5	1,693
Health Dept. booklet (Passport to Healthy Travel)	87	27.7	99	31.5	69	21.9	26	8.2	11	3.5	22	0.7	18	5.7	1,415
Travel agents	78	24.8	87	27.7	48	15.2	23	7.3	23	4.1	19	6.05	46	14.6	1,229
Travel guides (e.g. Fodors)	46	14.6	39	12.4	53	16.8	34	10.8	27	8.6	42	13.3	73	23.2	881
Travel health clinics	24	7.6	40	12.7	27	8.6	38	12.1	33	10.5	71	22.5	81	25.8	703
Public health programmes	35	11.1	28	8.9	18	5.7	33	10.5	23	7.3	69	21.9	108	34.3	636
Tour operators' brochures	30	9.5	36	11.4	8	2.5	15	4.7	28	8.9	91	28.8	106	33.7	584
Pharmacies	20	6.3	31	9.8	23	7.3	25	7.6	22	7.0	86	27.3	121	38.5	572
Airlines	10	3.1	22	256	13	4.1	6	1.9	21	6.6	15	4.7	156	49.6	297
Other	11	3.5	20	0.6	20	0.6	2	0.3	2	0.3	0	0	296	94.2	

(One equals the most appropriate source, two the second more appropriate and so on. If a category is regarded as inappropriate respondents rank it with a zero).

followed by 38.5% for pharmacies, 34.3% for public health programmes and 33.7% for tour operators' brochures.

The weighted totals show that GPs are considered the most appropriate overall, followed by the Ministry of Health booklet (*Passport to Healthy Travel*), travel agents, travel guides (e.g. Fodors), travel health clinics, public health programmes, tour operators brochures, pharmacies and airlines. These findings differ significantly from those reported in the survey of travel agents as outlined in Chapter 6.4. The order of the first three sources was the same as that indicated by travel agents, but GPs placed other travel sector sources ahead of pharmacies which was the lowest placed health source. Travel guides (e.g. Fodors, Lonely Planet Guidebook) were highly regarded and it was surprising to see that they were ranked ahead of specialised travel health clinics. It was also interesting to note that GPs regarded public health programmes and pharmacies as the sixth and eighth most appropriate sources respectively. The low ranking of public health programmes suggests that GPs do not consider tourism health issues to be a public health problem. The low ranking of pharmacies was also surprising, particularly because of the current campaigns being undertaken by pharmacists to encourage the public to seek health advice from them. These results suggest therefore that while travel agents regard the provision of travel health advice as the responsibility of the health sector, GPs tend to view both sectors as having some responsibility.

7.8 Attitude of GPs Towards Health Advice Given by Travel Agents

Many of the travel agents surveyed did not accept responsibility for providing travel health advice to their clients and accordingly, GPs were asked what role they felt travel agents should play in providing travel health information. Some 62.10% of respondents believed that travel agents have a responsibility to give health advice to their clients while 7.65% had no opinion. However, nearly three quarters (73.57%) believed that travel agents should give some basic travel health advice but a number of respondents qualified their response by indicating that it should be general information only about well known health issues. Other respondents commented that 'a handout would be adequate'. Nearly all respondents (97.77%) indicated they felt that travel agents should refer travellers to GPs for further advice if they were going

to an unusual destination. Overall it seems therefore, that the majority of GPs consider the role of travel agents in the dissemination of travel health information to be limited and of a secondary nature compared to their own role.

7.9 Overall Responsibility for Tourism Health Problems

GPs were asked whether they believed that educating the public about basic tourism health problems was the responsibility of the travel industry or the Ministry of Health in New Zealand. Table 7.5 shows that 32.67% believe it to be the responsibility of the Ministry of Health, 16.56% believe it to be the responsibility of the travel industry while 36.50% consider the responsibility to be joint. Some 4.76% indicated that they felt it was the responsibility of individuals while 9.50% of respondents believed it to be the responsibility of GPs. Thus opinion appears to be divided among GPs regarding overall responsibility for informing the public about tourism health problems.

Table 7. 5 Responsibility for educating the public concerning basic tourism health problems

Responsibility of:	Number	Percentage
Ministry of Health	103	32.67
Travel Industry	52	16.56
Both	115	36.50
Individual travellers	15	4.76
GPs	29	9.50
Total	314	100.00

7.10 Attitude of GPs towards Specialised Travel Health Clinics

In line with overseas trends, a number of specialised travel health clinics have opened in Auckland, Wellington, Hamilton, Christchurch and Wellington in the past few years. It has been argued that because of the complexity of health issues associated with travel, advice given to patients by travel health clinics is more accurate than that given by GPs (Reed *et al*, 1994). Significant restructuring is currently taking place within the primary health sector of New Zealand and an oversupply of GPs in some

regions of New Zealand has created a competitive environment within which primary health services are supplied. Therefore GPs were asked how they viewed the introduction of travel health clinics and their role in the provision of travel health information. Only 13.69% of respondents believed that it was more appropriate for travellers to visit travel medicine clinics than their own GP for pre-travel or post-travel treatment while 73.25% did not agree with this and 13.06% had no opinion. Of those who regarded travel health clinics as more appropriate, 47.73% believed that the clinics were better informed while 11.36% believed they were more convenient for patients to visit. Of the 73.25% of respondents who did not believe travel health clinics were more appropriate, 40.04% commented that a good GP knows the patient's history and should be able to advise accurately, while 5.22% raised the issue of the fragmentation of primary medical care.

Given the low percentage of respondents who view travel health clinics as appropriate, it was therefore surprising to find that 44.62% of respondents indicated they would seek a second opinion from a travel health clinic if they were unsure of vaccinations or health precautions for their patients, while 9.8% would seek advice from other sources. These included hospital infectious diseases clinics (6.44%), vaccine companies (2.97%) and the Ministry of Health (0.50%).

7.11 The Economic Impact of Pre-Travel Health Consultations for GPs

In mid-1997, \$38.00 was regarded as the standard fee for a GP consultation in New Zealand and thus the average gross earnings generated from pre-travel consultations for individual GPs, and for each region, can be calculated by multiplying this figure by the average number of pre-travel consultations. Table 7.6 shows that Auckland GPs benefited the most from pre-travel consultations (\$1,224,778), followed by GPs from Christchurch (\$463,980), Wellington (\$401,356), Bay of Plenty (\$252,358), Waikato (\$168,378) and Otago (\$162,716). By multiplying the total number of pre-travel consultations (97,007) by \$38, it can be estimated that the total income generated nation-wide for GPs from pre-travel consultations is \$3,686,266.

Table 7. 6 Estimated earnings for GPs Derived from Outbound Tourism In a Twelve-month Period (June 1997-1998).

Region	Average income per GP	Income per region
Auckland	\$1,437.54	\$1,224,778
Wellington	\$1,428.42	\$401,356
Christchurch	\$1,341.02	\$463,980
Waikato	\$990.66	\$168,378
Bay of Plenty	\$1,294.28	\$252,358
Otago	\$1,251.72	\$162,716
Total for the 6 regions	\$1,290.60	\$2,673,566
New Zealand		\$3,686,266

The economic considerations associated with the provision of health advice are important, not just for the GP, but also for the traveller. Current economic pressures in New Zealand mean that because of the cost involved, there is a growing trend by New Zealanders to avoid visiting GPs even when they are sick. Therefore, it is highly improbable that travellers will visit a GP for general travel health advice if they do not require a specific treatment (for example, vaccinations) that cannot be received elsewhere. Although it has been argued that the GP is the best suited to provide travel health advice because of their knowledge of the travellers' medical history (Sloan, 1993), Cossar (1996) quite rightly points out that it is impossible for all tourists to access medical pre-travel advice. However, other studies show that the doctor-patient relationship is becoming more financial (Malcolm, 1993) and this trend must also be considered when addressing tourism health issues.

7.12 Implications for Travel Health Promotion

Prevention is the travel health promotion activity undertaken almost exclusively by GPs and for some tourist health problems, this is the only effective activity. Yet these results indicate that only a small percentage (9.73%) of New Zealand residents receive preventive pre-travel services from their GP. Education is the travel health promotion activity that focuses upon the behavioural causes of tourist health problems and these results show that the pre-travel health advice given by GPs is far more accurate than that provided by travel agents. However, it is estimated that up to 152,000 New Zealand residents travel to medium- or high- risk destinations each year

without receiving pre-travel advice or preventive services from their GP. Consequently, for the majority of New Zealand outbound tourists, the only health promotion activity that may impact upon their health experience is protection, which is the responsibility of the government at the destination. Risk assessment is inherent within the health promotion model (Downie *et al*, 1996) but the results of this survey indicate that this is inadequate and that risk assessment needs to be identified as a separate activity in any model addressing tourism health issues. Outbound tourists who are most at risk of contracting serious illnesses need to be directed by some agency to their GP for education and prevention activities but this does not appear to be occurring in New Zealand at present.

GPs regard themselves as the most appropriate channel through which travel health advice should be disseminated and do not regard other potential sources within the health sector to be suitable. The results of this survey, along with those from the survey of travel agents, indicate that stakeholders in both the tourism and health sectors regard tourism health issues as a public health problem, rather than a tourism industry problem. Therefore, overall responsibility for dealing with tourism health issues should be carried by the public health sector.

These results also suggest that little real difference exists between the percentage of outbound tourists in New Zealand and in the United Kingdom who seek pre-travel medical advice. This is of real concern because the health promotion model has been far more actively applied in the United Kingdom, yet these results suggest these activities have done little to increase the percentage of tourists who seek pre-travel health advice.

7.13 Summary

It is estimated that each GP sees an average of 36 patients per year for pre-travel health advice, which equals approximately 97,000 travellers although it is recognised that this estimate is very preliminary and further research is recommended to derive a more robust figure. This figure equates to 9.7% of all outbound travellers which is a little lower than the percentage recorded in the United Kingdom, thus indicating that travel health promotion may not have been very successful in increasing the

percentage of travellers seeking pre-travel health advice from their GPs. Over two-thirds of GPs spend more than ten minutes talking with their patients during a pre-travel consultation which is significantly longer than the time spent by travel agents.

The information given to tourists by GPs is far more comprehensive than that given by travel agents. It was concerning to note that malaria prophylaxis is discussed by GPs with only 80% of patients who visit the malarial endemic destinations of Papua New Guinea, Solomon Islands and Vanuatu, while advice to avoid insect bites was not routinely given. Overall, however, these results indicate that New Zealand GPs are more knowledgeable about travel health risks than their colleagues in other countries.

Pre-travel health consultations generate \$3.6 million to the primary health sector in New Zealand but current financial constraints mean that even though the advice from GPs is comprehensive, many outbound tourists do not seek pre-travel medical advice. It is estimated that 152,456 New Zealand residents travel to high- or medium-risk destinations but do not seek pre-travel medical advice from their GP. The health promotion model does not have a strategy for identifying at-risk individuals, although risk assessment is regarded as inherent within the model. This would seem to be a real weakness that arises when applying this model as a strategy for addressing tourism health problems.

GPs regard themselves as the most appropriate channel through which tourism health advice should be disseminated and do not regard other sources as suitable. Overall, both travel agents and GPs consider tourism health problems to be the responsibility of the health sector, rather than of the tourism industry. The advice given to tourists by GPs is far more accurate than that given by travel agents, yet only 9% of New Zealand outbound tourists have pre-travel consultations with their GPs. Consequently, protection activities at the destination may be the only health promotion activity that New Zealand outbound tourists experience. Little difference appears to exist between the percentage of tourists in New Zealand or the United Kingdom who seek pre-travel medical advice, suggesting that travel health promotion activities in the United Kingdom may have been relatively ineffective.

Outbound tourism also affects GPs at the post-travel stage of the tourism process. The next chapter will present results from the survey of GPs regarding the impact of outbound tourism during the post-travel phase of tourism.

Chapter Eight

The Impact of New Zealand Outbound Tourism on GPs Post-Travel Consultations

8.1 Introduction

Health problems arising during tourism can continue after the tourist has returned to their own country, and therefore any evaluation of the health promotion model as a strategy for addressing tourism health problems must examine the effects of tourism health problems in the post-travel phase. The transitory nature and geographical dimensions of international tourism are two factors that need to be considered when dealing with tourism health and safety issues in the post-travel phase. Consequences that may arise in the post-travel phase include the ongoing effects of health problems for tourists and the subsequent impact these problems have on the medical services of the tourists' home countries. Sanford (1992) suggests that because travellers lack confidence in the medical facilities available in developing countries, they are often reluctant to use them, preferring instead to wait until they have returned home before seeking medical help. In some countries, the cost of treatment is extremely high and this can also affect the willingness of tourists to seek medical treatment while overseas, particularly if they do not have adequate insurance cover. It has also been argued that tourism health issues affect tourism-generating countries because travellers develop health problems which may pose a public health hazard after they return to their own countries (Cartwright, 1996; Cossar, 1996). Therefore the research question addressed in this chapter is:

What is the impact of outbound tourism health problems on GPs in the post-travel phase of the tourism experience?

This chapter will therefore present the results from the survey of 315 GPs in New Zealand concerning the impact of outbound tourism upon them during the post-travel phase of the tourism experience.

As in the previous chapter (pre-travel consultations), an attempt is made to estimate the total number of post-travel consultations in this chapter in order to provide some idea of the overall order of magnitude of post-travel health consultations undertaken by GPs. In attempting to derive an estimate of the total number of post-travel consultations in New Zealand, it is assumed that the mean number of consultations undertaken by non-respondents to this survey would be equal to that of respondents. Further research is recommended to establish whether this occurred.

8.2 Literature Review

Frechtling (1997) recently analysed research into health and tourism issues and found that nearly all research concerning the post-travel phase of tourism focuses on the on-going effects of health problems upon the returned tourists. Only two studies examined the impact of tourism upon the health of residents in the tourist's country of origin while Frechtling (1997) also reported that no research had been undertaken into the impact of returned travellers on the medical services of the sending region. In the field of travel medicine, many studies have been undertaken which focus on the epidemiology of travel related illnesses and in particular, of notifiable diseases such as malaria and dengue fever. Almost all of these studies use either public health records and/or interviews with returned travellers as the sources of their data.

Calleri, Macor, Leo and Caramello (1994) note that although the world incidence of malaria has been stable over the previous fifteen years, the incidence of imported cases in non-endemic countries is rapidly rising. Bradley, Warhurst, Blaze and Smith (1994) report that 3,551 cases of malaria were reported in the United Kingdom between 1992-1994 and of the fourteen who died from malaria, twelve had contracted the disease in Africa and two in India. Thores (1996) reports that there have been less than ten documented deaths from imported malaria in Scotland in the past ten years, but that the upward trend in morbidity is similar to that in the United States, Canada and Australia. Nearly all (97%) of the reported cases of malaria in Scotland were acquired by travellers who had not used chemoprophylaxis. Packham (1995) notes that all malaria in Great Britain is associated with travel while Chatterjee (1994) indicates that 30% of malaria imported into Britain is from the Indian subcontinent. Sabatinelli, Majori, D'Ancona and Romi (1994) report that in Italy, 1,941 cases of

malaria were reported in the years 1989 to 1992, with the large majority of cases (86.5%) being imported from Africa. Kain, Tennyson, Harrington and Keystone (1995) report that in a 10-month period in 1994, some 83 cases of malaria were treated in hospitals and outpatient clinics in Toronto, Canada. Raglio, Lorenzi, Avogadri, Grigis and Goglio (1994) comment that malarial infections in Italy have become a serious health problem, especially the incidence of imported malaria, with 175 cases of imported malaria being reported over a ten-year period. Some 91.4% of those who contracted the disease did so while visiting African destinations, with the greatest percentage of cases originating from residents visiting friends and relatives without receiving appropriate prophylaxis. Lopez-Velez, Viana, Martin-Aresti and Garcia-Camadio (1995) report that of 133 cases of imported malaria diagnosed at the Tropical Medicine Unit in Madrid, Spain, 39.1% of cases were acquired by short-term travellers (less than three months), and 16.6% of cases were acquired by long term travellers (4-12 months). No or irregular prophylaxis was used by 89% of cases of imported malaria. In Germany, a total of 8,049 cases were reported between 1963 and 1988. This figure includes 3,991 cases of *falciparum* malaria, 90% of which had been contracted in Africa (Buck and Eichenlaub, 1994). Keystone *et al* (1994) show that there has been a seven-fold increase in malaria among American travellers. Overall therefore, these studies show that the incidence of imported malaria in both Europe and North America is increasing as a result of increased international travel, with the majority of cases being imported from Africa.

Dengue fever is another vector-transmitted disease that can be imported into developed countries by returning travellers but there has been much less research undertaken regarding the incidence of imported dengue fever. Bakker, Veenstra, Dingemans-Dumas and Loscher (1996) report that the numbers of imported cases of dengue fever have increased in Europe since 1989. In the United States, approximately 1,200 imported cases of dengue are reported every year (Centre for Disease Control, 1994). In the only study concerning food poisoning, which is notifiable in the United Kingdom, Packham (1995) notes that 11% of all notified food poisoning cases in the United Kingdom were associated with travel.

Reed *et al* (1994) suggest that the workload on GPs caused by returning travellers is greater than has been previously reported and that approximately one in five of all

travellers who had not attended a travel clinic for pre-travel advice returned to see a GP after their holiday. In contrast, Cossar *et al* (1990) interviewed 13,816 returned Scottish travellers and report that 5% of those who had been unwell during their travels sought medical attention on their return to Scotland which equates to 1.8% of all travellers. Some 2% of those who were unwell while travelling required hospital admission upon their return which equates to 1.22% of all travellers.

These studies undertaken in other countries show that a percentage of travellers contract diseases that can have serious consequences while travelling, and as a result they require medical treatment on their return to their country of origin. However, travel patterns vary according to the country of origin and, because of its geographical location and small population, the impact of overseas travel upon the primary medical sector of New Zealand is likely to differ from that in European countries. Consequently, the survey of GPs included a section of questions relating to post-travel consultations in order to assess the impact of health problems contracted during overseas travel by residents upon the primary medical sector of New Zealand.

8.3 The Number of Post-Travel GP Consultations in New Zealand

Over three-quarters of all respondents (78.26%) indicated that they had treated New Zealand tourists for illnesses or injuries sustained while travelling overseas. Table 8.1 shows that in the previous twelve-month period, respondents treated a total of 1,487 patients for post-travel health problems, with a mean of 4.739 per GP. As expected, the number of post-travel consultations is significantly less than the number of pre-travel consultations and equals only 13.46% of pre-travel GP consultations.

The total number of post-travel GP consultations in each region is calculated by multiplying the regional mean with the number of GPs in that region (Table 8.1) while the total number of post-travel consultations nation-wide can be calculated by multiplying the overall mean (4.739) by the total number of GPs (2,728). This equals 12,928 consultations which equates to 1.29% of all outbound New Zealand residents in 1996 (Statistics New Zealand, 1998). It is possible that that this estimate may be higher than the actual number of post-travel GP consultations, because the regions not

included in this survey¹⁰ are less prosperous economically and thus the propensity to travel is likely to be lower in the regions not surveyed. However, although this estimate of 12,928 is used in the following analysis, it is recommended that further research be undertaken to generate a more robust estimate of the number of GP consultations undertaken in the post-travel phase of tourism.

Table 8. 1 The number of post-travel consultations undertaken by GPs in the previous twelve months.

Region	Number of post-travel consultations undertaken by respondents	Mean	Total number of GPs in each region	Estimated total number of consultations
Auckland	678	5.331	852	4,542
Christchurch	289	5.25	346	1,816
Wellington	231	5.63	281	1,582
Bay of Plenty	114	3.742	195	730
Waikato	102	3.643	170	619
Otago	73	2.281	130	296
Total for the 6 regions	1,487	4.739	1,974	9,585
New Zealand			2,728	12,928

All other research concerning post-travel medical consultations has relied on surveys of tourists rather than GPs (Cossar, 1996: Reed *et al*, 1994) and consequently, it is impossible to directly compare these results with those from other studies. However, it is interesting to note that these results are similar to results derived from surveys of tourists with regard to post-travel GP consultations. For example, this survey estimates that the percentage of all travellers treated by GPs in New Zealand in the post-travel tourism phase is 1.29% which is similar to that estimated by Cossar *et al* (1990) in the United Kingdom. Cossar *et al* (1990) surveyed 13,816 returned travellers, of which 36% indicated that they were ill while abroad and 5% of these visited a GP on their return, which equates to 1.8% of all travellers.

In contrast however, two other studies undertaken in the post-travel phase report a much higher percentage of travellers requiring medical treatment. Bruni and Steffen

¹⁰ These regions include Northland, Gisborne, Hawke's Bay, Taranaki, Wanganui, Manawatu, Wairarapa, Nelson and Bays, Marlborough, West Coast and Buller, Timaru/Oamaru, Southland.

(1997) found that 10.6% of 2,109 short-term travellers who had visited a Zurich Travel Clinic for pre-travel medical advice, consulted a doctor on return from overseas while 7.2% had ongoing health problems after returning home. It is important however, to reiterate that this other research surveyed tourists who had already sought pre-travel medical advice at a travel clinic. These respondents were therefore likely to be either travelling to a high-risk destination or already had health problems for which they required treatment. Thus it is likely that the percentage of respondents requiring post-travel treatment in Bruni and Steffen's (1997) survey would be higher than in the total travelling population. Reed *et al* (1994) surveyed 1,568 patients who had recently travelled overseas, at a general medical practice in Stirling (Scotland), and found that 48.8% of those who became sick while overseas saw their GP on return, which equates to 20% of all travellers. Again, it is likely that the methodology used resulted in bias because the sample consisted only of patients visiting their GP and thus was unlikely to have been truly representative of the total travelling population.

Overall therefore, the results of this survey indicate that the percentage of New Zealand tourists who require post-travel medical attention is lower than in other countries. Two reasons that could explain this low percentage are previous travel experience, and the destinations visited of New Zealand travellers. Genton and Behrens (1994) studied the travel health knowledge of 167 clients at the Hospital for Tropical Diseases Travel Clinic in London and report that previous travel experience correlates with a good knowledge of health risks. Many New Zealanders develop extensive travel knowledge during their 'OE' (overseas experience) and would likely gain knowledge regarding health issues and therefore be less likely to experience health problems.

However, the destination of New Zealanders is likely to be the most important factor affecting tourism health problems. In 1995, the top ten destinations for all departures from New Zealand were Australia, the United States, the United Kingdom, Fiji, Hong Kong, Indonesia, the Cook Islands, Japan, Western Samoa and Malaysia (Bywater, 1995). These are all considered to be relatively safe destinations; particularly Australia, the United States and the United Kingdom, which together account for 65.58% of all outbound travel. Travellers visiting these destinations are unlikely to be

exposed to major public health hazards and therefore are unlikely to require post-travel medical treatment.

Reed *et al* (1994) have suggested that the workload on GPs caused by returning travellers is greater than has been reported, yet the results of this study suggest that this is not the case in New Zealand. The overall average workload of a GP in New Zealand is 6,995 consultations per year (Malcolm, 1993) which means that the number of post-travel GP consultations (12,928) equates to the full-time work load of only 1.85 GPs. There are 2,728 registered GPs in New Zealand and so it would seem that post-travel consultations are not a significant factor affecting the primary medical services of New Zealand.

8.4 Post-Travel Tourist Health Problems Treated by GPs

GPs were asked to identify the health problems they had treated during post-travel consultations. Respondents could list more than one health problem and were not asked to give any indication regarding the frequency of the health problems they listed. Thus the total does not add up to 100% and should be regarded as an overview rather than a definitive list of health problems suffered by New Zealand residents travelling overseas. It is important to recognise that these results cannot be compared directly with findings from other surveys as the methodology differs from other research which either surveyed returned travellers (Cossar *et al*, 1990; McIntosh *et al*, 1991; Reed *et al*, 1994; Clark and Clift, 1996) or used records from hospitals or clinics (Cossar *et al*, 1990; Wilks *et al*, 1995; Nicol, Wilks and Wood, 1996).

Table 8.2 shows that the most common problems treated by GPs were gastrointestinal problems (39.81%) followed by accidents (33.44%). Other less commonly treated health problems include minor infections (16.29%), minor illnesses (13.69%), respiratory problems (12.74%) and malaria (11.46%). The least common problems were dengue fever (4.14%), giardia (3.72%), salmonella (2.32%), schistosomiasis (2.32%) bilharzia and hepatitis A (1.59%), and typhoid (0.64%). It has been argued that tourists who contract infectious diseases during their travels may pose a public health hazard when they return to their home countries (Cartwright, 1996; Cossar, 1996) but it is important to note that apart from Hepatitis A, which is already endemic

in New Zealand, none of the other health problems treated by GPs are likely to pose a public health threat.

Table 8. 2 Health problems incurred during overseas travel treated by GPs

Health problem	Number of respondents	% of respondents
Gastro/ diarrhoea/vomiting	125	39.81
Accidents	105	33.44
Minor Illnesses	51	16.29
Minor infections	43	13.69
Respiratory problems	41	12.74
Malaria	36	11.46
Musculo-skeletal	31	9.87
Skin problems	23	7.32
Dengue fever	13	4.14
Giardia	12	3.82
Insect bites	9	2.87
Salmonella	8	2.55
Schistosomiasis	7	2.23
Heart problems	7	2.23
Urinary tract infections	4	1.27
Bilharzia	5	1.59
Hepatitis A	5	1.59
Coral cuts	5	1.59
Typhoid	2	0.64

Behrens and Roberts (1994) studied the cost-benefit implications of a national policy of providing typhoid and hepatitis A prophylaxis to British tourists. They estimated that the costs to the National Health Service for administering these vaccinations to one-third of tourists in 1991 would have been £31 million compared to the cost of £1million for treating cases using vaccines. In this survey, only five GPs treated Hepatitis A and two GPs treated typhoid contracted by New Zealanders overseas. Fiscal constraints mean that the provision of health services in New Zealand is strictly rationed and the prevention of travel related diseases is not a priority in the current economic climate. Thus, a national policy of immunisation against Hepatitis A and

typhoid for travellers would not be an efficient use of health funding and would be inappropriate in New Zealand. However, ethnic tourists have been identified as particularly high risk for contracting hepatitis A, (Behrens, 1997; Bloland *et al*, 1995) while tourists visiting the Indian subcontinent are exposed to 1835 times greater risk of infection than travellers visiting France (Behrens, 1997). These results support the suggestion made by researchers that risk assessment policies be implemented so that cost-effective vaccination policies can be undertaken and high-risk tourists can be properly protected by preventive services (Behrens, Collins, Botto and Heponstall, 1995; Porter, 1992).

8.4.1 Travellers Diarrhoea

Approximately 40% of respondents had treated returned travellers for gastro-intestinal problems (diarrhoea and/or vomiting), while 3.82% had treated giardia, 2.55% had treated salmonella, 1.59% had treated bilharzia and hepatitis A, and 0.64% had treated typhoid. Gastro-intestinal illnesses are the most common health problems suffered by tourists and the symptoms tend to be of short duration for the majority of travellers although Bruni and Steffen (1997) report that 3.2% of 2,567 travellers who had visited a travel health clinic for pre-travel advice still had persisting diarrhoea symptoms two weeks after returning home. Contaminated food and/or water are the means by which all these diseases are transmitted. Travellers' diarrhoea has been essentially regarded as a preventable condition (Cartwright, 1996) and it has been suggested that tourists can avoid it by taking care with the food and water they ingest (Steffen, 1997). Thus, educating intending travellers about the need to take care with food and water has been a focus of preventive travel health education activities (Stears, 1996).

However, a number of recent studies indicate that although travellers have adequate knowledge, they do not always conform to recommended dietary behaviour that would reduce travellers' diarrhoea. Kozicki *et al* (1985) report that behaviour modification is hardly ever observed which raises the question as to whether extensive education campaigns advising travellers to take care with food and water have any significant effect on the incidence of travellers diarrhoea suffered. Mattila *et al* (1995) report that, in a study of 933 Finnish travellers who had vacationed in

Morocco, only 5% had strictly adhered to generally accepted dietary recommendations, while 45% had made five or more dietary errors. Mattila *et al* (1995) also note that the incidence of travellers' diarrhoea was not associated with any specific dietary errors or with the number of dietary errors committed. Other studies have also shown that the effect of dietary self-restriction has been of little or no benefit (Blaser, 1986; Bryant, Csokonay, Love and Love, 1991). In fact, Steffen *et al* (1983) suggest that "travellers' diarrhoea seems to be more frequent the more one tries to avoid it". This is because avoidance behaviour alone is insufficient to prevent travellers succumbing to all illnesses transmitted through impure water supplies and/or inadequate sewage disposal systems. Travellers' diarrhoea is primarily a public health problem associated with impure water supplies and inadequate sewage disposal systems; factors over which travellers have no control. Cartwright (1996:58) notes that:

...travellers' diarrhoea is essentially a preventable condition depending on the attainment and maintenance of high standards of public health and in particular those aspects concerned with safe water supplies, safe sewage disposal systems and effective food safety programmes.... The attainment of appropriate standards requires the will of the politicians in the countries concerned with the provision of the appropriate resources and the establishment and implementation of necessary legislation.

Thus, although it is important that travellers take reasonable care with food and water, it would seem that the factor most likely to reduce the incidence of travellers' diarrhoea at any destination is an improvement in the quality of water and food. The health promotion model emphasises the importance of addressing the environmental causes of health problems and the primary travel health promotion activity that addresses environmental causes is protection. The underlying cause of travellers' diarrhoea is contaminated food and water and any improvement in these factors will only occur with government involvement. So can stakeholders outside a destination influence public policy to the extent that improvements in public health facilities are undertaken?

Cartwright (1996) describes how the inclusion of a question concerning tourist health in a major British tour operators' client satisfaction questionnaire (Thomson Tour Operations) has meant it has been possible to compare the incidence of travellers diarrhoea between destinations. This continuous study since 1984 has collected information from nearly 6 million British package holiday tourists and has been used to identify the destinations with the highest rates of travellers' diarrhoea. The results in this study show that a clear correlation occurs between public health improvements and a dramatic fall in the incidence of travellers' diarrhoea at specific resorts. Because of the economic importance of tourism in tropical African and eastern Mediterranean countries, and the size of the tour operator involved in this instance, this information has been used as leverage to encourage the governments concerned to undertake remedial actions. Thus in situations where tourism is a major generator of foreign exchange, and the tourism operator is significantly large, it is possible that outside stakeholders can influence the government to undertake environmental changes which will reduce the incidence of travellers diarrhoea.

In many destinations however, external pressure cannot be brought to bear on governments and public health improvements are unlikely to be engaged in. Because of the relatively small number of New Zealand tourists visiting any destination, it is highly improbable that sufficient economic pressure could be brought to bear on the government of any destination which would result in any improvement being made to public health facilities for the benefit of New Zealand tourists. Perhaps therefore, a major weakness that arises when applying the health promotion model to tourism issues is that the model does not recognise that, in many cases, structural (environmental) changes affecting tourism health cannot be initiated by the tourism generating regions and are unlikely to be made. This is particularly so for smaller countries with fewer outbound tourists.

8.4.2 Tourist Accidents

One third of the respondents had treated returned travellers for accidents, although the definition of an accident was not defined in this survey. Other researchers have suggested that accidents pose a significant risk for tourists although again, not all studies define what is meant by an accident or cite international statistics to support

their argument. For example, Dawood (1993:281) notes that “travellers need to be reminded that accidents represent the most significant hazard...and they are much more likely to die abroad from an accident than any other cause”. The accidents referred to by Dawood (1993) include road accidents as well as those occurring on unsafe hotel balconies and swimming pools. Bewes (1993) reports that 5% of a sample of 515 American travellers had an accident during their trip and Paixao *et al* (1991) reports that, of the 952 Scottish travellers who had died abroad between 1973 and 1988, 21% of the deaths were due to accidents. Page *et al* (1994) report that 1.1% of tourists to Malta experienced accidents. Wilks *et al* (1995) argue that tourist injuries tend to be self-inflicted and result from participation in activities in an unfamiliar environment and/or participation in unfamiliar sports and activities.

Green (1995) suggests that lay people define an accident as a random misfortune that is unpredictable and unplanned, whereas within the framework of the health promotion model, accidents are regarded as a preventable health problem and as the undesirable end result of a chain of events. Accident prevention theory emphasises that control must be maintained over human, physical, environmental and equipment factors in order to reduce the likelihood of an accident. Accident prevention models have been developed and these fall into two categories:

1. Behavioural models which focus on the actions of people and on achieving safety through proper leadership and decision making; and thus focus on better leadership training.
2. Systems analysis which focuses on potential points of breakdown in a system or subsystem and on the design of safe alternatives for the operation or performance of activities within a given environment.

Thus, accidents are not viewed as fate or an act of God within either the health promotion model or accident prevention models but are regarded as occurrences that are caused by ignorance, miscalculation or the deliberate negligence of known risks (Green, 1995). The main accident prevention strategies have been divided into the ‘3 E’s’: education, engineering and enforcement. Education involves raising awareness of the risks and how to avoid them. Engineering refers to changing the environment while enforcement involves legal sanctions against actions likely to cause accidents or

increase the risk of damage from accidents (for example, legislation making it compulsory for cyclists to wear helmets). Evidence suggests that both engineering and enforcement strategies are the most effective strategies for reducing the number of accidents (Croft and Sibert, 1992; Department of Transport, 1985; Spiegel and Lindaman, 1977; Sutherland, 1992), but there is little evidence to suggest that educational interventions affect accident rates (Carter and Jones, 1993; Croft and Sibert, 1992; Melia, Morrell, Swann and Bartholomew, 1989). For example, Roberts, Smith, Lloyd, 1992; Roberts, Smith and Bryce, 1993) show that the primary cause of accidents among children living in a Glasgow housing estate were environmental and even though parents were specifically educated regarding hazards in the environment and took extra care to avoid them, no significant improvement occurred.

Within the tourism health framework, health promotion principles have been widely adopted as a means for dealing with tourist accidents and no debate appears to have been entered into regarding the appropriateness of this framework. This is particularly evident in the work of Hartgarten (1994:48) who comments:

Unfortunately, most health care providers and travel health professionals believe that 'accidents' or injuries are random events and are not amenable to prevention strategies. ...Injuries to travelers are not random events. As with other health problems such as infectious diseases, injuries are preventable. Injury prevention and control is a science with fundamental principles and a growing knowledge base.

Hartgarten (1994) also suggests that an injury prevention package should be constructed so tourists can be educated regarding how to avoid accidents when travelling. Hartgarten's injury prevention package consists of active and passive strategies as well as constructive and avoidance behaviours. However, an analysis of these strategies shows that they consist of individual items of common-sense advice concerning specific situations, rather than strategies that can be broadly applied in a diversity of destinations or activities¹¹. The advice tends to mirror safety

¹¹ Use life jackets, wear motorcycle helmets, use seat belts, stay in hotels with smoke alarms, use scheduled aircraft, avoid swimming and alcohol usage, avoid travelling alone at night.

recommendations and/or legislation that exists in New Zealand. In contrast, Castel (1991) has suggested that one feature of risk factors is that they are potentially limitless and thus it would be impossible to prevent all injuries while Green (1995:130-131) argues that:

Precautions (be they wearing proper clothing or mountain walking or fixing cooker guards in the home) seem to have little causal relationship with specific accident events, either in research on accidents or in people's accounts of the causes of accidents. They do, however, demonstrate an adherence to the *concept* of prevention...There is a tension between what we know to be risk factors at the population level and the logical impossibility of translating that population risk into individual preventive action.

Given the variety and number of tourism destinations visited and activities undertaken, it would seem impossible for any travel education programme to develop appropriate strategies that would significantly reduce the tourist accident rates at all destinations. Neither the New Zealand Government, nor New Zealand tourists have any control over environmental factors (environmental and engineering) in overseas destinations, yet it is improvements in these factors which are most likely to reduce the incidence of tourist accidents. The New Zealand Government has no jurisdiction to propose public policy or enact legislation which would result in a safer environment in other countries which New Zealand residents visit. Thus this thesis argues that the health promotion model does not provide realistic strategies for reducing the incidence of outbound tourist accidents.

8.4.3 Malaria and Dengue Fever

Malaria has been identified as "probably the most important communicable disease hazard for New Zealanders travelling overseas" (Kreichbaum and Baker; 1996:405). Some 36 GPs reported treating malaria with a mean of 0.1146 for all respondents. Because malaria is a notifiable disease in New Zealand, an assumption has been made in this research, that all GP respondents who had treated the disease would have remembered doing so and have indicated so in this survey. As a result, the total number of malaria cases treated by GPs in New Zealand can be estimated by

multiplying the mean number of cases treated by respondents (0.1146) by the total number of GPs (2,728) which totals 312.

This number was much higher than was expected because other research in New Zealand showed that the average number of notified cases of malaria between 1980-1992 was 67 per annum (Kreichbaum and Baker, 1996), while the Infectious Diseases Unit (IDU) at Auckland Hospital reported treating 44 patients for malaria in a six month period in 1989 (Wallace *et al*, 1992). However, Kreichbam and Baker (1996) also note that the notification rate for hospitalised malaria was 43% while Shew, Wong and Thomas (1995) report that there is a 32% notification rate for all malaria cases in Auckland. Thus it would seem that the official figures for malaria in New Zealand are likely to be under-estimates of actual incidence of this disease (Bakker *et al*, 1996; Davidson, Scott, Behrens, Warhurst, 1993; Thores, 1996). If the notification rate is 32% as suggested by Shew *et al* (1995), and this is applied to the number of malaria cases treated at the IDU for a six month period (44), the total of malaria cases in 1989 in New Zealand would be 275. Therefore, the number of cases of malaria (312) estimated in this study for a twelve-month period in 1996/1997, would be quite realistic if compared to an estimated total of 275 in 1989. This is especially so considering that the number of overseas trips taken by New Zealanders has increased by 46% since 1989 (Statistics New Zealand, 1998). In fact, considering that the number of overseas trips taken by New Zealanders has increased so significantly, these results would suggest that the percentage of outbound tourists who return to New Zealand with malaria may have fallen since 1989.

Bloland *et al*, (1995) estimates that the median cost of treating each case of malaria in the United States is US\$541, with the cost per case for treating mild cases of malaria being US\$468 and the cost of treating severe malaria being US\$12,516. Bloland *et al* (1995:19) also comment that “the cost of therapy probably represents a gross underestimate of true total costs. Costs of ancillary therapy, management of complications, as well as costs due to loss of work and additional physician’s charges were not included”. The full cost of mefloquine prophylaxis is approximately US\$100 for the median length of overseas stay of 23 days by travellers. This cost is negligible compared to the cost of the travel undertaken or the cost of treating malaria and in the UK, Behrens and Roberts (1994) found that preventive malaria prophylaxis was cost-

effective. It is also important to recognise that there are problems and side-effects associated with the use of the anti-malarial drug of *Larium*, and in some cases, travellers still contract malaria despite taking chemo-prophylaxis (Clift *et al*, 1997; Steffen, 1997). As Cossar (1996:37) argues “it is important to note that no current anti-malarial measures can guarantee absolute protection although if all mosquito bites can be avoided the infection will not occur”.

When dealing with malaria therefore, the critical question that must be addressed is the level of risk associated with the specific destination being visited. It has been shown that VFR tourists visiting Asia or Africa face the highest risk of contracting this disease, as well as other major health problems (Behrens, 1997; Bloland, *et al*, 1995; Raglio *et al*, 1994). In places where the risk is high (tropical Africa), chemoprophylaxis is extremely important whereas in other low-risk areas, the risk of serious side effects from chemoprophylaxis may be much higher (Steffen, 1996). Therefore, high-risk tourists must be identified so that appropriate preventive activities can be undertaken, yet as has already been argued, the health promotion model has no strategy for identifying high-risk tourists.

A study in the United States showed that only 28% of travellers to malarial areas received any kind of notification from their travel agent that malaria might be a possible hazard (Dawood, 1989). In New Zealand, one-third or less of the travel agents surveyed advise their clients to take care to avoid insect bites at destinations that are known to have malaria and dengue fever (Table 5.13). Approximately 80% of the GPs surveyed, advised travellers to Papua New Guinea, Solomon Islands and Vanuatu to take malaria pills and approximately three-quarters of them advised travellers to take care to avoid insect bites at these malaria endemic destinations as shown in Table 7.5. However, while medical intervention can reduce the likelihood of contracting malaria, no medical intervention exists to prevent travellers being infected by dengue fever.

Some 13 GPs reported treating dengue fever and, it has also been assumed that GPs who have treated dengue fever will clearly remember so and will have indicated as such in this survey. Accordingly, these results can be used to calculate the total number of cases of dengue fever treated by GPs in New Zealand in a twelve-month

period. By multiplying the mean number of cases reported by all respondents (0.0414) by the total number of GPs (2,728), it is estimated that would that 113 cases of dengue were treated by GPs in New Zealand a twelve-month period in 1995/1996. Research also indicates that many cases of dengue fever go unreported (Rigau-Perez, Gubler, Vorndam and Clark. 1997; Syme-Buchanan, 1997) and therefore the number of cases estimated from the responses in this survey would appear to be realistic. A recent report undertaken for the New Zealand Ministry of Health, indicates that even with the bio-security measures that are now in place, the mosquito which transmits the disease is likely to become established in New Zealand (Kay, 1997). This means that in future, the profile of dengue fever in New Zealand is likely to be raised. However, at present, because dengue fever has a much lower profile than malaria, it is even less likely that travellers to dengue fever-endemic regions would be warned to take care to avoid insect bites.

These results suggest therefore, that the incidence of imported malaria and dengue fever in New Zealand is much higher than has been previously recognised. The cost of treating malaria can be high, yet if travellers take care to avoid being bitten by mosquitoes, the likelihood of being infected by either of these two diseases is significantly reduced. Thus, the health promotion activity of prevention is an appropriate strategy for reducing the incidence of both malaria and dengue fever. Education activities are also appropriate to increase the percentage of high-risk tourists made aware of the need for preventive activities. These results support the argument that defining the risks faced by tourists is an important activity that must be included in any model developed to address tourism health issues.

8.5.1 The Economic Impact of Post-Travel Consultations for GPs

The average income per GP generated by post-travel consultations in each region can be estimated by multiplying the number of consultations by \$38¹². The average income earned from post-travel consultations by respondents in the six regions surveyed varies from \$86.67 for respondents in Otago, to \$213.53 for respondents in Wellington (Table 8.3). On a regional basis, the estimated gross income generated by the all post-travel consultations in Auckland is \$172,596, in Wellington \$60,116, in

Christchurch \$69,008, in Bay of Plenty \$27,740, in Waikato \$23,522 and in Otago \$11,248. Thus the nation-wide gross income generated from post-travel GP consultations in the previous twelve months is estimated to be \$491,264 (Table 8.3).

8.5.2 GP Earnings Generated from All Outbound Tourism Consultations

Chapter 7.41 shows that in the twelve-month period prior to this survey, GPs gave pre-travel medical advice to 97,007 New Zealand residents and when combined with the number of post-travel GP consultations (12,928), totals 109,935 GP consultations resulting from outbound tourism. This equates to the full-time equivalent workload of 15.7 GPs.

Table 8. 3 Estimated income for GPs from post-travel consultations in the previous twelve months.

Region	Income per GP	Income per region
Auckland	\$202.57	\$172,596
Wellington	\$213.94	\$60,116
Christchurch	\$199.50	\$69,008
Waikato	\$138.43	\$23,522
Bay of Plenty	\$142.19	\$27,740
Otago	\$86.67	\$11,248
Total for 6 regions	\$163.88	\$364,230
New Zealand	\$180.08	\$491,264

Table 8. 4 Estimated earnings for GPs derived from all outbound tourism consultations.

	Pre-travel health consultations		Post-travel health consultations	
	Average income per GP	Income per region	Income per GP	Income per region
Auckland	\$1,437.54	\$1,224,778	\$202.57	\$172,596
Wellington	\$1,428.42	\$401,356	\$213.94	\$60,116
Christchurch	\$1,341.02	\$463,980	\$199.50	\$69,008
Waikato	\$990.66	\$168,378	\$138.43	\$23,522
Bay of Plenty	\$1,294.28	\$252,358	\$142.19	\$27,740
Otago	\$1,251.72	\$162,716	\$86.67	\$11,248
Total for 6 regions	\$1,290.60	\$2,673,566	\$163.88	\$364,230
New Zealand		\$3,686,266	\$180.08	\$491,264

¹² This is regarded as the average cost of a GP consultation in 1997.

It has been estimated in Chapter 7.1.1 that pre-travel consultations in New Zealand generate \$3,686,266 and post-travel consultations generate \$491,264 in gross income for GPs (Table 8.4). Thus the total income generated for GPs throughout New Zealand from all consultations associated with outbound tourism is \$4,177,530.

8.6.1 The Impact of Outbound Tourism on ACC in New Zealand

In 1972, the Accident Rehabilitation and Compensation Insurance Scheme (ACC) was established and provides a no-fault system of cover for both New Zealanders and visitors who are injured as a result of accident, medical misadventure, or certain types of behaviour for which criminal charges could be laid. The ACC was set up to provide for the rehabilitation and compensation of earners who suffer personal injury by accident or by motor vehicle accident and also makes provision for compensation of dependants of earners who are accidentally injured or killed (New Zealand Statutes, 1972).

All claims registered by ACC are classified as either minor or entitlement claims. Minor claims account for approximately 90% of all claims and are paid directly to the health professional for medical treatment with no payment being made directly to the claimant. Entitlement claims are those whereby the Corporation makes a payment directly to the claimant or pays for a service (medical or otherwise) which is provided to the claimant. The most common entitlements are weekly compensation (income maintenance), home help, child-care, attendant care and travel assistance. In any given year, payments for entitlement claims will include those registered in the current year along with payments registered in previous years.

Respondents were asked whether they had made any ACC claims for New Zealand residents injured as a result of overseas travel in the previous twelve months. Some 41.08% of respondents claimed ACC for 362 New Zealand residents injured overseas with the mean being 1.1529. Eleven respondents commented that since the accidents occurred overseas, ACC compensation was not applicable. One respondent claimed ACC for 50 patients, another for fifteen, three doctors claimed for ten patients while 28.78% of general practitioners claimed for one or two patients. The mean for Bay of

Plenty is influenced by the outlier of 50 and when this is removed, equals 1.0370 which is similar to that of the other regions. The overall regional mean for all respondents was 1.1593 and by multiplying this by the total number of GPs in New Zealand (2,728) an estimate of the total number of ACC claims made nation-wide for New Zealand residents injured overseas can be calculated. This totals 3,162 which equals 0.31% of all outbound tourists (Table 8.5). Respondents were not asked to identify whether these claims were entitlement or minor claims but ACC records indicate that 90% of all claims are minor claims which would mean that 2,845 claims were minor and 317 claims were entitlement claims.

Table 8. 5 ACC claims made for New Zealand residents injured while travelling overseas.

Region	Number of ACC claims	% of claims made	% of respondents who made claims	Mean	Total no. of ACC claims
Auckland	135	37.09	37.09	1.055	899
Wellington	43	11.82	11.81	1.049	295
Christchurch	50	13.73	13.74	0.909	315
Waikato	27	7.42	7.42	0.964	163
Bay of Plenty	78	21.42	21.43	2.48	483
Otago	31	8.52	8.51	0.969	125
Total for 6 regions	364	100.00	41.08	1.153	2,280
New Zealand				1.153	3,162

8.6.2 The Cost of ACC Claims for New Zealand Residents Injured Overseas

In order to calculate the cost of ACC claims it is first necessary to use published ACC data in order to estimate the average cost of all minor claims. In 1996 a total of 1,452,580 claims were made to ACC, of which 138,611 were entitlement claims and 1,313,969 were minor claims. A total of \$1,597,110,000 was paid out for all claims and \$1,137,017,000 of this was paid out for new and existing entitlement claims. Therefore, \$460,093,000 was paid out for minor claims, which averages \$350.15 per minor claim.

Table 8. 6 The number and cost of ACC claims resulting from outbound tourism.

Claims	Number	Cost per claim	Total Cost
Outbound Minor (75%)	2,371.5	\$100.00	\$237,150
Minor (25%)	474.5	\$350.15	\$166,146
Outbound Entitlement	317	\$4,235.91	\$1,342,783
Total Outbound	3,162		\$1,746,079

However, the cost for minor ACC claims for tourists is likely to be lower than the overall average cost of ACC minor claims (\$350.15). Other research into the cost of tourism claims to insurance companies shows that 75% of all claims made for medical reasons were less than \$100 (Ryan, 1997). Therefore in this research it will be assumed that 75% of minor claims cost \$100 each. This means that 75% of minor claims for New Zealand residents injured overseas (2,371.5) cost a total of \$237,150 while the remaining 25% of claims (474.5) cost \$350.15 each, and together total \$166,146. It is estimated that there were 317 entitlement claims made for New Zealand residents injured overseas and at a cost of \$4,235.91 per claim this totals \$1,342,783. Altogether therefore, the total cost to ACC over a twelve-month period, for New Zealand residents injured while travelling overseas is estimated to be \$2,355,968 (Table 8.6).

8.7 Other Costs Associated with Outbound Tourism

An analysis of the health problems sustained by New Zealand residents during their overseas travel and treated by GPs indicates that there are likely to be hidden costs arising from outbound tourism. Residents returning from overseas with the problems listed in Table 8.2 may not be in any fit state to return to work immediately. In many cases, this may involve only one or two days off work, but some of the health problems identified in this survey (for example, malaria, dengue fever) may have a medium- or long-term impact upon the length of time required for convalescence. It has not been possible within the constraints of this research to examine this impact of outbound tourism in New Zealand, but this thesis recognises that other costs exist, apart from those associated with ACC, and further research is recommended.

8.8 The Implications for Travel Health Promotion

The results of this survey suggest that limitations exist with regard to the effectiveness of health education as a strategy for reducing the incidence of certain health problems including travellers' diarrhoea and tourist accidents. Previous research suggests that environmental causes are primarily responsible for travellers' diarrhoea and that care with food and water may do little to reduce the incidence of this ailment. Tourist accidents occur in a variety of destinations and while undertaking many activities, but Hartgarten's injury prevention package does not offer an effective strategy for reducing the incidence of tourist accidents. Overall, health education is not an effective activity for reducing the incidence of many tourist health problems.

Prevention is the health promotion activity which focuses on reducing the incidence of tourist health problems by means of medical interventions. It is estimated that approximately 312 cases of malaria were treated in New Zealand in twelve months over 1995/1996. The cost of prevention is much lower than the cost of treatment. The likelihood of contracting typhoid or hepatitis A can also be significantly reduced with appropriate preventive services. Therefore greater emphasis must be placed upon ensuring travellers visiting high- or medium-risk destinations receive appropriate preventive services.

Protection is the health promotion activity for addressing health problems with environmental causes. This activity is undertaken by the government of the destination, while the government of a tourism generating country has no jurisdiction to undertake protection activities in other countries. Therefore the New Zealand Government has no ability or jurisdiction to engage in protection activities in other countries on behalf of New Zealand outbound tourists, particularly because of the relatively small number of New Zealand travellers who visit any destination. Because protection activities are not engaged in concurrently with education or prevention activities, the health promotion model is rendered ineffective because the underlying theoretical constructs of the model are not being applied. Overall this research shows that few New Zealand tourists are affected by health promotion activities at any stage of their tourism experiences and this thesis argues therefore, that this model is inappropriate for dealing with international tourism health problems.

It is also important however, to recognise that there will always be some tourists who are inadequately informed of health risks, or who engage in inappropriate behaviour or who are unfortunate and are injured or contract diseases while travelling. The health promotion model focuses on the prevention of ill-health and is concerned with strategies to advance, in a positive way, the well-being of individuals and populations. Yet, none of the existing travel health promotion activities are relevant to or can be applied to tourism health problems in the post-travel phase of the tourism process. This therefore raises the question as to whether it is appropriate to apply the health promotion model to tourism health issues if it contains no strategy that can be applied in the post-travel phase of tourism.

8.9 Summary

It has been argued that tourism health issues affect tourism generating countries in two ways. Firstly, tourists who are incapacitated due to health problems acquired while travelling overseas may return home requiring medical attention. Secondly, travellers may bring home infectious diseases, which may then be transmitted to other residents of the tourism generating country. This chapter shows that only 1.29% of all New Zealand outbound tourists require medical treatment when they return from travelling overseas. This percentage appears to be lower than in other countries and this is probably because many New Zealand tourists have had previous travel experience and the majority visit relatively safe destinations.

It is estimated that 12,928 post-travel consultations generated \$491,264 for GPs in the primary medical sector in 1996/1997. It is further estimated that a total of 109,935 GP consultations resulting from outbound tourism (pre-travel and post-travel) were undertaken in the period 1996/1997 and generated a total of \$4,177,530 within the primary health sector in New Zealand.

The health problems most frequently treated by GPs in post-travel consultations include gastro-intestinal problems, accidents and minor infections and illnesses. It is estimated that 312 imported malaria and 113 cases of dengue fever cases were treated by GPs in a twelve-month period of 1996/1997. Outbound tourism does not appear to pose any major health risks to New Zealand as none of the health problems treated by

GPs, apart from Hepatitis A which is already endemic in New Zealand, are contagious.

It is estimated that ACC claims were made by GPs for 3,162 New Zealand residents who were injured as a result of overseas travel with a total cost to ACC of \$1,746,079. The costs of reduced productivity resulting from tourism health problems have not been examined and further research is recommended to examine this issue.

These results question the effectiveness of the travel health promotion activity of education with regard to certain health problems such as travellers' diarrhoea and tourist accidents. Prevention is the health promotion activity primarily undertaken by medical practitioners, yet this research indicates few New Zealand outbound tourists receive appropriate preventive services by GPs. GPs treated a number of cases of malaria and typhoid which are preventable by vaccinations or prophylaxis. Other research shows that it is more cost-effective to prevent malaria with prophylaxis than to treat it afterwards and it would seem that a risk assessment strategy should be developed to increase the number of at-risk tourists who receive preventive services.

Protection is the appropriate health promotion activity for dealing with environmental causes of health problems, yet no government has the jurisdiction to engage in these activities in another country. Because of the small number of New Zealand tourists at any destination, it is unlikely that the New Zealand government could persuade another government to make environmental changes that would improve the health experience of New Zealand outbound tourists. Therefore this activity appears to be ineffective as a strategy for reducing the incidence of health problems experienced by outbound tourists. The international environment of tourism means that the environmental and behavioural causes of tourism health problems cannot be addressed concurrently and therefore the underlying theoretical constructs of the health promotion model cannot be adhered to. Overall therefore, these results show that few outbound New Zealand tourists are exposed to any of the three tourism health promotion activities and none of the strategies in health promotion model can be applied in the post-travel phase. Having looked at the impact of outbound tourism upon GPs and ACC in New Zealand, the next chapter will assess the impact of inbound tourism upon GPs and ACC in New Zealand.

Chapter Nine

The Impact of Inbound Tourism On the Primary Health Sector and ACC in New Zealand

9.1 Introduction

Tourism health problems primarily occur in the travel phase of the tourism experience (Cartwright, 1992; Clark and Clift, 1996; Conway *et al*, 1990; Cossar *et al*, 1990; McEwan and Jackson, 1987). Education and prevention activities are mostly undertaken in the pre-travel phase of tourism, but can also be undertaken in the travel phase (Clift and Page, 1996). The application of these two health promotion activities is often far more difficult during the travel phase because of the transient nature of tourism and because language barriers often exist. Generally therefore, protection is the health promotion activity that is the most relevant in the travel phase. This activity consists of legal controls, regulatory guidelines, policies and voluntary codes of practice. Protection is the responsibility of the host government and focuses on ensuring that the environmental (structural causes) of health problems are minimised.

International tourism takes place across national boundaries and is government initiated and therefore these factors influence the overall effectiveness of protection activities. Stears (1996:222) acknowledges this issue and comments that “an international perspective is central to the development of effective health promotion for travellers”. Critics have questioned the effectiveness of the health promotion model in addressing environmental issues in the wider community (Daykin and Naidoo, 1995; Nettleton and Bunton, 1995; O’Brien, 1995; Parish, 1995) and it is likely that difficulties in addressing environmental issues will be exacerbated in an international environment. One way of examining the effectiveness of health promotion activities in the travel phase of tourism is to identify the tourist health problems that arise in New Zealand and assess the likely effectiveness of health promotion activities on these health problems. GPs are the health professionals most likely to deal with tourism health problems that occur at a destination. Accordingly, this chapter addresses the following research questions:

What is the impact of inbound tourism on GPs and the ACC in New Zealand?
 How effective are travel health promotion activities in reducing the incidence of tourist health problems in New Zealand?

Inbound tourism is regarded as a high growth industry of major economic importance to New Zealand with some 1,551,341 overseas tourists arriving in 1997 (Statistics New Zealand, 1998) and contributing approximately NZ\$4.2 billion to the economy (Dey, 1998). Although inbound tourism grew quickly in New Zealand until 1996, this growth rate has decreased since 1997 (Boland, 1998). One of the main reasons for this unexpected and dramatic decline has been the economic difficulties of Asian countries. In 1997, visitors from South Korea, Indonesia, Thailand and Malaysia together equalled 11% of all visitors, but this number is expected to fall by 75% in 1998 (Dey, 1998). There has also been a decline in the growth rate of tourists to New Zealand from other countries such as Japan and Germany (Bloland, 1997). Overall visitors numbers are predicted to fall to 1.353 million in 1998 but rise to 1.391 million in 1999.

New Zealand can do little to influence global issues which affect the growth of inbound tourism, (for example, the economic stability of key tourism generating countries), but it is argued that control can be exercised over factors that affect the perception of New Zealand as a destination and thus its overall competitiveness. Health and safety issues have been cited as one such factor that can limit the development and growth of tourism (Wilks and Oldenburg, 1995; Hobson and Dietrich, 1994; Petty, 1989). Overseas research shows that the media is particularly interested in health and safety issues affecting travellers such as tourist accidents, hygiene or travel related illnesses (Cossar *et al*, 1990; Grabowski and Chatterjee, 1997; Harvey, 1994;) and those involving crime against tourists (Ryan, 1993). Any negative media coverage is likely to adversely affect the perception of a destination and thus reduce the level of business (Grabowski and Chatterjee, 1997).

It has been argued that tourists who have negative experiences will tell their friends about that experience and as word of mouth referrals are one of the main sources of decision-making (Sweeney and Associates, 1991), new and repeat business can be substantially affected (Wilks and Oldenburg, 1995). A report by the Ministry of

Commerce (1996:2) expressed concern that “accidents attract negative publicity that can ultimately reduce demand, not only for adventure activities, but also for associated revenue dependent service sectors (hospitality, retail airlines etc)”. It is widely acknowledged that little research has been undertaken into the use of medical facilities by tourists in developed nations (Wilks and Grenfell, 1997) and Steffen (1997) comments that “very few researchers have investigated the risks of journeys within industrialised nations”. No research has been undertaken in New Zealand to examine the extent to which health and safety issues affect tourists visiting this country or the subsequent impact of these issues upon either the medical sector or upon the Accident Rehabilitation and Insurance Corporation (ACC). Thus the survey of GPs conducted in 1997 also sought to estimate how many tourists required medical attention while in New Zealand and how many ACC claims were made for them. It is recognised that this attempt to derive an estimate of the overall number of tourists treated by GP's provides at best, an estimate of the order of magnitude. Again, as in the previous two chapters of this thesis, the assumption is made that the non-respondents to this survey would have the same characteristics as respondents and further research is recommended to examine whether this assumption is indeed accurate.

9.2 The Number of Overseas Tourists treated by GPs in New Zealand

GPs were asked to estimate how many overseas tourists they had treated in the previous twelve months (Table 9.1). Some 85.99% of respondents indicated that they had treated overseas tourists during the previous twelve months, 11.46% had not treated any tourists, while 2.55% indicated that they didn't know whether or not they had. The number treated by individual GPs ranged from zero for forty-seven respondents to 2,000 tourist consultations for one respondent in Central Otago. Some 62.42% of all respondents treated twelve or less tourists in the previous twelve months while in contrast, three respondents treated 500, 750 and 2,000 respectively.

A GP is regarded as a full-time equivalent if his/her annual workload exceeds 4,000 consultations per year, with the overall mean workload equalling 6,995 consultations per year (Malcolm, 1993). Thus inbound tourism has a significant impact on three respondents who treat a high number of tourists, while for the majority of GPs who

treat only one or two tourists per month, inbound tourism has no real impact on their practices. A total of 6,840 overseas tourists were seen by respondents in the previous twelve months and Table 9.1 shows the number, percentage, mean and standard deviation for respondents in each region.

Table 9. 1 Overseas tourists treated by GPs in past twelve months.

Region	Number treated by respondents	Percentage	Mean	Standard deviation	Total number for region
Otago	2,551	37.29	236.0	938.4	10,361
Auckland	2,021	29.55	16.66	69.4	14,194
Christchurch	1,471	21.51	26.53	71.7	9,179
Bay of Plenty	317	4.63	10.23	9.6	1,994
Wellington	246	3.60	7.00	10.2	1,686
Waikato	234	3.42	8.20	9.9	1,421
Total	6,840	100.00	22.12	125.17	38,835
New Zealand					50,272

The largest number of tourists were treated in Otago (2,551), followed by Auckland (2,021), Christchurch (1,471), Bay of Plenty (317), Wellington (246) and Waikato (234). The total number of overseas tourists seeking medical advice from GPs in each region can be calculated by multiplying the regional mean by the total number of GPs in each region. This equals 14,194 for Auckland, 1,686 for Wellington, 9179 for Christchurch, 1,421 for Waikato, 1,994 for Bay of Plenty and 10,361 for Otago and totals 38,835 for the six regions combined (Table 9.1).

The overall mean for all respondents is 22.12, but it would be inappropriate to use this figure to derive the total number of tourists visiting GPs throughout New Zealand because nearly all tourists visit more than one region and visitor flows are not uniform throughout all regions. The number of tourist bed-nights spent in each region is is a measure of tourist numbers in each region, and in 1996 a total of 77.25% of all tourist bed-nights were spent in the six regions surveyed. Consequently, in order to more accurately calculate the total number of tourist consultations nation-wide, the estimated total for the six regions combined (38,835) should be divided by 77.25 and then multiplied by 100. As a result, it is estimated that the total number of overseas tourists treated by GPs equals 50,272. In 1996, 1,551,341 overseas tourists arrived in

New Zealand (Statistics New Zealand, 1996) and thus 50,272 tourist consultations equals 3.24% of all overseas visitors. Research in Australia indicates that many visitors using the services of hospitals used the local address or Medicare cards belonging to Australian friends and relatives with the result that the number of tourists using hospital facilities may be much higher than is currently being detected (Wilks *et al*, 1995). It is likely that this practice may also occur in New Zealand with regard to both hospital and GP services and thus the figures generated from this survey must be recognised as an estimate until further research can be undertaken. Again, in generating this figure, this research recognises the limitations associated with this analysis and recommends that further research be undertaken to generate a more robust figure.

Concern has been expressed that increased tourism would require an enlarged health infrastructure to support tourism's development (Alleyne, 1990; Wilks *et al*, 1995). The Industry Commission of Australia (1991) reported that an increased patient load was placed on Australian services by overseas visitors. The Commonwealth Department of Tourism in Australia anticipates that additional pressures will be placed on the capacity of Australian health and safety services to meet the needs of overseas visitors (Wilks *et al*, 1995). In contrast therefore, the results of this survey indicate that the number of overseas tourists seeking primary medical attention in New Zealand is not high. The total number equals the full time workload of approximately seven GPs (Malcolm, 1993) and it would seem therefore that the present medical infrastructure is more than sufficient to meet demand. Further capacity is unlikely to be needed for some time, particularly if overseas tourist numbers do not increase significantly.

9.3 Regional differences in the number of overseas tourists seen by GPs

Table 9.1 shows that Bay of Plenty had the highest percentage of doctors treating overseas patients (96.77%), followed by Waikato (89.29%), Christchurch (88.24%), Auckland (86.51%), Otago (78.12%) and Wellington (73.68%). Respondents in three regions, Otago, Auckland and Christchurch treated 88.35% of all tourists while respondents in the remaining regions of Bay of Plenty, Waikato and Wellington together treated only 11.65% of all overseas tourists. The mean number of overseas

tourists treated by GPs differed between the regions with the mean for Otago (70.7) being significantly higher than for the other regions. Christchurch had the second highest mean (26.53) followed by Auckland (26.53). One reason that could explain these differences is length of stay. However, Tourism New Zealand data (1996) indicates Wellington has a longer average length of stay (5.40 nights) than Christchurch (5.34 nights), yet the number of GP tourist consultations in Christchurch is substantially higher than in Wellington. Otago, which has the highest mean for tourist consultations by GPs, has a shorter average length of stay (5.59 nights) than Auckland (7.35 nights) and Christchurch (5.34 nights). Thus the difference in the means is therefore unlikely to be caused by different activities being undertaken in the regions.

Adventure tourism activities are concentrated in the Otago region, particularly in and around Queenstown, and it is the respondents in Queenstown in this survey who treat the highest number of tourists. ACC data (ACC, 1997) shows that entitlement claims involving overseas visitors in sport and recreation activities are over-represented in the Otago region (Table 9.6). This suggests that the activities being undertaken may be a significant factor affecting the health and safety of tourists.

The regions of Otago, Christchurch and Auckland all had large standard deviations, which indicates that there is a wide variation within these regions concerning the number of patients treated by respondents (Table 9.1). This suggests that most tourists do not travel through all parts of these regions, but tend to remain in the 'central tourist district' (Burtenshaw, Batemen and Ashworth, 1991) where they undertake activities and use services. In contrast, the smaller standard deviations for Wellington, Waikato and Bay of Plenty suggest that tourists are more dispersed throughout these regions and these regions do not have such a clearly defined central tourist district.

Some 71.85% of GPs in Otago and over half of the GPs in both Auckland (57.73%) and Christchurch (58.17%) treated less than one tourist per month, while fourteen respondents within these three regions (4.77% of all respondents) treated 66.84% of all tourists treated by respondents. An analysis of the geographical location of these fourteen respondents, showed that nearly 1,000 tourists were treated in three practices

located in the central city region of Auckland. A further 75 patients were treated at one practice located in Helensville, which is located alongside a tourist parachuting operation. In the Otago region, the tourists were nearly all treated in Central Otago with GPs from two practices in Queenstown treating 85% of all patients while a third GP, who treated 200 patients, was located in Wanaka. In Christchurch, two respondents in Darfield and Methven, located alongside the Mt Hutt ski-field each treated more than 50 tourists, as did three respondents in the centre of Christchurch. These results confirm that the majority of tourists use the medical services located within the central tourist districts of each region.

9.4 Overseas Tourists' Health Problems Treated by GPs

GPs were asked to indicate the health problems they had treated overseas tourists for and 85.03% of respondents identified at least one problem (Table 9.2). Respondents could identify more than one problem and were not asked to give exact figures. Therefore these results provide an overview rather than a definitive list of health problems experienced by overseas tourists and the total does not equal 100%.

The health problems most frequently treated were relatively minor in nature and include minor illnesses (36.63%), respiratory tract infections (34.08%), flu/colds (15.92%) and gastro-intestinal problems (9.87%). Handszuh (1991) suggested that travellers' health problems are not left at home, but remain present and may even deteriorate during travel and thus it was interesting to note that 8.60% of GPs reported treating pre-existing medical problems while 5.73% treated heart problems.

It can be seen from the health problems identified by GPs that New Zealand has no major public health problems (such as malaria, dengue fever or hepatitis A) that are likely to affect the growth of inbound tourism. Although it is widely accepted that New Zealand is unlikely to ever become malarious (Boyd and Weinstein, 1996), concern has been expressed that due to the increased volume and speed of transport, mosquito species which act as vectors of the Ross River virus, Barmah Forest virus and dengue fever will eventually be introduced into New Zealand (Weinstein, 1994;

Weinstein, Laird and Calder, 1995)¹³. Further recommendations have been made to the Ministry of Health that between \$1-2 million be spent so that an exotic mosquito (and arbovirus) contingency plan should be developed (Kay, 1997).

Table 9. 2 GPs estimate of Overseas Tourists Health Problems Treated

Health problems treated by GPs	Number of GPs	% of total
Minor illnesses	115	36.63
Respiratory tract infections	107	34.08
Minor injuries	77	24.52
Flu/colds	50	15.92
Gastro-intestinal problems	31	9.87
Pre-existing medical conditions	27	8.60
Heart problems	26	5.73
Fractures	18	5.73
Skin conditions/allergies/insect bites	17	5.41
Ski injuries	17	5.41
Back injuries	17	5.41
Lacerations	16	5.10
Renewal of medication	15	4.78
Urinary tract infections	10	3.18
Ear problems	9	2.87
Major surgery referral	8	2.55
Sporting injuries	6	1.91
Abortion	6	1.91
Gynaecological problems	5	1.59
Diabetes	4	1.27
Parasitic diseases	3	0.96
Contraception	3	0.96
Headaches	2	0.64
Referrals from overseas doctors	2	0.64
Allergies	2	0.64
Cancer	2	0.64
Malaria	1	0.32
Campylobacter	1	0.32
Sexually transmitted diseases	1	0.32

¹³ Discovery of the mosquitoes carrying the Ross River Virus has occurred in Napier since the completion of this thesis (Howard, 1999).

It has been suggested that New Zealand's clean green image could be destroyed by the contamination of rivers by giardia (Patterson, 1997), yet no respondents indicated that they had treated tourists for this health problem. In 1997, a total of 2057 cases of giardia were reported to the Ministry of Health in New Zealand with an infection rate of 56.9 per 100,000 of the population and it is estimated that 22% of New Zealand's waterways are infected with the parasite (Massey University, 1998). However, no GPs in this survey indicated that they had treated overseas tourists for giardia, thus suggesting that those overseas tourists who travel into the backcountry of New Zealand where giardia is endemic are aware of the problem and take appropriate precautions.

Nearly half of all respondents (48%) listed various types of injuries they had treated overseas tourists for, including minor injuries (24.52%), fractures (5.73%), ski injuries (5.41%), back injuries (5.41%), lacerations (5.10%), and sporting injuries (1.19%). Wilks and Artherton (1994:3) argue that "the novelty of new activities, unfamiliarity with equipment, and carelessness can all contribute to injuries". Dawood (1993:281) also argues that "travellers need to be reminded that accidents represent the most significant hazard". In recent years New Zealand has marketed itself as a destination offering outdoors and adventure tourist activities, with Queenstown being the focus of much of this type of tourist activity. There has been a proliferation of activity and attraction products available to overseas tourists in the past five years with the activities listed in the New Zealand Tourism Board's 1996 International Visitor Survey (IVS) increasing by 57% since 1993. However, the most recent IVS shows that in spite of this marketing focus and the perception of New Zealand as a destination for adventure activities, no more than 10% of visitors experience any adventure activity. The most popular activities are shopping, historic/cultural experiences, rural experiences, scenic experiences and gentle outdoor experiences (NZTB, 1997). Further research is needed to establish whether tourist accidents occur while undertaking adventure tourism activities. If adventure tourism activities are the prime cause of tourist accidents, then New Zealand can be regarded as a safe destination for 90% of overseas tourists.

It has been argued that any international media focus on major tourist fatalities or accidents can negatively impact upon the tourism industry of any destination (Cossar

et al, 1990; Grabowski and Chatterjee, 1997; Harvey, 1994; Page and Meyer, 1997). However, Grabowski and Chatterjee (1997) have shown that the impact of media reports concerning the Indian plague scare of 1994 was short-term in nature and primarily affected business tourism rather than holiday or VFR tourism. In 1996, concern was expressed by the Ministry of Commerce that New Zealand's tourism industry might be negatively affected as a result of media attention focused on a number of fatalities and serious accidents involving tourists in the past ten years (Ministry of Commerce, 1996). Since 1989, there have been thirty overseas tourist fatalities as a result of scenic flight accidents and in 1994-1995 several well-publicised accidents to tourists occurred while undertaking white water rafting, jet-boating, kayaking and ballooning activities. The rafting fatalities resulted in a drop of \$2 million to the \$5 million a year rafting industry and patronage of scenic flights in Fiordland in 1996 were still below the pre-crash figures of 1989 (Greenaway, 1996). Seventeen overseas tourists were killed while either mountaineering or tramping between 1991 and 1993, but it should be noted that only one of these was being guided while the others were acting independently (New Zealand Mountain Safety Council, 1996). Twenty foreign drivers were involved in fatal car accidents between 1994 and 1996 while another 499 were involved in non-fatal accidents (Hindmarsh, 1996). As a result of all these accidents, the Adventure Tourism Council of New Zealand established a voluntary code of safety that is now in operation. In addition, the white-water rafting industry has also established a voluntary code of practice and the scenic flight industry implemented a quality management system to improve safety standards. These strategies appear to be making a difference to the number of tourist fatalities that occur. Overall, the results of this survey suggest that only a small percentage of the injuries suffered by overseas tourists in New Zealand were severe.

9.5.1 The Economic Impact of Inbound Tourism upon GPs.

Using \$38 per consultation as the standard fee for a GP visit, it can be estimated that inbound tourism injected \$1,910,336 into the gross earnings of GPs throughout New Zealand in the previous twelve months (Table 9.3). However, as has already been indicated, most of the earnings by GPs from inbound tourism will be concentrated in a

small number of practices in spatially defined areas within the regions of Auckland, Christchurch and Otago.

Table 9. 3 Estimated earnings for GPs from inbound tourism in previous twelve months

Region	Average income per GP	Income per region
Auckland	\$633.06	\$53,937.20
Wellington	\$228.00	\$64,068
Christchurch	\$1,008.09	\$348,802
Waikato	\$317.63	\$53,998
Bay of Plenty	\$388.57	\$75,772
Otago	\$3,028.60	\$393,718
Total for 6 regions	\$933.99	\$1,475,730
New Zealand		\$1,910,336

9.5.2 The Economic Impact on GPs from All Tourism Activities in New Zealand

The total number of GP consultations generated by all tourism activities (inbound and outbound) equals 160,207 consultations (Table 9.4). This is equivalent to the full-time average workload of 22.9 GPs, which equals 2.15% of all GPs in New Zealand. It can be argued therefore, that the impact of all tourism activities on the primary medical sector is not large and, given the current over-supply of GPs in some regions, it is unlikely that tourism activities will place any increased demand upon the primary medical resources of New Zealand in the immediate future.

Table 9. 4 Total number of GP consultations and earnings from all tourism activities

Tourism Activities	Number of Consultations	Earnings
Outbound - Pre travel	97,007	\$3,686,266
Post-travel	12,928	\$491,264
<i>Total Outbound</i>	109,935	\$4,177,530
<i>Total Inbound</i>	50,272	\$1,910,336
Total	160,207	\$6,087,866

The total earnings for GPs resulting from all tourism activities in New Zealand (inbound and outbound) totals \$6,087,866 (Table 9.4). It is important to note that more than twice as many New Zealand residents consult GPs for tourism reasons, than do overseas tourists visiting New Zealand. Consequently it seems that in developed countries such as New Zealand, the impact of outbound tourism on the primary medical sector is likely to be higher than that resulting from inbound tourism.

The total number of GP consultations undertaken as a result of all tourism activities in New Zealand (160,207) equals the equivalent full-time workload of 22.9 GPs. There are 2,728 registered GPs in New Zealand and thus the workload generated by tourism equals less than 1% (0.8%) of the total equivalent workload of all GPs in New Zealand. It has been argued that tourism places demands on the medical services of a country (Wilks and Oldenburg, 1995), but this survey indicates that these demands are not significant in New Zealand. These results indicate that no expansion of the primary medical sector is likely to be needed as a result of tourism.

9.6 The Impact of Inbound Tourism on ACC

Some 121 respondents (38.54%) made a total of 5,337 claims for overseas tourists in the previous twelve months. Table 9.5 shows the number of ACC claims for tourists made by respondents as well as the means and standard deviations for each region. The percentage of all ACC claims made by respondents in each region in this survey is also shown in Table 9.5.

Table 9. 5 ACC claims made by GPs for overseas tourists

Region	Number of ACC claims	% of all claims made by respondents	Mean	Standard Deviation	Estimated total number of ACC claims for region
Auckland	266	9.38	2.094	5.315	1,784
Wellington	87	3.07	2.122	7.913	596
Christchurch	592	20.87	10.764	45.523	3,724
Waikato	43	1.51	1.536	3.901	261
Bay of Plenty	71	2.50	2.290	3.875	447
Otago	1,778	62.67	54.00	265.40	7,020
Total	2,837	100.00	8.90	87.03	13,832
New Zealand					17,905

The total number of ACC claims made by respondents in each of the six regions can be estimated using the mean for each region (Table 9.5) but this mean cannot be used to estimate the total number of ACC claims made by GPs for overseas tourists in all New Zealand. This must be calculated using the percentage of bed-nights spent in these six regions (77.25%) as is described in Chapter 9.2. Therefore it is estimated that 17,905 claims were made by GPs in New Zealand for overseas tourists in 1996/1997 which equals 1.15% of all overseas tourists (1,511,341). However, because the ACC scheme is unique in New Zealand, it is impossible to compare this rate with that at any other destination. These 17,905 claims made for overseas tourists in 1995/1996 represent only 1.23% of the total number of claims (1,452,580) made to ACC in that period (ACC, 1997) which shows that number of overseas tourist claims is insignificant compared to the claims made by the resident New Zealand population.

ACC keeps records of the number of entitlement claims granted to overseas visitors, but does not keep records of the number of minor claims made by overseas tourists. In 1995/1996, some 386 new entitlement claims were made for overseas tourists. The ratio of minor claims to entitlement claims for New Zealand residents is 90:10 but the results of this survey suggest that this ratio does not apply to overseas visitors in New Zealand. The 386 entitlement claims reported by ACC equal only 2.15% of the total number of claims estimated in this survey (17,905) and therefore minor claims must account for 97.85% of all claims involving overseas tourists.

Page and Meyer (1997) have estimated that the entitlement claim rate for overseas visitors is 5.0 claims per thousand people, well below the entitlement claim rate of 23.465 claims per 1,000 people for total non-work injuries. Using the responses of this survey, it is estimated that the overall claim rate for both minor and entitlement claims together is 11.5 per one thousand tourists¹⁴. In order to compare that rate with the rate of New Zealand residents, Page and Meyer (1997) indicate that the number of claims must be multiplied by a factor of 19.21 to allow for the length of stay of tourists. The overall overseas claim rate for all claims (both minor and entitlement) is calculated to be 22.4 per 1,000 tourists which is substantially lower than the overall

¹⁴ This is calculated by dividing the estimated number of claims 17,905 by the total number of overseas visitors (1,555,341).

claim rate of 39.68 per 1,000 population¹⁵. Therefore the results of this survey suggest that contrary to the media perception that New Zealand is a dangerous destination to visit, only a small percentage of tourists are injured during their stay.

9.7 Spatial Distribution of ACC Claims Made by Overseas Tourists

Very strong regional differences occur in the spatial distribution of ACC claims made for overseas tourists in this survey. Some 62.67% of all ACC claims were made by respondents in Otago, followed by respondents from Christchurch who made 20.80% of the claims, and by respondents from Auckland who made 9.38% of the claims. Other ACC data (ACC, 1997) shows the location of accidents for overseas entitlement claims in 1995/1996 (Table 9.6). Some 27.46% of these were in Otago, 12.69% were in Auckland, 9.85% were in Waikato and 9.59% were in Canterbury.

Table 9. 6 Scene of accident for overseas entitlement claims in 1995/1996.

Location	Number	%
Auckland	49	12.69
Bay of Plenty	34	8.80
Canterbury	37	9.59
Gisborne	1	0.26
Hawkes Bay	4	1.04
Manawatu/Wanganui	6	1.55
Nelson/Marlborough	16	4.15
Northland	24	6.22
Otago	106	27.46
Other	6	1.55
Southland	18	4.67
Taranaki	5	1.30
Waikato	38	9.85
Wellington	17	4.40
West Coast	25	6.47
Total	386	100.00

(Source: Head Office: *Accident Rehabilitation and Compensation Insurance Corporation*, 1997).

¹⁵ This is calculated by dividing the total number of claims in 1996 (1,452,580) by the estimated

9.8 The Cost of ACC Claims for Overseas Tourists

In order to calculate the cost of ACC claims, it is necessary to use published ACC data in order to estimate the average cost of all minor claims. In 1995/1996 a total of 1,452,580 claims were made to ACC, of which 138,611 were entitlement claims and 1,313,969 were minor claims. A total of \$1,597,110,000 was paid out for all claims and \$1,137,017,000 of this was paid out for new and existing entitlement claims. Therefore, it is estimated that \$460,093,000 was paid out for minor claims which averages out at \$350.15 per minor claim. Estimates of government expenditure incurred on average for each GP in 1992-1993 indicate that the average cost of ACC per GP consultation is \$19.5 (Malcolm, 1993). However this figure refers to the total number of GP consultations rather than to the number of GP claims for ACC.

The cost for minor ACC claims for overseas tourists is likely to be lower than the overall average cost of ACC minor claims (\$350.15). In Chapter 8.6.2, it has been estimated that 75% of tourist claims cost \$100 or less. Therefore, this means 13,428 claims would cost a total of \$1,342,875, while the remaining 25% of minor claims (4,091) costing \$350.15 each would equal \$1,432,463. It is therefore estimated that minor claims for overseas tourists total \$2,775,338 (Table 9.8).

Table 9.7 Number and cost of overseas tourist claims from ACC.

ACC Claims by overseas tourists	Number	Average cost per claim	Total Cost
Minor (75%)	13,428	\$100.00	\$1,342,875
Minor (25%)	4,091	\$350.15	\$1,432,463
Entitlement (new)	386	\$1,002.44	\$316,944
Entitlement (existing)		\$6,094.02	\$652,060
Total Inbound	17,905		\$3,744,342

The average cost for all entitlement claims in 1996 (both those registered in 1995/1996 and earlier) was \$4,235.91 (ACC, 1997). Payments for the 386 new entitlement claims equal \$316,944 (ACC, 1997) and in addition, payments totalling \$652,060 were paid in 1995/1996 to overseas visitors for entitlement claims registered

population of New Zealand (3,660,364) in 1996 (Source: Statistics New Zealand).

in previous years. It is interesting to note however, that the average cost of the new claims made in 1996 was \$1,002.44, a significant drop from the average cost of claims registered in earlier years of \$6,094.02. Overall however, the total payment made in 1996 to overseas tourists for all entitlement claims, both new and existing, equals \$969,004 (Table 9.8).

The total amount paid out for all ACC claims (both minor and entitlement) involving overseas visitors in the previous twelve-month period is calculated to total \$3,744,342 (Table 9.8) and equals 0.23% of the total amount paid out by ACC for all claims (\$1,597,110,000) in 1996. It is worth noting that although the cost of all ACC claims for overseas tourists is not significant, the total cost of ongoing tourism entitlement claims is greater than the cost of ongoing claims incurred in thirty-eight sports in New Zealand. The cost of overseas entitlement claims is exceeded by ten sporting codes (basketball, boating, fishing, gymnastics, horse riding, netball, outdoor cricket, rugby, rugby league, skateboarding, skiing, soccer, softball/baseball, squash, swimming) (ACC, 1997).

9.9 The Total Cost of All ACC Claims Resulting From Inbound and Outbound Tourism in New Zealand

It is estimated that ACC claims were made for 17,905 overseas tourists in the twelve-month period prior to June 1997. The cost of entitlement claims for overseas tourists equals \$969,004 while minor claims cost a total of \$2,775,338. Together, all overseas tourist claims for the twelve-month period prior to June 1997 amount to \$3,744,342. In the same period of time, it is estimated that ACC claims were made for 3,162 New Zealand residents injured while travelling overseas with entitlement claims costing \$1,746,079 and minor claims costing \$403,296 (Table 8.6). Altogether, the cost to ACC for New Zealand residents injured overseas totals \$1,746,079. It is therefore estimated that a total of 21,067 ACC claims were made as a result of all tourism activities (inbound and outbound) in the twelve-month period prior to June 1996 and altogether cost ACC \$5,490,421 (Table 9.8). This equals 0.34% of the total amount paid out by ACC for all claims (\$1,597,110,000) in 1996. Therefore this thesis argues that the economic impact of all tourism activities on the ACC is minimal.

Table 9. 8 The total number and cost of all ACC claims resulting from all tourism activities

Claims	Number	Cost per claim	Total Cost
Outbound Minor (75%)	2,371.5	\$100.00	\$237,150
Minor (25%)	474.5	\$350.15	\$166,146
Outbound Entitlement	317	\$4,235.91	\$1,342,783
<i>Total Outbound</i>	<i>3,162</i>		<i>\$1,746,079</i>
Inbound Minor (75%)	13,428	\$100.00	\$1,342,875
Minor (25%)	4,091	\$350.15	\$1,432,463
<i>Total Inbound</i>	<i>17,905</i>		<i>\$3,744,342</i>
Total	21,067		\$5,490,421

9.10 Referrals to Other Health Professionals (eg. Physiotherapists, Specialists, Radiologists)

GPs were asked how many overseas tourists they had referred to other health professionals such as physiotherapists, radiologists and medical specialists. Some 35.35% of the respondents had referred 985 tourists to other health professionals (Table 9.9). Using the number of bed-nights spent in a region, as outlined in Chapter 9.2, it is estimated that 1,275 overseas tourists were referred to specialists for further treatment while in New Zealand in 1996/1997.

Table 9. 9 Referrals of tourists by GPs to other health professionals.

Region	Number	% of all referrals	Mean	Standard deviation	Total for region
Auckland	127	12.89	0.94	2.28	852
Wellington	34	3.45	1.05	2.04	233
Christchurch	237	24.06	4.31	15.50	1,491
Waikato	20	2.03	0.70	1.90	121
Bay of Plenty	31	3.15	1.00	2.03	195
Otago	536	54.42	16.75	71.66	2,171
Total for 6 regions	985	100.00%	3.14	23.71	5,063
New Zealand					46,250

Differences in the mean number of referrals between the regions also occurs. Otago has a mean of 16.75 compared to 4.31 for Christchurch, 1.00 for Bay of Plenty, 0.94 for Auckland, 0.83 for Wellington and 0.71 for Waikato (Table 9.9). This indicates that GPs in Otago and Christchurch deal with more serious medical cases that require further specialist attention, again suggesting that it may be activities being undertaken in these regions that are causing serious health hazards for tourists. The standard deviations for Otago (71.66) and Christchurch (15.50) confirm that it is a small number of GPs in these regions that are dealing with the more serious medical cases.

ACC figures show that for every GP visit paid for by the service there are 1.43 referrals to other medical services (ACC, 1997), whereas this research indicates that the ratio of tourist referrals was lower at 0.92 referrals per tourist consultation. This lower rate suggests that the majority of tourist injuries are relatively minor in nature.

9.11 Implications for Travel Health Promotion

This chapter focuses on the tourism health issues that arise in New Zealand in its role as a destination. Stears (1996) identifies seven 'domains' of travel health promotion activities of which four fall within the sphere of health protection. It is these domains which need to be examined when attempting to identify whether the tourism health promotion model can be applied at a destination. These domains include:

1. *Preventive health protection* is associated with controls such as legal controls, regulatory guidelines, policies and voluntary codes of practice, all of which make healthy choices easier.
2. *Health education for preventive protection* highlights activities that stimulate a social environment conducive to the success of preventive health protection. This domain focuses on the education of the policy makers.
3. *Positive health protection* is the deliberate application of 'healthy public policy' to the prevention of ill-health and disease.
4. *Health education aimed at positive health protection* involves raising public awareness and support for positive health protection measures, particularly among policy-makers.

Many preventive health protection controls have been implemented in New Zealand ranging from building regulations for the accommodation sector, to the licensing of

taxi drivers and tour coach drivers, to health regulations for restaurants. New Zealand currently has no major public health risks (such as dengue fever or malaria) that require action, but tourist accidents have been highlighted as an area of concern that may need further preventive health protection controls. However, since this survey was undertaken, a number of controls have been implemented including voluntary codes of practice that apply to the New Zealand River Guides Association, the Sea Kayak Operators Association, the NZ Hunting Guides Association and the NZ Professional Fishing Guides Association. A recent Ministry of Commerce report on safety management in the adventure tourism industry further explores strategies for managing safety within the adventure tourism industry (Ministry of Commerce, 1996). It is important however, to recognise that travel health protection in New Zealand appears to be undertaken primarily for commercial and competitive reasons. The Ministry of (1996:1) report referred to above begins by noting that:

...well publicised accidents to tourists occurred ...there was a drop in patronage following various accidents. ... it is the view of some in the industry that patronage may not return to the long-run growth trend line ... the tourism industry as a whole could potentially be affected.

This underlying premise is again emphasised later in the document with the statement:

A concern within the tourism industry is that accidents attract negative publicity that can ultimately reduce demand, not only for adventure activities but also for associated revenue dependent services sectors (hospitality, retail, airlines etc.) (Ministry of Commerce, 1996:2).

Downie *et al*, 1996:60) comment that 'the cardinal principle of health promotion is empowerment'. However, although New Zealand is actively involved in preventive health protection, the underlying motive appears to be to ensure the tourism industry does not suffer rather than to contribute to the process of empowering tourists.

Health education for preventive protection involves educating the policy makers to establish policy that is conducive to preventive protection. In Tannahill's model of health promotion this activity relates to the lobbying of policy makers to ensure

preventive health protection controls are set in place, for example the passing of legislation to make the use of car seat belts or cycle helmets mandatory (Tannahill, 1985). Stears (1996) suggests that undertaking documentaries to highlight tourism health issues such as holiday accidents are examples of this activity. It has already been suggested in this thesis that preventive health protection is undertaken primarily for commercial reasons. An example of this reluctance by policy makers to act on behalf of tourists is seen in an unwillingness to allocate \$100,000 for extra 'Keep Left' signs to be placed at strategic places around the country in order to reduce the number of accidents involving tourists who have strayed to the wrong side of the road (Hindmarsh, 1996). The primary reason that calls were made for these signs to be put in place, was to protect New Zealand residents rather than the tourists. Tourism is a transitory activity and tourists have little political influence. Although it is argued that accidents and health problem may reduce the number of tourists who subsequently visit a destination, it is unlikely that in the current environment, this preventive health protection is likely to be applied to tourism health in New Zealand.

Positive health protection is very similar to preventive health protection, but focuses on actions initiated by government to promote positive health rather than actions that prevent negative health. An example of this is the use of public funds in Spain where resorts have been developed for elderly people to promote the positive health of this age group (Stears, 1996). Given that policy makers are unwilling to commit funds which may help reduce the number of overseas car accidents, (i.e. preventive health protection), it is highly unlikely that this activity will ever be undertaken as a travel health promotion activity for overseas visitors to New Zealand.

The final of the four domains is health education aimed at encouraging policy makers to engage in positive health protection. This domain suggests that policy-makers should be lobbied in order to encourage them to engage in positive health protection. This domain is thus also unlikely to be applied in New Zealand because of the lack of political power and advocacy that overseas tourists have at any destination.

Overall, protection is designed to protect people against health problems that arise from the environment. It would seem that although protection is a relevant activity for dealing with public health problems within the confines of a single country, its use

and application to travel health issues is limited. This activity relates to rules and regulations within a country and thus will only be implemented where there is government involvement. The tourism industry operates outside national boundaries and therefore governments of outbound tourists cannot enact regulations to protect their own citizens in another country. Thus when dealing with tourism health issues, this activity cannot be accorded equal importance with education or prevention in any descriptive model because its application is difficult to ensure. This thesis argues that the health promotion model is prescriptive rather than descriptive and is inappropriate as a strategy for addressing tourism health problems that arise in New Zealand as a destination.

9.12 Summary

Approximately 50,000 overseas tourists were treated by GPs in New Zealand over a twelve-month period in 1996/1997. This equals 3.24% of all overseas tourists which appears to be a lower percentage than in other destinations thus indicating that New Zealand is a safe destination to visit. However, the methodology used in this survey is different from that used in other surveys and further research is recommended. The total number of overseas tourists treated by GPs in New Zealand equals the full-time equivalent work-load of seven GPs and therefore New Zealand's current primary health sector is adequate to deal with tourism health problems that arise.

The highest number of tourists were treated in Otago, Auckland and Christchurch with a small number of GPs in these regions treating nearly 90% of all the overseas tourists treated. This suggests that the activities being undertaken by tourists in these regions may be the cause of many tourist health problems. None of the overseas tourists' health problems treated by GPs can be regarded as public health problems with the majority of ailments being minor in nature. A small percentage of GPs treated patients for pre-existing medical problems (8.5%) and heart problems (5.8%) thus confirming that tourists 'take their medical problems with them'. Approximately half of the GPs reported that they treated tourists for injuries with half of these indicating that the injuries were minor. Further research is recommended to establish whether tourist injuries are the result of participation in adventure tourism activities or whether some other significant factor exists.

The earnings for GPs from inbound tourism total nearly \$2 million but the majority of these earnings go to a small number of GPs located in the 'central tourist districts' of Otago, Christchurch and Auckland.

The total number of ACC claims for overseas tourists is approximately 5,337 with 97% of these being minor claims. Entitlement claims cost ACC \$969,004 and minor claims are estimated to cost \$2,775,338, and it is estimated that altogether, ACC tourist claims cost \$3,744,342 in 1995/1996. The tourist claim rate was 22.4 per 1,000 tourists which is significantly lower than the rate for all claims (39.58). The cost of all tourist claims equals only 0.23% of the total amount paid out by ACC for all claims in 1996. Nearly two thirds of all claims were made by GPs in Otago and one third by GPs in Christchurch suggesting that the activities undertaken by tourists are the key cause of accidents. In the previous twelve months, approximately one third of GPs (35.35%) referred overseas tourists to other health professionals such as physiotherapists, radiologists and other specialists with the total number in New Zealand estimated to be nearly 1,000.

An analysis of the health promotion model shows that protection is the activity most relevant to tourist destinations. Of the four domains that fit within this sphere, only one of these, preventive health protection, is engaged in by New Zealand in its role as a destination. It would seem that ensuring New Zealand's competitiveness and protection New Zealand residents are the underlying motives for health protection activities rather than seeking to empower tourists. Having examined the impact of tourism health issues on GPs and ACC, it is now pertinent to examine the impact of tourism issues in New Zealand on the tourists themselves. The next chapter will present the findings of the survey of tourists undertaken in Fiji in 1996.

PART FOUR

Chapter Ten

New Zealand Tourists' Overseas Health Experiences Results of the Survey of Tourists in Fiji

10.1 Introduction

The previous chapter identified some of the health problems experienced by overseas tourists treated by GPs in New Zealand during the travel phase of the tourism process. Education has been identified as the most important activity for reducing the incidence of tourism health problems (Cossar, 1997), yet other research, undertaken regarding the effectiveness of health education in reducing the incidence of public health problems, suggests that education may not be particularly effective (Carter and Jones, 1993; Croft and Sibert, 1992; Popay and Young, 1993). Therefore this chapter seeks to examine the effectiveness of travel health education in reducing the incidence of tourist health problems.

Attitude has also been identified as an important factor that can affect the effectiveness of travel health promotion activities. Downie *et al* (1996:119) comment that "the attitudes of individuals are viewed as central to health promotion because the way they respond to health promotion activities is linked to their attitude towards these issues". Therefore this chapter will also examine whether tourists' attitudes affect their health experience.

Fiji is the third most popular holiday destination for New Zealand residents with 53,495 visiting there in 1996 (World Tourism Organisation, 1996). Accordingly, a survey of tourists in Fiji was undertaken to provide information regarding the health experience of outbound New Zealand tourists and to examine the issues identified above. Case study methodology requires the examination of issues from a number of perspectives in order to increase the likelihood of validity and this chapter also examines the impact of tourism problems on the medical services of Fiji, in order to

provide a comparison with the impact of tourism health problems on the medical services in New Zealand. This chapter addresses the following research questions:

- What is the health experience of tourists in Fiji?
- What is the attitude of tourists towards tourism health issues?
- What is the impact of tourism upon the medical facilities of Fiji?
- How effective are travel health education activities in reducing the incidence of health problems experienced by tourists in Fiji?

The methodology used in this survey of 315 tourists in Fiji is described in Chapter 4.3.3. Although the focus of this thesis is on tourism health issues in New Zealand, this sample includes tourists from other countries in order to assess whether differences in the knowledge of health risks or the incidence of health problems experienced differed according to the country of origin.

10.2 Characteristics of Respondents

Some 67.30% of respondents had booked their travel in New Zealand, 13.33% in Australia, 3.81% in North America, 3.49% in the United Kingdom and 3.49% in Europe (Table 10.1). Only six respondents were from Pacific Islands with two from Japan and consequently these two groups were combined into the category of 'Other' in these results. Because the focus of this research was the impact of tourism health issues in New Zealand, two-thirds of the total sample were New Zealand residents.

Table 10. 1 Country in Which Travel to Fiji was Booked

Country in which trip was booked	Number	Percentage
New Zealand	212	67.30
Australia	41	13.02
North America	13	4.13
United Kingdom	11	3.49
Europe	11	3.49
Other	8	2.54
No country indicated	19	6.03
Total	315	100

The distribution of respondents according to gender was almost even with 46.35% (n=146) being male, 47.30% (n=149) being female. The gender of respondents differed significantly according to the country of origin (chi square = 243.172, df = 12, $p < 0.0005$) with females outnumbering males from New Zealand, Australia and the United Kingdom while the opposite occurred among travellers from North America, Europe and Other.

Age has been identified as a significant factor affecting the health experience of tourists (Cossar, 1996; Freitag, 1994). The age distribution of respondents was evenly spread for all ages except those aged 60+ years who equalled 13.33% of respondents and those under-19 years who equalled less than 2% of all respondents (Table 10.2). Table 10.3 shows that the age of respondents differs significantly according to the country of booking (chi square = 325.622, df = 36, $p < 0.0005$).

Table 10. 2 Age of Respondents

Age of respondents	Number	Percentage
Under 19 years	6	1.90
20-29 years	61	19.37
30-39 years	65	20.63
40-49 years	65	20.63
50-59 years	58	18.42
Over 60 years	42	13.33
Did not indicate age	18	5.72
Total	315	100.00

Although Fiji is geographically close to both New Zealand and Australia, the age spread was quite different for the two countries. Some 14.62% of New Zealand respondents were aged 20-29 and 69.34% were aged between 30 –59 years. In contrast, 36.59% of the Australian respondents were aged 20-29 years and 41.46% were aged between 30-59 years. All visitors from the United Kingdom were aged 39 years and under while all North American and European respondents were aged between 20 and 59 years.

Table 10. 3 Age of respondents according to country

Age	New Zealand		Australia		United Kingdom		Europe		North America		Other	
	N	%	N	%	N	%	N	%	N	%	N	%
Under 19 years	4	1.89	1	2.44	1	9.09	0	0	0	0	0	0
20-29 years	31	14.62	15	36.59	7	63.64	5	45.45	3	23.08	0	0
30-39 years	46	21.70	4	9.76	3	27.27	4	36.36	2	15.38	5	62.50
40-49 years	53	25.00	7	17.07	0	0	2	18.18	1	7.69	1	12.50
50-59 years	48	22.64	6	14.63	0	0	0	0	3	23.08	1	12.50
60+ years	30	14.15	8	19.51	0	0	0	0	4	30.77	0	0
No age identified	0	0	0	0	0	0	0	0	0	0	1	12.50
Total	212	100	41	100	11	100	6	100	2	100	11	100

(chi square = 325.622, df = 36, $p < 0.0005$).

10.3 The Attitude of Respondents Towards Tourism Health Issues

The attitudes of individuals are viewed as central to health promotion because they are linked to health-related behaviours and influence the ways individuals and groups respond to health education activities (Downie *et al*, 1995). An attitude has been defined by Roediger, Rushton, Capaldi and Paris (1984:587) as ‘a relatively stable tendency to respond consistently to particular people, objects or situations’. Respondents were asked whether they thought health issues were an important factor to be considered when going on holiday. Some 86.98% of respondents indicated that they considered health issues to be important which was a similar response to that in other studies (Evans and Stabler, 1995; Haywood, 1990; Kelly, 1993; Martin and Mason, 1987; Ritchie, 1992;).

Table 10. 4 Number and percentage of respondents according to age who believe that health issues are important

Age of respondents	Number	Percentage of Age Group
Under 19 years	6	100.00
20-29 years	58	95.08
30-39 years	56	86.15
40-49 years	61	93.85
50-59 years	56	96.55
60+ years	37	88.10

(chi square = 119.794, df = 6, $p < 0.0005$).

Cross tabulation shows that attitude towards health issues appears to be linked to age (Table 10.4). All respondents aged under-19 years indicated that they believed that health issues were important compared to 95.08% and 93.85% of those aged 20-29 years and 40-59 years respectively, while 88.10% of those 60+ years and 86.15% of those 30-39 years believed health issues were important (chi square = 119.794, df = 6, $p < 0.0005$).

Differences in attitude regarding tourism health and safety issues also emerge according to the country of booking (Table 10.5). All respondents from both the United Kingdom indicated that health issues were important as did just over 90% of

respondents from Australia, New Zealand, North America, and Europe (chi square = 123.519, df = 6, $p < 0.0005$).

Table 10. 5 Number and percentage of respondents from each country who believe tourist health issues are important

Country of booking	Number	Percentage from each country of booking
New Zealand	196	92.45
Australia	38	92.86
United Kingdom	11	100.00
Europe	10	90.91
North America	12	92.31
Other	7	87.50

(chi square = 123.519, df = 6, $p < 0.0005$).

Altogether 29.52% of respondents had asked their travel agents for health advice when booking, but only 34.55% of the respondents who indicated that health issues were important asked their travel agent for health advice (chi square = 25.319, df = 1, $p < 0.0005$). Thus more than two-thirds of the respondents who indicated they believed health issues were important, did not ask for health advice. However, Fiji is not generally regarded as a high-risk destination and Douglas (1986) suggests that where the probability of the risk of disease or accident is low, any degree of risk may be dismissed altogether and considered hardly worth worrying about. This behaviour is called ‘bracketing’ and is described by Giddens, 1991:129) who says ‘...what could go wrong can be pushed to one side on the grounds that it is so unlikely that it can be put out of mind’. Becker’s (1974) health belief model also supports this view and suggests that an individual simultaneously considers a number of factors before he/she is motivated to act in a way that will affect his/her health. These factors include their perceived susceptibility to, and the perceived severity of the health threat, as well as the perceived benefits they will gain, and the perceived barriers to their behaviour. Therefore, tourists would be unlikely to ask for health information if they did not regard the risk of their current travel to be significant, even if they regard health issues to be important.

It is also recognised that people are often reluctant to ask questions. Carstairs (1970) and Mayou, Williamson and Foster (1976) suggest that between half and three-quarters of the people who want more information during a medical consultation do not ask for it and although they are concerned about an issue, their behaviour does not show this. Finally, it is important to note that nearly half of all respondents had previously visited Fiji and thus would be expected to have a good knowledge of health risks (Genton and Behrens, 1994) and therefore would be unlikely to ask for advice.

10.4 Tourists' Knowledge of Health Risks

Only 26.98% of respondents could identify any specific health risks (Table 10.6). This was surprising given that approximately 70% of respondents had not asked their travel agent for health advice. No single health risk was identified by more than 7% of respondents. Contaminated water was the problem most frequently identified (6.98%), followed by care with food (3.85%), and mosquito or insect bites (3.49%). Only 2.53% of respondents mentioned sunburn as a health risk while only 1.9% (n=6) of respondents identified dengue fever. One respondent identified yellow fever which is not endemic in Fiji. No respondents identified more than one health problem.

Of the respondents who indicated that they believed health issues to be important, only 29% were aware of any health risks associated with Fiji. Therefore, although nearly all respondents said that health issues were important, less than one third asked their travel agents for health information and only one quarter could actually identify health risks. These results demonstrate quite clearly that respondents have a very poor knowledge of health risks in Fiji, particularly as this survey was undertaken while they were still in that country. This lack of knowledge concerning health risks indicates that a real problem exists with regard to the dissemination of health information to outbound tourists. An underlying principle of health promotion is empowerment, (Downie *et al*, 1996) whereby individuals take responsibility for their own health outcomes, yet if they do not receive the relevant information, the model becomes ineffective.

Table 10.6 The Number and Percentage of Respondents who Identified Health Risks Associated with Fiji

Health Risk Identified	No of Respondents	Percentage
Contaminated water	22	6.98
Care with food	12	3.85
Mosquito or insect bites	11	3.49
Cuts and abrasions	8	2.53
Sunburn	8	2.53
Snake bites	7	2.22
Dengue fever	6	1.90
Diarrhoea	6	1.90
Fish poisoning (Ciguatera)	2	0.06
Tetanus	2	0.06
Tuberculosis	1	0.03
Giardia	1	0.03
Shizella	1	0.03
Stone fish stings	1	0.03
Yellow fever	1	0.03

Just under half of all respondents (46.98%) indicated they had previously visited Fiji with 26.03% visiting Fiji in 1990 to 1996 and 17.46% had visited Fiji prior to 1990. Genton and Behrens (1994) suggest that previous travel experience correlates with a good knowledge of health risks. However, cross tabulation of these responses shows that no difference exists regarding knowledge of health risk between respondents who had previously been to Fiji and first time visitors. These results again suggest that risk assessment activities must focus upon risks associated with destinations so that all tourists visiting a destination are made aware of the health risks they face rather than on relying on identifying the level of tourist knowledge.

The country of booking is a factor affecting whether or not respondents could identify health and safety risks in Fiji (Table 10.7). Respondents from the United Kingdom were more able to identify health risks than were other respondents while New Zealand respondents were more able to identify health risks than were respondents from Australia. Few respondents from Europe or North America were aware of health risks in Fiji.

Table 10.7 Number and percentage of respondents from each country able to identify any health problems in Fiji

Country of booking	Number	Percentage from each country of booking
New Zealand	64	30.19
Australia	9	21.95
United Kingdom	6	54.55
Europe	1	9.09
North America	1	7.69
Other	3	37.50
Total	85	26.98

In Chapter 8.4.3, it has been estimated that New Zealand GPs treat 113 cases of imported dengue fever each year, yet only 3% (n=6) of New Zealand respondents identified dengue fever as a health risk. This indicates that many New Zealand tourists are ignorant of the health risks they face even at destinations in close proximity to New Zealand. Overall therefore, these results indicate that few tourists are aware of the health risks they face and that existing travel health education activities have failed to disseminate the appropriate information to tourists.

10.5 Pre-travel Health Advice Given by Travel Agents

Some 85.08% of respondents had booked their travel through a travel agent yet less than one third (31.72%, n=35) indicated that their travel agent had raised the subject of travel health with them. These results are similar those of two studies undertaken in the United Kingdom which show that 22% and 36% of travellers receive pre-travel health advice from their travel agents respectively (Cossar *et al*, 1990; Packham, 1995). The percentage in this survey is higher than in a survey of 785 tourists undertaken in Malta in 1993, in which 14.1% of respondents indicated that they had received pre-travel health advice from their travel agent (Clark, Clift and Page, 1993).

The country of booking is also a factor affecting the percentage of respondents who received pre-travel health advice from their travel agents. Table 10.8 shows that 63.64% of respondents from the United Kingdom received health advice from their

travel agents compared to 36.36% of respondents from Europe, 28.30% from New Zealand, 26.83% from Australia, 15.38% from North America.

Table 10. 8 Health issues raised by travel agents with respondents according to country of booking

Country	Number	Percentage from Country of Booking
United Kingdom	7	63.64
Europe	4	36.36
New Zealand	60	28.30
Australia	11	26.83
North America	2	15.38
Other	0	0
No country identified	1	5.26
No. and % of all respondents	85	26.98

In Chapter 6.36, 42.5% of travel agents indicated that they always or nearly always gave health information to customers. Yet in this survey of tourists, only 28.3% of New Zealand respondents indicated that they had received health information from their travel agents. These results suggest that a significant discrepancy occurs between how often New Zealand travel agents think they give health advice to their customers and how often they actually do. The percentage of Australians (26.83%) who received health advice was similar to that of New Zealanders but was lower than in another study of Australians departing for Bali in which 71% had received some travel health advice from their travel agent (Grayson & McNeil, 1988). However, Bali is recognised as a destination with health risks such as malaria and hepatitis A and therefore this would be expected.

The gender of respondents is also a factor which influences whether respondents were given health advice by their travel agents with 32.89% of females advised of health issues by their travel agent compared to 24.66% of males (chi square = 10.426, df = 2, $p < 0.01$).

The age of respondents is another significant factor affecting whether respondents were given travel health advice by their travel agents (Table 10.9). Although only 31.72% of all respondents stated that travel agents talked with them about health issues, 83.33% of respondents aged under-19 years (83.33%) received advice from their travel agents compared to 47.62% of those aged 60+ years, 29.23% of respondents aged 40-49 years, 24.95% of respondents aged 20 - 29 years, 18.82% of those aged 50-59 years and only 15.38% of those aged 30 - 39 years groups (chi square = 30.192, df = 6, $p<0.0005$).

Table 10. 9 Health issues raised by travel agents according to age

Age	Number	Percentage of each Age Group
Under 19 years	5	83.33
20-29 years	15	24.59
30-39 years	10	15.38
40-49 years	19	29.23
50-59 years	16	27.59
60+ years	20	47.62
All respondents	85	26.98

(chi square = 30.192, df = 5, $p< 0.0005$).

These results suggest that travel agents regard both the young (under 19 years) and the old (60+ years) as the two age groups either at the greatest risk of experiencing travel health problems, or with the least knowledge concerning health issues. It is however, well documented that the age group most likely to have health problems is the 20-29 years age group (Cossar, 1996; Du Pont and Khan, 1994; Freitag, 1994; Steffen *et al*, 1983; McEwan and Jackson, 1987), yet in this survey those aged 20-40 years received the least advice.

10.6 Specific Health Information Given by Travel Agents to Respondents

Within the discipline of travel medicine, five preventive activities have been identified as likely to reduce the incidence of health problems, namely, vaccinations, taking malaria pills, preventing insect bites, taking care in the sun and ensuring food and water is clean (Steffen and Du Pont, 1994). Although 31.72% of respondents

who booked through a travel agent had indicated that their travel agent spoke with them about tourism health problems, few respondents could identify any specific advice given by their travel agents. Respondents were able to identify more than one issue and thus the total does not equal 100% (Table 10.10).

Recommendations to take care in the sun were made to 14.60% of respondents while the need to take care with food and water was recommended to 13.65% of respondents. It is of concern to note that only 10.48% of respondents were advised to take care to prevent insect bites even though dengue fever is endemic in Fiji while 0.63% of respondents were advised to take malaria pills even though Fiji is malaria free. Vaccinations were recommended to 3.17% of respondents although no vaccines are needed for entry into Fiji. However, tetanus boosters are highly recommended (Kay, 1993) and 'travelers are at high risk for Hepatitis A, especially if their travel plans include visiting rural areas and extensive travel in the countryside' (Centre for Disease Control, 1995).

Table 10. 10 Number and percentage of respondents receiving specific health advice from travel agents

Health Advice	Number	Percentage of all Respondents
Care with food and water	43	13.65
Care in the sun	46	14.60
Need to prevent insect bites	33	10.48
Malaria pills	2	0.63
Vaccinations	10	3.17

The age of tourists is a factor influencing the specific health advice given by travel agents to their customers. Very few respondents aged 30-39 years were given specific health advice (Table 10.11). Only 1.54% of respondents aged 30-39 years were advised to take care to prevent insect bites, 6.15% were advised to take care in the sun and 6.15% advised to take care with food and water. Respondents aged 20-29 years and 40-49 years were only slightly better advised. These results further confirm the earlier findings described in Chapter 10.5 that age is a factor influencing the health advice given by travel agents to their customers.

Table 10. 11 Influence of age on specific health advice given by travel agents

Travel health care advice	Under 19 years		20-29 years		30-39 years		40-49 years		50-59 years		60+ years	
	N	%	N	%	N	%	N	%	N	%	N	%
Vaccinations	1	16.67	5	8.20	3	4.62	1	1.54	0	0	0	0
Malaria pills	0	0	2	3.28	0	0	0	0	0	0	0	0
Prevent insect bites	3	50.00	7	11.48	1	1.54	5	6.15	10	17.24	8	19.05
Care in the sun	3	50.00	9	14.75	4	6.15	6	9.23	12	20.69	12	28.57
Care with food and water	3	50.00	7	11.48	4	6.15	5	7.69	10	17.24	14	33.3%

Table 10. 12 Specific health advice given by travel agents to respondents according to country of booking

Travel health care advice	New Zealand		Australia		United Kingdom		Europe		North America		Other	
	N	%	N	%	N	%	N	%	N	%	N	%
Vaccinations	0	0	3	7.3	7	63.6	0	0	0	0	0	0
Malaria pills	0	0	0	0	2	18.1	0	0	0	0	0	0
Prevent insect bites	22	10.3	2	4.8	2	18.8	4	36.3	3	23.1	0	0
Care in the sun	29	13.6	9	21.9	3	27.2	2	18.1	3	23.1	0	0
Care with food and water	24	11.3	11	26.8	4	36.3	2	18.1	2	15.3	0	0

The country of booking is another significant factor affecting the specific health advice given by travel agents to tourists (Table 10.12). Overall, respondents from the United Kingdom received health information the most frequently while Australians received more advice than did New Zealanders. Table 10.13 compares the results from survey of travel agents in New Zealand and New Zealand tourists in Fiji concerning how often specific advice is given for Fiji. This indicates that travel agents give advice far less often than they had suggested in the survey of travel agents which confirms that New Zealand outbound tourists appear to be poorly advised by their travel agents concerning even basic health precautions.

Table 10. 13 A comparison of specific health advice concerning Fiji given by New Zealand travel agents¹⁶ and received by New Zealand tourists

Specific Health advice	Travel Agents		New Zealand tourists	
	No.	%	No.	%
Vaccinations	12	3.82	10	3.17
Malaria Pills	11	3.50	2	0.63
Care to prevent insect bites	93	29.62	33	10.48
Care in the sun	125	39.81	46	14.60
Care with food and water	100	31.85	43	13.65

Overall, these results show that differences occur in the level of advice given to tourists according to demographic factors with males aged 30-39 years the least likely to receive health information. It is important to assess whether respondents who receive the least advice, experience more health problems than other tourists. In other words, does increased knowledge actually make a difference to the health experience of tourists or are other factors more important. This is critical because health education has been identified as the most important travel health promotion activity to be undertaken with regard to outbound tourism (Cossar, 1997), yet if education makes makes little real difference to the health experiences of tourists, then the effectiveness of the travel health promotion model must be questioned. The next section will examine the health experience of respondents.

¹⁶ See Chapter 5.38

10.7 The Health Experiences of Tourists in Fiji

Over half of all respondents (n=168, 53.30%) indicated that they suffered some form of health problem in Fiji. This percentage was much higher than that reported in other surveys of overseas tourists. Cossar *et al* (1990) report that 36% of travellers returning to Scotland reported illness while McEwan and Jackson (1987) report that 41% of travellers succumb to illness. Some 37% of 785 British tourists in Malta suffered from health problems in 1993, while in a follow-up survey of 415 British tourists in 1994 in Malta, 31.1% indicated they had suffered from health problems (Clark and Clift, 1996). Table 10.14 shows that the most common problem was insect bites followed by sunburn, diarrhoea, cuts or bruises, migraines or headaches, sore throats or colds and *other*¹⁷. Respondents could indicate more than one problem, so the total does not equal 100%.

Table 10. 14 Health problems experienced in Fiji

Health Problems suffered in Fiji	Number	Percentage
Insect bites	59	18.73
Sunburn	51	16.19
Diarrhoea	46	14.60
Cuts or bruises	39	12.38
Migraines or headaches	31	9.84
Sore throats or colds	26	8.25
Other	23	7.30
Vomiting	11	3.49
Fever or temperature	10	3.17
Sprained wrists or ankles	5	1.59
Bronchitis or asthma	4	1.27
Breathlessness	3	0.95
Broken bones	1	0.32
Cardiac or heart problems	1	0.32

The percentage of respondents who suffered from insect bites (18.73%) was higher than in other studies. Clark and Clift (1994) report that 12% of 81 student tourists

surveyed in Canterbury in 1993 suffered from insect bites while in a second study in Malta a year later, only 3.7% of 415 British tourists suffered from insect bites (Clark and Clift, 1996). Conway *et al* (1990) report that 12% of respondents who had travelled overseas and were surveyed at a general practice, suffered from insect bites. However, overseas tourists are not the only ones to suffer from insect bites because as Ryan and Robertson (1997) report, 13.8% of domestic New Zealand student-tourists suffered from insect bites. The difference is however, that dengue fever, Ross River virus and malaria are all endemic in many Pacific destinations (Australia, Fiji, Cook Islands, Papua New Guinea, Solomon Islands, Vanuatu) whereas these diseases are not endemic in New Zealand.

Some 16.19% of respondents suffered from sunburn, which is the same percentage as in a survey of 785 British tourists in Malta (16%) in 1993 (Clark and Clift, 1996). In contrast, Ryan and Robertson (1997) report that 56% of 360 student-tourists in New Zealand experienced sunburn although it is recognised that age could be a factor influencing this result. It has already been argued in Chapter 6.8 that sunburn should be regarded as a public health problem rather than a tourist health problem yet these results suggest that tourists take greater care to avoid getting sunburnt while overseas than they do when at home. Diarrhoea and/or vomiting was suffered by approximately 15% of respondents which is lower than the rate reported in some other studies (Clark and Clift, 1996; Cossar *et al*, 1990; Kollaritsch, 1989).

Some 14.2% of respondents suffered from minor injuries (cuts or bruises, sprained wrists or ankles, broken bones) which is a higher incidence than that reported in other studies. For example, Bewes (1993) found that 5% of 515 American travellers had an accident during their trip while Page *et al* (1994) report that only 1.1% of 785 British tourists surveyed in Malta in 1993 experienced an accident. However, in a second survey of 415 British tourists in Malta undertaken a year later, Clark and Clift (1996) report that 7.4% experienced minor accidents. Wilks and Atherton (1994:11) suggest that 'many of the accidents and injuries experienced by tourists may be the result of participating in unfamiliar recreational activities'. However, in this research, cross

¹⁷ Other includes burnt feet, blocked ears, injured back, earache, blisters, dispepsia, conjunctivitis, rash on legs, infected knee from diving, cartilage in knee, gout, heat rash, itching, stomach cramps, sea sickness, rash on hands, sea lice, bites in the sea and a twisted knee.

tabulation revealed that no statistical difference occurred between the rate of minor injuries suffered by respondents who had previously visited Fiji and first-time visitors. This suggests that unfamiliarity of an environment may not be a factor affecting the accident rate. However, this survey did not attempt to identify the causes of minor injuries and therefore it is not known whether these accidents were caused by tourist carelessness or by structural failure (for example, lack of safety features associated with tourist activities). It has already been argued in Chapter 8.4.2 that the health promotion model does not provide realistic strategies which can be used to reduce the incidence of tourist accidents.

Overall therefore, this research shows that a high percentage of tourists experience health problems in Fiji but these are mostly minor in nature although the most common health problem, insect bites, can have serious consequences during outbreaks of dengue fever. The three most common health problems experienced by respondents in Fiji (insect bites, sunburn, diarrhoea) are most commonly targeted by travel health promotion campaigns and therefore these results suggest that education has not been received - or if it had, it was not effective.

10.8 The Influence of Education on the Health Experiences of Tourists

A principle of the health promotion model is that health problems are caused by inappropriate behaviour and it has been argued that if tourists are made aware of health risks, they will modify their behaviour accordingly and the incidence of health problems will thereby be reduced. Cross tabulation shows that the country of booking was not a significant factor affecting the health experience of respondents. This was surprising because a far higher percentage of British respondents received health advice from their travel agents than did respondents from other countries, British respondents considered health to be an important issue, and were generally more knowledgeable about health risks in Fiji. Yet in spite of this increased knowledge about health issues in Fiji, no significant difference occurred in the incidence of health problems they experienced. Cross tabulation also shows that respondents who had received health advice from their travel agents did not experience a lower incidence of health problems. This indicates that the advice given by travel agents may not make any real difference to the health experience of tourists. The health promotion model

focuses on health education, but these results suggest that an increased knowledge of health risks (whether gained by experience or from information received) make no significant difference to the incidence of health problems experienced by respondents.

10.9 The Influence of Previous Travel in Fiji on the Health Experiences of Tourists

Tourists can gain knowledge about health risks at a destination either by receiving advice from an outside source (for example, a travel agent or doctor), or presumably from previous travel experience at that destination. Genton and Behrens (1994) suggest that previous travel experience can affect the health experience of tourists, yet cross tabulation did not show any significant difference in the incidence of health problems experienced by respondents who had previously visited Fiji and for whom this was their first visit. This suggests that previous travel experience may not be such a significant factor affecting the incidence of health problems as has been previously indicated.

10.10 The Influence of Age and Gender on Tourist Health Problems

Table 10.15 shows that some tourist health problems vary according to age. All respondents who sprained their wrists or ankles were aged over fifty years, while respondents under-19 years and 20-29 years were the most likely to suffer from headaches or migraines. Two-thirds of all respondents aged under-19 years suffered from cuts and bruises, as did 10-15% of those 20-49 years and 60+ years. Some 11.48% of those 20-29 years experienced vomiting compared to less than 3% of all other age groups. However, because this questionnaire did not include a question regarding the level of alcohol intake, it is not possible to examine whether any connection exists between alcohol intake and vomiting. Some 50% of those under-19 years suffered from sore throats or colds, compared to less than 10% of all other age groups. Two-thirds of respondents aged under-19 years suffered from sunburn while few respondents aged over 50 years were affected by the sun.

Table 10. 15 Health problems experienced according to age

Health problem experienced	Under 19 years		20-29 years		30-39 years		40-49 years		50-59 years		60+ years		χ^2	p
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%		
Sprained wrists or ankles	0	0	0	0	0	0	0	0	4	6.90	1	2.38	14.103	p< 0.05
Broken bones	0	0	0	0	0	0	0	0	1	1.72	0	0	4.445	ns
Cuts or bruises	4	66.67	7	11.48	7	10.77	10	15.38	5	8.62	6	14.29	20.482	p< 0.0025
Migraines or headaches	2	33.33	13	21.31	7	10.77	3	4.62	5	8.62	1	2.38	19.538	p< 0.005
Insect bites	2	33.33	15	24.59	15	23.08	10	15.38	13	22.41	4	9.52	10.505	ns
Sunburn	4	66.67	17	27.87	15	23.08	12	18.46	2	3.45	1	2.38	36.236	p< 0.0005
Cardiac or heart problems	0	0	0	0	0	0	0	0	1	1.72	0	0	4.445	ns
Bronchitis or asthma	0	0	0	0	0	0	0	0	0	0	2	4.76	8.453	ns
Diarrhoea	0	0	14	22.95	11	16.92	11	16.92	7	12.07	2	4.76	9.738	ns
Vomiting	0	0	7	11.48	1	1.54	2	3.08	0	0	1	2.38	15.426	p< 0.02
Fever or temperature	0	0	4	6.56	3	4.62	1	1.54	1	1.72	1	2.38	4.546	ns
Sore throats or colds	3	50.00	4	6.56	5	7.69	44	6.15	6	10.34	4	9.52	16.489	p< 0.02
Breathlessness	0	0	1	1.64	2	3.08	0	0	0	0	0	0	5.233	ns
Other	1	16.67	4	6.56	10	15.38	3	4.62	3	5.17	2	4.76	10.001	ns

(Degrees of freedom = 6).

Respondents aged 30-39 years were less frequently advised to take care with food and water than those aged 20-29 years, yet respondents aged 30-39 years experienced a much lower rate of vomiting than did those aged 20-29 years. This suggests that the provision of health information does not necessarily reduce the incidence of tourist health problems.

Gender is another significant factor affecting health experiences with females were more likely to experience health problems than males. Some 14.77% of females suffered from migraines or headaches compared to just 6.16% of males (chi square = 8.479, df = 1, $p < 0.05$) and 18.79% of females suffered from diarrhoea compared to 12.33% of males (chi square = 6.122, df = 1, $p < 0.05$). Nearly one-quarter of the females (24.16%) suffered from insect stings compared with 15.75% of the males (chi square = 8.346, df = 1, $p < 0.05$). These results again suggest that education has little impact on tourist health experiences because female respondents were significantly better advised than male respondents about tourism health problems as shown in Chapter 10.6.

Overall therefore, although differences occur according to demographic factors in the health advice given by travel agents, these results suggest that there is no resulting link between the incidence of health advice given and the incidence of health problems experienced. The demographic differences that do exist in the health experience of tourists do not appear to be related to the incidence of health advice given.

10.11 Significance of Accommodation on Health Problems Experienced

Accommodation has been cited as a significant factor affecting the health and safety experiences of tourists (Chatterjee, 1994). Some 61.27% of respondents stayed in a hotel, 58.10% stayed in an island resort and 13.02% stayed in *other*¹⁸ accommodation with 91.65% of *other* accommodation being identified as a cruise or yacht. Respondents could indicate more than one category so the total equals more than 100% (Table 10.16).

¹⁸ Other includes cruise or yacht, camping, staying in Fijian village and timeshare apartment.

Table 10. 16 Accommodation used in Fiji

Accommodation Used	Number	Percentage
Hotel	193	61.27
Island Resort	183	58.10
Other	38	12.06
Motel	24	7.62
Backpackers hostel	16	5.08
With family or friends	13	4.13

Although only 5.08% (n=16) of respondents stayed in backpackers lodges, they suffered a significantly higher rate of health problems than did all other respondents. Some 31.25% suffered from cuts or bruises (chi square = 5.532, df = 1, $p < 0.02$); 25% suffered with headaches or migraines (chi square = 4.365, df = 1, $p < 0.05$); 43.75% received insect stings or bites (chi square = 6.932, df = 1, $p < 0.01$); 50% experienced sunburn (chi square = 14.200, df = 1, $p < 0.0005$); and 2.50% experienced vomiting (chi square = 4.058, df = 1, $p < 0.05$).

Island Resorts was the only other accommodation type linked to health problems with 24.04% of respondents who stayed in this accommodation experiencing sunburn (chi square = 19.849, df = 1, $p < 0.0005$) and 13.55% experiencing migraines or headaches (chi square = 7.182, df = 1, $p < 0.01$). However, while vomiting and diarrhoea may be linked to an unhygienic environment, they could equally be linked to excessive drinking (Ryan and Robertson, 1996), all the other health problems linked to accommodation can also be associated with behaviour (cuts and bruises, headaches or migraines and sunburn).

Further cross tabulation shows that the age of respondents is a significant factor affecting the use of hotels, motels, backpackers hostels and island resorts. Table 10.17 shows that the use of hotels tends to increase with age whereas in contrast, motels, backpackers hostels are predominately used by respondents aged less than 30 years and fewer older respondents stay at island resorts. Correlation Analysis identifies a strong correlation between the age of respondents and those who stayed in hotels (Pearson's correlation = 0.160, p-value = 0.004), between age and backpackers

hostels (Pearson's correlation = 0.171, p-value= 0.002), and between age and island resorts (Pearson's correlation = -0.158, p-value = 0.005). However, while respondents aged under-19 years and 20-29 years total 62.50% of all respondents staying in backpackers hostels respondents in these age groups total only 28.32% of all respondents staying at island resorts. Therefore while it can be argued that the health problems experienced by tourists at backpackers hostels reflect the problems experienced by respondents aged under 29 years, and therefore the cause could be behavioural, it is a little more difficult to do that with the health problems experienced at island resorts.

Table 10. 17 The Influence of Age on Accommodation used in Fiji

	U19		20-29 yrs		30-39 yrs		40-49 yrs		50-59 yrs		60+ yrs	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Hotel	2	33.3	26	42.6	42	64.6	44	67.7	41	70.7	28	66.6
Motel	2	33.3	7	11.4	6	9.2	4	6.1	4	6.9	1	2.3
Family/Friends	1	16.6	1	1.6	1	1.5	3	4.6	3	5.1	2	4.7
Backpackers Hostel	2	33.3	8	13.1	4	6.1	2	3.1	0	0	0	0
Island Resort	5	83.3	45	73.7	42	64.6	29	44.6	29	50.0	22	52.3
Other	0	0	5	8.2	4	6.1	10	15.3	10	17.2	8	19.0

Table 10. 18 The Influence of Country of Booking on Accommodation used in Fiji

	NZ		Australia		United Kingdom		Europe		North America		Other	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Hotel	144	67.9	19	46.3	2	18.1	4	36.3	9	69.2	6	75.0
Motel	13	6.13	8	19.5	0	0	1	9.1	2	15.3	0	0
Family/Friends	3	1.42	5	12.2	1	9.1	1	9.1	1	7.6	0	0
Backpackers Hostel	6	2.8	0	0	7	63.6	1	18.1	0	0	1	12.5
Island Resort	128	60.3	26	63.4	4	36.3	6	54.5	4	30.7	3	37.5
Other	28	13.2	3	7.3	3	27.2	2	18.1	1	7.6	0	0

The country of booking is also a factor affecting the use of hotels, motels, staying with family/friends and backpackers hostels (Table 10.18). This is confirmed by correlation analysis which shows a link between country of booking and staying in backpackers hostels (Pearson's Correlation = 0.171, p-value = 0.002), and between the country of booking and island resorts (Pearson's Correlation = -0.132, p-value = 0.019). However, as has already been indicated, country of origin is not a factor affecting the incidence of health problems experienced, and therefore this is unlikely to be a factor affecting the incidence of health problems experienced at different accommodation types. Binary Logistic Regression was undertaken to examine whether the socio-demographic factors of age, country of booking and gender together were multiple determining variables for the use of accommodation, but there was no statistical evidence to indicate that this occurred.

10.12 The Geographical Distribution of Tourist Health Problems in Fiji

Respondents were asked to identify the locations they had visited during their stay (including places visited for less than one day), in order to establish whether any statistical link exists between tourist health problems and locations in Fiji (Figure 7). Nadi had the highest visitation level (80.63%) which was expected given that the international airport is located there (Table 10.19). Fiji is promoted as a destination offering a Pacific Island holiday of sun, sea and sand, and thus the second most popular region to be visited was the Nadi Offshore Islands, visited by just under one A number of the health problems experienced by respondents were statistically linked to specific locations within Fiji. Respondents who had visited the Nadi offshore islands (n=155) experienced the greatest number of health problems with 15.48% suffering from headaches or migraines (chi square = 10.905, df = 1, p< 0.001); suffering from insect bites (chi square = 8.291, df = 1, p< 0.005); and 21.29% suffering from sunburn (chi square = 5.849, df = 1, p< 0.02).

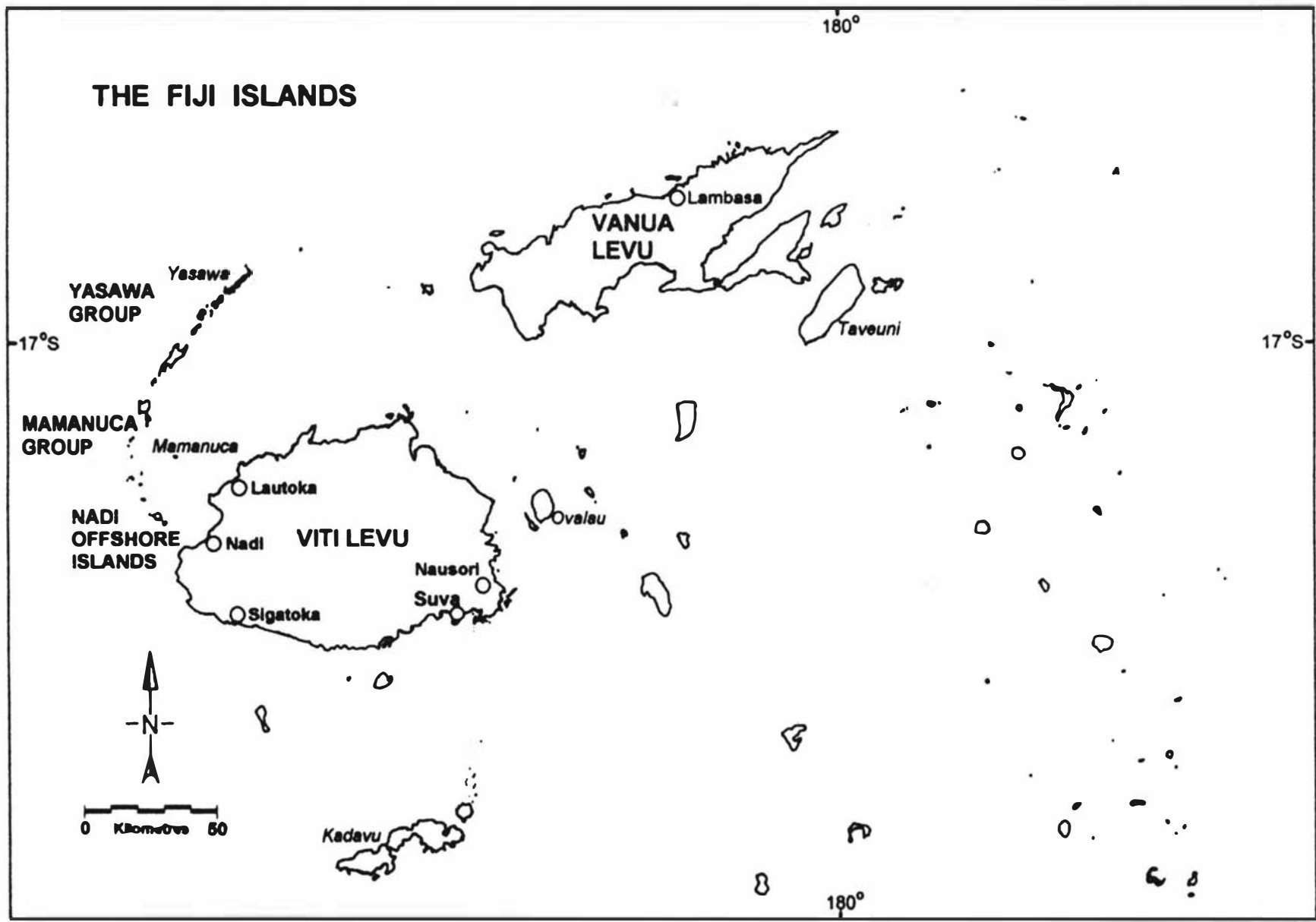


Figure 7 Map of locations within Fiji
 Source: South Pacific Handbook.

Table 10. 19 The Number and Percentage of Respondents who Visited Different Destinations within Fiji.

Location	Number	Percentage
Nadi	254	80.63
Nadi Offshore Islands	155	49.21
Sigatoka	124	24.76
Suva	92	29.21
Lautoka	78	24.76
Mamanucas Islands	39	12.3
Yasawa Islands	29	9.21
Nausari	23	7.3
Vanua Levu	9	2.86
Kadavu Island	6	1.9
Ovalu Island	5	1.59
Taveuni Island	5	1.59

A high percentage of respondents who visited the Mamanucas Islands (n=39) also experienced health problems with 20.51% suffering from migraines or headaches (chi square = 5.713, df = 1, $p < 0.02$); 20.51% experiencing sore throats or colds (chi square = 8.833, df=1, $p < 0.005$); and 10.26% experiencing vomiting (chi square = 6.043, df = 1, $p < 0.02$). A high percentage of respondents who visited the Yasawa Islands (n=29) also experienced health problems including 27.59% received cuts or bruises (chi square = 6.807, df = 1, $p < 0.01$) and 34.48% suffered from insect bites (chi square = 5.207, df = 1, $p < 0.025$).

On the main island of Viti Levu, problems experienced by respondents visiting Suva (n=92) included: 11.96% suffered from insect bites (chi square = 3.917, df = 1, $p < 0.05$), while 12.10% of visitors to Sigatoka (n=92) suffered from insect bites (chi square = 5.912, df = 1, $p < 0.02$). Some 8.25% of visitors to Nausari (n=23) suffered from sore throats or colds (chi square = 5.958, df=1, $p < 0.02$).

Further cross tabulation was undertaken to examine whether age or country of booking influenced whether respondents stayed at different locations, but no link statistical link was identified. Nominal regression analysis was also undertaken to

examine whether age and country of booking together were multiple determining variables which influence the health problems experienced at different geographical locations, but no correlation was established.

Length of stay is also a factor affecting whether respondents had sore throats and colds (chi square = 12.130, df = 5, $p < 0.05$). Some 21.87% respondents who stayed fifteen days or longer experienced sore throats or colds compared to 8.89% of those who stayed four to seven days and only 6.67% of those who stayed eight to ten days.

Overall these results show that health problems are linked to specific locations and that there is a greater likelihood of experiencing certain health problems at specific locations, particularly the Nadi offshore islands. This indicates that environmental factors must be regarded as one underlying cause of tourist health problems. However, while it may be argued that minor injuries such as cuts and bruises are caused by the environment, it is important to recognise that the activities undertaken when these occur (for example, sunbathing, walking in rock pools) are associated with certain locations. Therefore, it could be argued that the health problems associated with these locations (sunburn and cuts and/or bruises) may in fact, be caused by either behavioural factors or environmental factors and the statistical correlation between accommodation types and age confirms this. It is therefore difficult to assess whether increased protection or education activities would reduce the incidence of tourist health problems associated with these locations.

10.13 Visits to a Doctor, Pharmacy, Hospital or Accident and Emergency Clinic

Although 56.60% (n=168) of all respondents experienced some form of health problem, only 12.69% of all respondents sought treatment from a doctor, pharmacy, hospital or accident and emergency clinic. This equals 23.80% of respondents who had experienced some health problem. Table 9.20 shows 4.76% (n=15) visited a doctor, 8.89% (n=28) visited a pharmacy, 1.58% (n=5) visited an accident and emergency clinic and 0.32%(n=1) visited a hospital. Some respondents visited more than one health professional with 2.2% visiting both a doctor and pharmacy and

0.06% visiting both a pharmacy and accident and emergency clinic so the total does not equal 100%.

Table 10. 20 Number and percentage of respondents who sought medical treatment in Fiji.

Medical help sought in Fiji	Number	Percentage	Estimated Total for Twelve Months
Visited a pharmacy	28	8.89	28,374
Visited a doctor	15	4.76	15,178
Visited an accident & emergency clinic	5	1.59	5,038
Went to a hospital	1	0.32	1,020

The percentage of respondents who consulted a doctor in this survey is lower than the 5% recorded by Steffen (1991) and 9% recorded by Cossar *et al* (1990). Clark and Clift (1996) report that 1.4% and 1.0% of respondents consulted a doctor in the two studies they undertook in Malta, while Bruni and Steffen (1997) found that 7.1% of those travelling to less developed countries visited a doctor while abroad. In contrast, Reed *et al* (1994) reported that 27% of those visiting a low risk destination and 25% by those visiting a high-risk destination consulted a doctor while overseas.

The percentage of tourists visiting a doctor in Fiji (4.76%) is higher than the percentage of overseas tourists estimated to visit a GP in New Zealand (3.29%), and reported in Chapter 9.2. It is however, lower than the percentage estimated in the survey of overseas tourists in New Zealand (5.90%) which was undertaken after this research in Fiji and reported in Chapter 11.5.

10.14 The Impact of Tourism on Medical Facilities in Fiji

In 1995, Fiji had 318,495 visitor arrivals (World Tourism Organisation, 1997) and it is estimated that 4.76% of all tourists equals 15,178 tourists requiring medical treatment during a twelve-month period. It is estimated that the total number of tourists who visit a pharmacy equals 28,347, while 1,020 tourists visit a hospital and 5,038 visit an accident and emergency clinic (Table 10.20).

Page and Meyer (1997) have developed the rate of tourist GP consultations as a tool for measuring the impact of tourism on GPs at a destination. This is derived using the mean number of tourist consultations and the average length of stay (Page and Meyer (1997). Fiji had 363 physicians in 1996 (Europa World Year Book, 1997) and so the mean number of tourist consultations per doctor would equal 41.8. The average length of stay by tourists in Fiji is 8.5 days and therefore the rate of GP consultations (4.76%) must be multiplied by a factor of 42.94 ($365/8.5$) which equals 20.44 per 1,000 tourists. Frechtling (1997) argues that visitors in less developed countries may attract scarce health care resources away from the local populace and these results suggest that this could occur in Fiji but further research is required to confirm this. In 1996, 53,495 New Zealand residents visited Fiji, which suggests that approximately 2,546 could consult a doctor, 170 require hospital treatment and 850 visit an accident and emergency clinic in Fiji over a twelve-month period. However it is recognised that these are preliminary results and further research is recommended to confirm the percentage of New Zealanders who require medical treatment while in Fiji.

10.15 Implications for Travel Health Promotion

A fundamental principle of health promotion is that environmental and lifestyle (behavioural) factors must be addressed concurrently (Parish, 1995). The environmental causes of ill-health are addressed using the health promotion activity of health protection which comprises legal or fiscal controls, other regulations and policies aimed at the enhancement of positive health and the prevention of ill-health (Downie *et al*, 1995). The results of this survey do not show definitively whether or not environmental causes are important factors affecting tourist health problems in Fiji, although they indicate that environment is a factor. However, New Zealanders comprise 18.53% of all tourists to Fiji (World Tourism Organisation, 1996) and these results suggest that approximately 2,500 New Zealanders may require medical treatment in Fiji. Yet initiating protection activities is the responsibility of the host government and the New Zealand government cannot engage in health protection activities in Fiji or any other country in order to protect its own citizens.

Only three travel health promotion activities relating to outbound tourism can be undertaken by a government including preventive services, preventive health education and positive health education.

Positive health education relates to educational activities aimed at influencing tourist behaviour on positive health grounds and enhancing the overall well-being of the traveller. There is little evidence to suggest that this travel health promotion activity is undertaken in New Zealand with the emphasis of any travel health education activities being on prevention.

Preventive services relate to the immunisation of travellers against diseases such as yellow fever, typhoid and hepatitis A and medication such as anti-malarials. For New Zealanders visiting destinations such as Fiji where the health risks cannot be immunised against (for example, dengue fever), the most important preventive activity is the prevention of insect bites by tourists, but few are warned about the need to take this action. For New Zealand tourists visiting destinations where there is a high risk of contracting diseases such as malaria and hepatitis A, prevention is an extremely important travel health promotion activity and one which must be vigorously pursued. One of the major difficulties associated with preventive services is that this activity is primarily undertaken by qualified medical personnel and unless travellers are aware of the health risks associated with specific destinations, they will not seek these services. It is important therefore, that tourists visiting medium- or high-risk destinations be identified to that they can engage preventive services.

Preventive health education consists of educational activities directed at influencing lifestyle in order to prevent ill-health. This research shows that respondents who were given health advice experienced the same incidence of health problems as did respondents who had not received health advice. Previous visits to Fiji did not increase the knowledge of health risks in that country and did not affect the incidence of health problems experienced. Consequently, the effectiveness of health education either through experience or the imparting of information as a means of modifying behaviour must be questioned, particularly with regard to minor health problems. Minor injuries were prevalent in Fiji, but preventive health education is unlikely to reduce the incidence of these unless specific behavioural causes can be identified.

Although 18.73% of respondents suffered from insect bites, only 1.26% of respondents were aware of the risk of dengue fever in Fiji and few respondents were warned by travel agents to avoid insect bites. Although the majority of tourists said that health issues were important, few had any knowledge of the risks associated with Fiji.

10.16 Summary

These results suggest that although tourists believe that health issues are important, the majority have little real knowledge about the health risks they face. Less than one third of the respondents were advised about health risks in Fiji by their travel agent and less than one third asked their travel agents for information about health issues associated with Fiji.

Only 26.98% of all respondents and 29% of those who indicated that health risks were important could identify specific health risks in Fiji. The only demographic factor affecting respondents' knowledge of health risks was the country of booking with British respondents most able to identify health risks. Respondents who had previously visited Fiji did not have a better knowledge of health risks in Fiji than first-time visitors, and consequently it would seem that prior experience does not necessarily increase tourists' knowledge of health risks.

Only 31.72% of respondents had received pre-travel health advice from their travel agents with the country of booking and age being significant factors. Respondents from the United Kingdom and Europe were more likely to receive health advice from their travel agents as were respondents aged under-19 years and 60+ years. Less than 10% of respondents aged 30-39 years were given health advice by their travel agents. A major discrepancy exists between the percentage of New Zealand respondents who received specific health advice from travel agents and the percentage of travel agents who had indicated they give specific health advice to travellers visiting Fiji. There was no significant reduction in the incidence of health problems experienced by respondents who had received health advice from their travel agents, thus suggesting that information makes little difference to the incidence of tourist health problems.

Over half of all respondents (53.30%) suffered from some form of health problem while in Fiji, which was a higher percentage than in other destinations. Nearly all health problems were minor with insect bites (18.73%) being the most common followed by sunburn (16.19%) and minor injuries (14.20%). However, because of the risk of dengue fever in Fiji, it must be noted that insect bites can have serious consequences. Overall, behavioural and environmental causes were both statistically linked to health problems. Age and gender were significant factors, but for both factors, the groups who received more advice experienced a greater number of health problems thereby indicating that increased knowledge does not appear to reduce the incidence of health problems.

Some 12.69% of respondents visited either a doctor, pharmacy, hospital or accident and emergency clinic. Some 4.76% of respondents visited a doctor, which equates to approximately 15,178 tourists in a twelve-month period. Fiji has 363 physicians and thus the mean number of tourist consultations per doctor equals 41.8. This is more than twice the mean number of tourist consultations per GP calculated for New Zealand in the survey of GPs, but lower than that estimated in the survey of overseas tourists (Chapter 11). The rate of tourist GP consultations in Fiji is calculated at 20.44 per 1000.

The fundamental principle of health promotion is that both the environmental and behavioural causes of ill-health must be addressed concurrently. Travel health promotion has seven domains of activity, but only two of these, preventive services and preventive health education, can be undertaken by the government to protect its outbound tourists (Stears, 1996). Increased knowledge of health risks in Fiji does not appear to result in a reduced incidence of tourist health problems experienced and thus the effectiveness of health education activities must be questioned. The most important preventive activity relating to health problems in Fiji is taking care to avoid insect bites. Having examined the impact of tourism health issues on outbound tourists from New Zealand, it is important to examine how health issues affect inbound tourists in New Zealand.

PART FIVE

Chapter Eleven

The Health Experience of Overseas Tourists in New Zealand

11.1 Introduction

An overview of health problems associated with inbound tourism has been undertaken in Chapter 8 using the results of the survey of GPs. However, the methodology used in that survey relied on respondent recall and therefore a more accurate assessment of overseas tourist health problems in New Zealand must be undertaken. This chapter will therefore further examine the research questions:

What is the impact of tourism health problems on inbound tourists in New Zealand?

What is the impact of inbound tourism health problems on the medical services of New Zealand?

Case study methodology requires that issues be examined from more than one perspective in order to reduce the likelihood of spurious relationships being reported and accordingly, a survey of overseas tourists in New Zealand was undertaken between November 1997 to January 1998. Some 254 overseas tourists were interviewed and the methodology is described in detail in Chapter 4.3.4. The results of this survey can be compared with the results of the survey of GPs and with the survey of tourists in Fiji so that issues associated with tourism health problems in New Zealand can be further examined.

11.2 Characteristics of Respondents

The respondents in this sample came from 26 countries (see Appendix D) but because there were five respondents or fewer from sixteen countries, all respondents have

been grouped into nine categories for analysis (Table 11.1). Two of these categories consist of a single country (Australia, the United Kingdom), while the remaining categories consist of regional groupings of countries (North America, Western Europe, Pacific Islands, Central/South America, Asia, Middle East, Africa).

The interviewers who conducted this survey were all English speaking and therefore non-English speaking tourists are not included in the sample. Table 11.1 compares the percentage all tourists from each country of origin visiting New Zealand with the percentage of tourists in this survey from each country of booking. This shows that this sample cannot be regarded as truly representative of all tourists visiting New Zealand, yet the results are useful because they provide further information regarding the health experiences of overseas tourists in New Zealand.

Table 11. 1 Comparison of region of origin for overseas respondents in survey and for all inbound tourists to New Zealand

Region of Booking	Number of respondents	Percentage of survey respondents	Percentage of total NZ inbound tourists (Source: NZTB, 1996).
United Kingdom	73	28.51	10.16
Western Europe	62	24.80	7.28
North America	59	23.04	12.74
Asia/Japan	34	13.67	31.54
Australia	15	5.85	27.66
Middle East	7	2.73	N/A*
Pacific Islands	2	0.78	N/A*
Africa	1	0.39	N/A*
Central/South America	1	0.39	N/A*
Total	254	100.0	90.22

*N/A = Not available

Table 11.2 shows that 82.28% of respondents visited New Zealand for a holiday, while less than 10% of the respondents were either visiting friends and/or relatives or on business. Respondents could identify more than one reason for their visit to New Zealand and so the total exceeds 100%.

Table 11. 2 Reason for visit to New Zealand

Reason for Visit	Number	Percentage
Visiting friends and/or relatives	23	9.05
Holiday	209	82.28
Business	20	7.87
Other	7	2.75

Some 43.31% (n=110) of respondents were male and 56.30% (n=143) were female. Table 11.3 shows that nearly 70% of all respondents were aged between 20-39 years while 12.60% were aged 60+ years.

Table 11. 3 Age of Respondents

Age group	Number	Percentage
Under 19 years	7	2.76
20-29 years	130	51.18
30-39 years	47	18.50
40-49 years	11	4.33
50-59 years	25	9.84
60+ years	32	12.60
No age identified	2	0.79
Total	254	100.00

Table 11. 4 Accommodation used by respondents

Accommodation	This Survey		All NZ Tourists*
	Number	Percentage	Percentage
Motel	33	12.99	13
Hotel	62	24.41	8
Backpackers Hostel	173	68.11	11
Friends and Relatives	71	27.95	36
Campervan/Camping Ground	35	13.87	7
Other	27	10.63	4

* New Zealand Tourism Board, (1996) *International Visitors Survey*.

Some 68.11% of respondents in this survey stayed in backpackers hostels, 27.95% stayed with friends and/or relatives and 24.41% stayed in hotels (Table 11.4). Respondents could identify more than one accommodation type and so the total does not equal 100%. A comparison with the accommodation used by all overseas tourists shows that the accommodation used by respondents in this survey is not representative of all overseas tourists in New Zealand (Table 11.4).

Overall therefore, this sample is not representative of all tourists visiting New Zealand, given the high percentage staying in backpackers hostels and in hotels. Backpackers hostels and tourists aged 20-40 years are linked to a higher rate of health problems, while hotels and older tourists are associated with a lower rate of health problems (Chatterjee, 1994; Freitag, 1994). Thus the number of health problems experienced by the respondents in this survey is likely to be slightly higher than would be expected of a sample more closely representing all overseas tourists in New Zealand.

11.3 The Health Experience of Tourists

Some 14.17% of all respondents indicated that they had experienced some form of health problem during their stay in New Zealand. This rate is much lower than the rate reported by tourists surveyed in Fiji (53.30%) as shown in Chapter 10.7. Cossar *et al* (1990) report that 36% of Scottish travellers experienced health problems, while McEwan and Jackson (1987) cite a rate of 41%. Clift and Page (1996) report that 31.1% of tourists to Malta experienced health problems. Consequently, the incidence of health problems experienced by overseas tourists in New Zealand appears to be lower than in other countries, thus confirming that New Zealand is a relatively safe destination to visit.

Bruni and Steffen (1997) suggest that the longer a person stays at a destination, the more likely he/she is to be incapacitated by ill-health while Freitag (1994) found that in trips longer than three weeks, the health risks tripled. Table 11.5 shows that 25.42% of respondents who stayed more than four weeks experienced health problems compared to 18.03% of respondents who stayed 4-7 days and 13.89% of those who stayed 1-2 weeks (chi square = 13.857, df = 5, $p < 0.02$). These results are

similar to those from the survey of tourists in Fiji as described in Chapter 10.8.2 which show that respondents who stayed longer were more likely to suffer from sore throats or colds. This confirms that length of stay is a significant factor affecting some health problems.

Table 11. 5 Health problems Experienced by Respondents According to Length of Stay

Length of Stay	Number who experienced health problems	Percentage
1-3 days	2	8.00
3-7 days	3	4.55
1-2 weeks	11	18.03
2-4 weeks	5	13.89
Over 4 weeks	15	25.42

In Chapter 10.10, age was identified as a factor influencing tourist health experiences in Fiji and other research has also identified age as a significant factor (Cossar *et al*, 1991; Freitag, 1994). However in this survey, age was not significant which suggests that the incidence of health problems reported in this survey would be less affected by age than was previously suggested and therefore these results could more closely reflect those of all overseas tourists in New Zealand than was anticipated.

Backpacker hostels are the only accommodation type linked to health problems (chi square = 4.475, df = 1, $p= 0.034$). Some 17.34% of respondents who stayed in backpacker hostels had health problems compared to 7.41% of other respondents. These results also confirm those from the survey of Fiji shown in Chapter 10.10 which also established a link between backpacker hostels and health problems thus confirming other research (Chatterjee, 1994; Freitag, 1994). Overall, these results suggest that environmental factors may be a more important factor affecting the health experience of tourists in New Zealand than behavioural factors.

Table 11.6 shows that the health problems experienced by respondents were predominately minor in nature with minor illnesses and/or infections and minor injuries the most common. It is important to recognise however, that because of the methodology used, any seriously injured tourists are likely to be excluded in this

sample because of incapacitation. However, in Chapter 9.4 it was reported that minor illnesses and minor injuries were the most common health problems treated by GPs and therefore together, the results of these two surveys indicate that most health problems experienced by overseas tourists in New Zealand are minor in nature.

Table 11. 6 The Health Problems Experienced by Respondents

Health Problems Experienced	Number	Percentage
Minor Illnesses and/or infections	17	6.69
Minor injuries	9	3.54
Diarrhoea and/or vomiting	4	1.57
Accidents	3	1.18
Skin Problems	1	0.39
Cancer	1	0.39
Appendicitis	1	0.39

The health problems experienced by tourists in New Zealand are quite different from those experienced by tourists in Fiji where insect bites and sunburn were the two health problems most frequent experienced. Although diarrhoea is the most common tourist health problem worldwide (Cartwright, 1996), only 1.57% of respondents suffered from this in New Zealand compared to 14.6% in Fiji. These results also confirm that New Zealand has no major public health risks such as dengue fever or malaria.

Results from the survey of GPs suggested that health problems could be linked to the activities undertaken by tourists and therefore, respondents were asked to identify the activities they had engaged in while in New Zealand. Table 11.7 shows that the most popular activity undertaken by respondents in this survey was ‘eating out at restaurants’ followed by ‘visiting a geothermal attraction’ and ‘shopping’. Table 11.7 also compares the percentage of tourists in this survey who undertaken the different activities with the percentage of all overseas tourists (New Zealand Tourism Board, 1996) and shows that the percentage of respondents is similar between the two samples for many activities. Differences exist with regard to visiting a bar or nightclub, watching a Maori cultural programme, black or white water rafting,

kayaking or sailing, whale watching and mountain biking. Overall, it would appear that respondents in this survey engage in more outdoor and adventure type activities and as a result, it would be expected that the incidence of accidents might be a little higher than would occur for all overseas tourists in New Zealand.

Table 11. 7 Activities undertaken by Respondents in Survey and by All Tourists

Activities undertaken while in New Zealand	Number	Percentage	Percentage of all tourists in NZ*
Eating out at restaurants	180	70.82	NA
Visited a geothermal attraction	175	68.90	45.00
Shopping	172	67.72	75.00
Visited a Bar or nightclub	144	56.69	25.00
Watched a Maori Cultural performance	140	55.12	36.00
Visited a museum	139	54.72	45.00
Visited an art gallery or theatre	105	41.34	45.00
Visiting Friends & Relatives	102	40.16	NA
Beach activities (swimming)	96	37.80	NA
White or black water rafting	74	29.13	8.00
Visited a wildlife sanctuary or zoo	70	27.56	30.00
Jet Boat ride	54	21.26	19.00
Kayaking or sailing	51	20.08	6.00
Wine tasting or vineyard tour	48	18.90	13.00
Whale watching	45	17.72	8.00
Mountain biking	37	14.57	3.00
Rock or mountain climbing	33	12.99	9.00
Helicopter or scenic flight	28	11.02	16.00
Bungy jumping	23	9.06	7.00
Fishing	19	7.48	6.00
Parachute jumping	15	5.91	NA
Snow skiing	14	5.51	7.00
Hot air balloon ride	4	1.57	NA

* New Zealand Tourism Board (1996) *International Visitors Survey, 1995-1996*.

NA = Not Available

Cross tabulation shows that minor injuries and accidents were linked only to parachute jumping (chi square = 4.811, $df = 1$, $p = 0.028$) and mountain biking (chi square = 9.248, $df = 1$, $p = 0.002$). These activities have a certain level of inherent danger associated with them, and therefore it would seem unlikely that any travel health promotion activities would reduce the incidence of these mishaps occurring. Precautions identified in Hartgarten's (1994) injury prevention package are also unlikely to reduce the incidence of accidents associated with these activities. As a result, any model dealing with tourism health problems must accept that some minor injuries and minor illnesses will occur, particularly if activities with inherent risk are engaged in. Therefore, because prevention, education and protection are unlikely to reduce the incidence of these tourist health problems, treatment must be included as an activity within any useful model addressing tourism health problems.

The results from the survey of GPs indicated quite strongly that the activities undertaken by tourists might be a significant factor affecting their health experience (Chapter 9.3). However, while the results of this survey also suggest that a link exists between adventure activities and tourist health problems, this link is not as strong as was expected. This could be because this survey was undertaken in Auckland, Rotorua and Whangarei and did not include the adventure regions of Otago. Therefore, further research is recommended to examine this issue in more depth.

11.4 Health Insurance

Some 72.44% of respondents had taken out health insurance before coming to New Zealand but no differences occurred according to country of booking, or socio-demographic factors such as age or gender. This suggests the most tourists regard health insurance as an important aspect of any overseas trip.

11.5 Visits to a Doctor, Pharmacy, Hospital or Accident and Emergency Clinic

Although only 14.17% of respondents indicated that they had experienced health problems during their stay in New Zealand, 16.14% had visited either a doctor, pharmacy, hospital or accident and emergency clinic (Table 11.8). Respondents could indicate more than one medical service and so the total does not equal 100%. The

largest number visited a pharmacy (12.59%) while 5.90% visited a doctor and 1.57% visited a hospital or an Accident and Emergency Clinic. Some 22.44% of the respondents used medication which they had brought with them to New Zealand.

Table 11. 8 Number and Percentage of Respondents who had Treatment for Health Problems in New Zealand

Treatment for health problems	Number	Percentage
Visited a Doctor	15	5.90
Visited a Pharmacy	32	12.59
Visited a Hospital	4	1.57
Visited an Accident & Emergency Clinic	4	1.57
Used Own Medication	57	22.44

The percentage of respondents who visited a doctor in this survey (5.90%) is higher than the figure estimated in the survey of GPs (3.29%) and reported in Chapter 9.2. However, the methodologies used to generate these two figures differed with the survey of GPs using respondent recall relating to a twelve-month period, while in this survey, tourists were asked about their own experiences in the present time. It is also important to note that backpackers hostels have been linked to health problems (Chatterjee, 1994) and the high percentage of backpackers in this sample is therefore likely to affect the results of this survey. Overall, it would seem that the percentage of all overseas tourists who require medical attention in New Zealand is likely to be lower than that indicated in these results, but higher than that estimated in the survey of GPs. Therefore, a percentage midway between the estimates from the two surveys would appear to be reasonable and for the purposes of this thesis it is estimated that 4.6% of overseas tourists visit a GP.

Using the rate of 4.6%, it can therefore be calculated that 71,361 overseas tourists required medical treatment in New Zealand during a twelve-month period. By multiplying this rate by the total number of GPs in New Zealand (2,728), the overall mean for overseas tourist consultations is estimated to be 26.78. The average annual GP workload is 6,995 (Malcolm, 1993) and as a result, the workload resulting from overseas tourist consultations equals that of 10.44 GPs. This again supports the

argument that tourism health issues will not place any significant strain on the existing medical infrastructure.

The percentage of overseas tourists requiring medical treatment in New Zealand (4.6%) is slightly higher than the 3.9% reported by Steffen (1991) but lower than that reported in other studies. For example, Cossar *et al* (1990) found that 9% of Scottish travellers who were unwell while travelling in less developed countries required the services of a doctor abroad which equated to 5.49% of all travellers interviewed. Bruni and Steffen (1997) found that 7.1% of those travelling to less developed countries visited a doctor while abroad. Looke *et al* (1992) indicated that 11% of Australians who had attended a travellers' clinic before travelling, consulted a doctor while away. In contrast, Reed *et al* (1994) found that 27% of those visiting a low risk destination and 25% of those visiting high-risk destinations consulted a doctor while overseas.

It was surprising to find that the estimated percentage of overseas tourists in New Zealand who visit a doctor (4.6%) is almost the same as in the survey of tourists in Fiji (4.76%). However, in order to compare the overall rate of GP consultations in New Zealand with that in Fiji, it is necessary to adjust the figure to allow for the different lengths of stay at each destination. Tourists stay in New Zealand for an average of 19 days (Page and Meyer, 1997) and therefore the rate of 4.6% must be multiplied by a factor of 19.2 (365/19) which equals 8.81 per 1000 tourists. This is much lower than the rate of 20.44 in Fiji as reported in Chapter 10.14. Consequently, although the same percentage of tourists seek medical attention in both countries, the overall rate of GP consultations and the mean for GP visits are higher in Fiji than in New Zealand because of the smaller number of GPs in that country. This indicates that tourism is likely to have a greater impact upon the primary medical sector of Fiji than of New Zealand.

The percentage of respondents in this survey who visited an accident and emergency clinic (1.57%) was almost identical to that in Fiji (1.59%) while the percentage who went to hospital in New Zealand (1.57%) was higher than the percentage who went to hospital in Fiji (0.32%). The percentage of respondents who visited a pharmacy in New Zealand (12.59%) was also higher than in Fiji (8.89%). Some 22.44% of

respondents used their own medication which was similar to the figure of 28.5% for tourists interviewed in Malta (Clark and Clift, 1996).

11.6 The Impact of Health Problems upon the Holiday Experience

It has been suggested that health problems can affect the overall perception of a destination held by tourists, and this perception can affect new and repeat business (Wilks and Oldenburg, 1995). Respondents who experienced health problems in New Zealand were asked how health problems had affected their holiday. Of the thirty-six respondents (14.17%) who experienced health problems, four (1.57%) indicated that health problems had caused them to change their plans while in New Zealand. Fifteen (5.90%) respondents indicated that their enjoyment was affected during the time they were experiencing these problems while two respondents indicated that health problems had affected their overall enjoyment of their time in New Zealand. This equals 0.78% of all respondents. These responses therefore indicate quite clearly that minor health problems do not affect tourists' perceptions of New Zealand as a destination. Consequently, it is unlikely that new and repeat business will be affected by a negative perception of New Zealand as a destination due to health issues.

11.7 Implications for Travel Health Promotion

These results suggest that minor illnesses/and or infections are the main health problems experienced by overseas tourists in New Zealand, followed by minor accidents. It would seem unlikely that any increase in the travel health promotion activities of protection and education will reduce the incidence of minor illnesses and/or infections experienced by overseas tourists visiting New Zealand. Protection activities (for example, legal controls, regulatory guidelines, policies and voluntary codes of practice) are the main activity used to reduce the incidence of tourist accidents and these are already undertaken in New Zealand. A certain percentage of tourists will inevitably experience health problems and consequently a strategy must be developed which provides for the treatment of health problems that occur during the travel phase of the tourism process. However, this strategy does not exist in the Health Promotion Model.

11.8 Summary

Some 14.17% of respondents experienced health problems during their stay in New Zealand, which is lower than in other countries. Accommodation and length of stay are the only two factors linked to health problems with respondents in backpackers hostels twice as likely as other tourists to experience health problems. Respondents who stayed more than four weeks were also more likely to experience health problems. Age was not a factor.

The most common health problems experienced by respondents were minor illnesses and/or infections and minor injuries. New Zealand has no major public health risks. Minor injuries were linked to parachute jumping and mountain biking but it is unlikely that health promotion activities could reduce these injuries given the inherent risk associated with them. These results indicate that a link does exist between adventure activities and tourist health problems, but the results are not conclusive and further research is recommended. Nearly three-quarters of respondents had taken out health insurance before coming to New Zealand.

Some 16.14% of respondents visited either a doctor, pharmacy, hospital or accident and emergency clinic, with the largest percentage visiting a pharmacy (12.59%) and 5.90% visiting a doctor. The percentage visiting a doctor was higher than that estimated in the survey of GPs and differences in the methodology used in the two being the reason for this difference. It is likely that the overall percentage is somewhere between the two results and is therefore estimated to be 4.6%. The percentage of tourists in New Zealand who visited a doctor is almost the same as in Fiji while the overall rate of GP consultations in New Zealand is 8.81 per 1,000 tourists compared to 20.44 per 1,000 tourists in Fiji. This means that tourism has a greater impact upon the primary health services in Fiji than in New Zealand.

Only 1.57% of all respondents had to change their plans because of health problems. Some 5.9% indicated that their enjoyment was affected while they were experiencing health problems, while only 0.78% indicated that their overall enjoyment was affected. Consequently, it would seem that tourist health problems in New Zealand are unlikely to affect the overall perception of New Zealand as a destination and

therefore is unlikely to affect new and repeat business. Any increase in education and prevention activities are unlikely to reduce the incidence of tourist health problems experienced by inbound tourists in New Zealand. Treatment is an appropriate strategy for dealing with tourist health problems that arise, yet this strategy does not occur in the health promotion model.

Having looked at the health experience of overseas tourists in New Zealand, the following chapter will further examine the effectiveness of health information from different sources.

PART SIX

Chapter Twelve

The Influence of Health Advice on the Behaviour and Health Experiences of Tourists

12.1 Introduction

Within the health promotion model, behaviour is a primary cause of health problems with education being the activity used to address behavioural causes and thereby to reduce the incidence of health problems. This has been applied to tourism health problems and for example, education has been identified by Cossar (1997) as the most important factor likely to reduce the incidence of tourist health problems. However, the results reported in Chapter 10.8 suggest that health education activities may be relatively ineffective in reducing the incidence of tourist health problems. In the survey of tourists in Fiji, the provision of health advice by travel agents was not linked to tourists' knowledge of health risks in Fiji nor to the incidence of health problems experienced. However, while the effectiveness of advice provided by travel agents and GPs was examined in Chapters Six and Seven, Clift and Page (1996) show that health information can be received by tourists from a number of other sources including friends and relatives, guidebooks, travel brochures and government campaigns. Reid, Cossar, Ado and Dewar (1986) have examined the health information included in travel brochures, but the usefulness and effectiveness of other sources has not been assessed. Thus it is important to examine whether different sources of health advice affect the health knowledge and subsequent health experience of tourists.

Genton and Behrens (1994) argue that previous travel experience is an important factor affecting the health experiences of tourists and that those with more travel experience are less likely to suffer from health problems. However, the survey in Fiji did not appear to support this argument (see Chapter 10.8.1) and therefore, further research was undertaken to examine whether any significant link could be identified between the number of overseas trips taken and the incidence of health problems. If

Genton and Behrens’ (1994) argument is valid, the incidence of health problems would be expected to decline on subsequent trips.

Consequently, a survey of 381 tourists was undertaken and the methodology used is described in detail in Chapter 4.3.5. The research questions addressed in this chapter are:

- Does any link exist between health advice received and precautions taken by tourists (i.e. does advice result in behavioural change)?
- Can different sources of health advice be linked to differences in the knowledge of health risks and the incidence of health problems experienced?
- Does increased travel experience result in a decrease in the incidence of health problems experienced?

12.2 Characteristics of Respondents

Some 381 respondents from 28 countries were interviewed (see Appendix E), but because there were five respondents or fewer from sixteen countries, all respondents have been grouped into seven categories for this analysis (Table 12.1). Three of these categories consist of a single country (New Zealand, Australia, United Kingdom), while three categories consist of regional groupings of countries (North America, Western Europe, Asia). The category labelled 'Other' includes respondents from the Middle East, Pacific Islands, Africa and Central/South America. Some 33.33% of respondents were New Zealand residents, 18.90% were from the United Kingdom, 16.80% from Western Europe and 14.96% from North America.

Table 12. 1 Region of origin of all respondents

Region	Number	Percentage
New Zealand	127	33.33
United Kingdom	72	18.90
Western Europe	64	16.80
North America	57	14.96
Asia	35	9.19
Australia	14	3.67
Other	12	3.15
Total	381	100

The age distribution of respondents in this survey is unevenly spread with 42.93% of respondents aged 21-30 years and 15.97% aged between 41 and 60 years (Table 12.2). Some 45.29% (n=173) of respondents were male while 54.45% (n=208) were female.

Table 12. 2 The Age of Respondents

Age of Respondents	Number	Percentage
Under 20 years	14	3.67
20-29 years	164	43.04
30-39 years	84	21.78
40-49 years	27	7.09
50-59 years	34	8.92
60+ years	57	14.92
No age specified	2	0.52
Total	381	100.00

12.3 The Travel History and Health Experience of Respondents

Respondents were asked to identify the regions they had visited and the health problems they experienced on their first three overseas trips. Altogether, 17.80% (n=68) of all respondents experienced some health problem at some stage during their first three overseas trips. Some 6.8% (n=26) of respondents experienced health problems on their first trip, 8.12% (n=31) experienced health problems on their second trip and 8.64% (n=33) experienced health problems on their third trip.

The incidence of health problems reported for each trip in this survey is much lower than in other studies (Behrens *et al*, 1994; Cossar *et al*, 1990; Du Pont and Khan, 1994; Looke *et al*, 1992; McEwan and Jackson, 1987; McIntosh *et al*, 1991). This is likely to be affected by the methodology used which relies upon respondent recall, which in some cases goes back a long period of time. Another factor to consider is that most other research surveys tourists who have visited less developed countries (Behrens *et al*, 1994; Cartwright, 1996; Du Pont and Khan, 1994; McEwan and Jackson, 1987) while in this survey, approximately three-quarters of the respondents visited developed countries on these three trips.

Genton and Behrens (1994) argue that a link exists between travel experience and the incidence of health problems experienced but the findings from the survey of tourists in Fiji did not support this claim (see Chapter 10.9). When this survey was initially developed, it had been expected that the overall incidence of health problems would decline over subsequent trips, or at least remain constant as people gained knowledge about travel health risks and learned from experience how to look after themselves. However, this did not occur in this survey and the incidence of respondents who had health problems increased with each subsequent trip, albeit by a small percentage. These findings therefore confirm the findings from the survey of Fiji which showed no link between previous travel experience in Fiji and the incidence of health problems experienced by respondents (see Chapter 10.9).

Respondents were asked to indicate what health problems they experienced on each of the three trips and Table 12.3 shows that the majority of health problems were minor in nature, particularly on the first overseas trip.

Table 12. 3 Health problems suffered during Respondents' first three overseas trips.

Health Problems Experienced	First Trip		Second Trip		Third Trip	
	No.	%	No.	%	No.	%
Diarrhoea and/or vomiting	14	3.66	12	3.14	15	3.93
Minor Illnesses/infections	7	1.83	9	2.36	9	2.36
Malaria	1	0.26	4	1.05	3	0.79
Musculo-skeletal	0	0	1	0.26	1	0.26
Dengue Fever	0	0	1	0.26	0	0
Sexually transmitted diseases	0	0	1	0.26	0	0
Respiratory problems	1	0.26	0	0	1	0.26
Accidents	1	0.26	1	0.26	1	0.26
Bilharzia	0	0	1	0.26	0	0
Circulatory problems	0	0	1	0.26	1	0.26
Altitude sickness	0	0	1	0.26	1	0.26
Total	26	6.8	31	8.12	33	8.64

12.4 The Impact of Destination on Tourist Health Experiences

Table 12.4 identifies the regions visited by respondents on each of their first three overseas trips. Respondents could indicate more than one region and therefore the total number of regions identified for each trip equals more than 100%. Western Europe and New Zealand/Australia were the two regions visited by the highest percentage of respondents on all three trips with Asia the third most visited region on the first and second trips and North America the third most visited region on the third trip. These results are likely to be strongly influenced by the travel patterns of New Zealand respondents who make up one-third of the respondents in this survey.

Age was the only socio-demographic factor that correlated with the destinations visited on the first overseas trip only (Pearson's Correlation = 0.115, p-value= 0.024). No socio-demographic factors (for example, gender, occupation or country of booking) were linked to the destinations visited on either the second or third overseas trip.

Table 12.4 shows that the percentage of all respondents visiting Asia and Africa increased with each trip. Some 22.21% of respondents visited the less developed regions of the Pacific Islands, Central/South America, Eastern Europe/Russia, Middle East and Africa on the first trip. Some 37.3% visited these regions on the second trip and 28.2% visited them on the third trip. Tourism health problems have been previously linked to environmental factors in less developed countries (Carter, 1998; Cartwright, 1996) and if environmental factors are the underlying cause, this would show as an increase in the incidence of health problems experienced on the second trip with a slight decline occurring on the third trip. Table 12.3 shows that the incidence of health problems did indeed rise with each trip which tends to supports the argument that environmental issues, rather than tourist behaviour, are the key underlying cause of tourism health problems.

Table 12.5 shows the regions visited by New Zealand respondents on each of the three trips. It is interesting to note that 70% travelled exclusively within the Asia-Pacific regions of Australia, the Pacific Islands and Asia on their first overseas trip which indicates that proximity and the inherent attractions of the destination appear to

Table 12. 4 **Regions Visited by All Respondents on First Three Overseas Trips.**

Region Visited	First Trip		Second Trip		Third Trip	
	No.	%	No.	%	No.	%
Western Europe	121	31.68	104	27.23	86	22.51
New Zealand/Australia	111	29.06	96	25.13	89	23.30
Asia	53	13.87	54	14.14	45	11.78
United Kingdom	48	12.57	30	7.85	36	9.42
Pacific Islands	34	8.90	24	6.28	33	8.64
North America	33	8.64	43	11.26	50	13.09
Central/South America	15	3.93	13	3.40	10	2.62
Africa	13	3.40	11	2.88	18	4.71
Middle East	10	2.62	10	2.62	6	1.57
Eastern/Central Europe	8	2.09	10	2.62	13	3.40
Japan	7	1.83	6	1.57	5	1.31

Not Statistically Significant

Table 12. 5 **Percentage of New Zealand respondents who visited each region.**

	Australia /NZ	North America	Western Europe	Pacific Islands	C/S America	E.Europe /Russia	Asia	United Kingdom	Middle East	Japan	Africa
First Trip	54.76	11.90	7.14	17.46	0.79	0.79	14.29	18.25	3.97	0.79	2.38
Second Trip	42.86	11.11	11.11	14.29	1.59	2.38	15.87	11.11	0.79	2.38	2.38
Third Trip	30.95	15.87	9.52	15.08	0.79	1.59	19.84	15.87	1.59	0.79	4.76

be the two most important factors. Regions that are in close proximity often have similar health problems and thus tourists visiting nearby destinations are more likely to be familiar with the health issues and therefore should be less vulnerable to health problems. The percentage of New Zealand respondents who visited Australia fell with each subsequent trip while the percentage who visited Western Europe and Asia increased on the second trip. The percentage of New Zealand respondents who visited North America, Asia, Africa and the United Kingdom was higher on the third trip.

Cross tabulation was undertaken to determine whether a statistical link existed between the incidence of health problems experienced by respondents and individual destinations. Some 30.77% of respondents who visited Asia on the first trip suffered health problems compared to 12.68% of those who didn't visit Asia (chi square = 6.622, $df = 1$, $p < 0.01$). On the second trip, 9.68% of respondents who visited Central/South America experienced health problems compared to 2.3% of those who did not (chi square = 4.019, $df = 1$, $p = <05$) while 38.71% of visitors to Asia experienced health problems compared to 12.56% of those who did not visit Asia (chi square = 16.701, $df = 1$, $p = 0.0005$). On the third trip, health problems were statistically linked to Asia with 33.33% of visitors to Asia experiencing health problems compared to 9.77% of those who did not visit Asia (chi square = 16.067, $df = 1$, $p = 0.0005$). Some 15.15% of respondents who visited Africa on their third trip, experienced health problems compared to 3.74% of those who did not visit Africa (chi square = 8.980, $df = 1$, $p = 0.005$). Other research has already identified increased health risks with Asia (Carter, 1998) and Africa (Carter, 1998; Cossar *et al*, 1990; Peltola, Kyronseppas and Holsa, 1983; Steffen *et al* 1983).

Correlation analysis confirms these results and shows that a strong correlation exists between those who experienced health problems on their second trip and the destinations they visited (Pearson's Correlation = 0.207, p -value = 0.000) and on the third trip (Pearson's Correlation = 0.220, p -value = 0.000).

12.5 The Influence of Socio-Demographic Factors on Tourist Health Experiences

Travel health promotion has been vigorously pursued in the United Kingdom and Western European countries in the past ten years (Stears, 1996; Thomas *et al*, 1997) and it was expected that respondents from these regions of booking would experience a lower incidence of health problems than respondents from other regions. However, the region of booking was not a significant factor affecting the incidence of health problems on any of the three overseas trips.

Table 12. 6 Number and Percentage of Respondents from each Region experiencing health problems.

Region of Booking	First Trip		Second Trip		Third Trip	
	No.	%	No.	%	No.	%
New Zealand	10	7.87	12	9.45	10	7.87
North America	5	8.77	7	12.28	5	8.77
Western Europe	2	3.12	4	6.25	6	9.37
Asia	0	0	0	0	3	8.57
United Kingdom	7	9.72	4	5.56	7	9.72
Australia	2	14.29	3	21.34	2	14.29
Other	0	0	1	8.33	0	0
Total	26	6.82	31	8.14	33	8.64

It was however, surprising to note that while respondents from developed regions experienced health problems on all three trips, no respondents from Asia experienced health problems on their first or second trips and only one respondent from Other suffered on the second trip (Table 12.6). The incidence of health problems experienced by Western European respondents increased with each subsequent trip while respondents from the United Kingdom experienced the highest percentage of problems overall on the first and third trips. Other research has also shown that respondents from industrialised nations are more likely to experience health problems than are those from less developed nations (Lowenstein, Balows and Gangarosa, 1973; Steffen, 1997).

Cross tabulation showed that the other socio-demographic factors of age, gender and occupation were not linked to the incidence of health problems experienced by

tourists and Pearson's Correlation Analysis also failed to identify any statistically significant correlation between the socio-demographic factors and the incidence of health problems experienced. What was unexpected however, was that 19.23% of those who experienced health problems on their first trip also experienced health problems on their second overseas trip (chi square = 4.632, df = 1, $p= 0.032$) and 22.58% experienced problems on their third overseas trip (chi square = 3.966, df = 1, $p= 0.046$). Approximately one third of the respondents (32.26%) who experienced health problems on their second overseas trip also experienced health problems on their third overseas trip (chi square = 23.847, df = 1, $p= 0.000$). These results suggested that health problems may be associated with certain tourists and thus psychographic analysis was undertaken to examine whether psychographic factors can be linked to health problems (Chapter Thirteen). On reflection however, it is acknowledged that this research should also have examined the general health of respondents to examine whether this was an underlying factor influencing the health experience of respondents. Further research is therefore recommended to examine the influence of the general health of tourists on their tourist health experiences.

12.6.1 An Analysis of All Sources of Tourist Health Information

Respondents were asked about the sources they had received health information from and Table 12.7 shows that overall, friends and/or relatives and doctors were the most common sources of health information. Respondents could identify more than one source and so the total does not equal 100%.

Table 12. 7 Sources of Travel Health Advice

Sources of Health Advice	No.	%
Friends &/or Relatives	201	52.62
Doctor	199	52.09
Guidebook	157	41.10
Travel Agent	135	35.34
Travel Brochure	81	21.20
Government campaigns	41	10.73
Other	16	4.19

Significant differences exist among respondents according to the region of booking for guidebooks, travel agents, doctors and government campaigns (Table 12.7). Guidebooks are most frequently used by respondents from Asia and Western Europe, while doctors are the most frequent source of information for respondents from New Zealand, the United Kingdom and Australia.

12.6.2 Pre-travel Health Advice from Doctors

Overall 52.23% of all respondents received health information from a doctor, but again significant differences occur according to the region of booking. Some 81.94% of respondents from the United Kingdom received health advice from their doctor compared to 51.97% from New Zealand and from North America, 50.00% from Western Europe and 42.86% from Australia. In order to understand why the percentage of British tourists who receive travel health advice from their doctors is so much higher than in other countries, it is necessary to examine what has happened in the wider arena of public health in the United Kingdom. Health promotion principles have been widely adopted in the United Kingdom, and between 1979 and 1996, the annual budget for health education at the national level trebled in relative terms from £8 million to £45 million (Reid, 1996). Part of that expenditure has been used to establish district health promotion units and in 1993, 43% of all district health promotion units had undertaken travel health promotion work, which then rose to 71% in 1994. GPs operate in primary health care teams and consequently intending travellers have free and easy access to them. Responsibility for travel health education in the United Kingdom has become part of the wider public health promotion programme.

These results, which show that 81.94% of respondents in the United Kingdom received information from their GPs, differ quite markedly from an earlier study in which Cossar *et al* (1990) found that only 11% of United Kingdom travellers received advice from their doctor. This suggests that travel health promotion activities in that country have resulted in a greater percentage of travellers seeking medical advice from doctors before travelling overseas. Pre-travel medical advice is also available from government clinics in Israel (Dan, Costin and Slater, 1996) and this is also reflected in the category of Other which shows that a high percentage of respondents

Table 12. 8 Sources of Health Advice According to Region of Booking

Region of Booking	Friends/ Relatives		Guidebook		Travel Agent		Doctor		Travel Brochure		Government campaigns		Other	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
New Zealand	71	55.91	35	27.56	60	47.24	66	51.97	24	18.90	8	6.30	6	4.72
North America	30	47.37	25	42.86	20	35.09	26	45.61	19	33.33	4	7.04	4	7.02
W. Europe	33	51.56	35	5.69	13	20.31	32	50.00	14	21.87	8	12.50	4	6.25
Asia	12	34.29	16	45.71	3	8.57	4	11.43	4	11.43	5	14.29	0	0
U. K.	45	62.50	44	60.27	32	44.44	59	81.94	18	25.00	9	12.50	2	2.78
Australia	6	42.86	1	7.14	4	28.57	6	42.86	0	0	7	58.33	0	0
Other	6	50.00	2	16.67	2	16.67	6	50.00	2	16.67	0	0	0	0
All Respondents	200	52.49	157	41.21	134	35.17	199	52.23	81	21.26	41	10.76	16	4.20
Statistical Significance	Ns		(χ ² = 34.900) P<0.0005		(χ ² = 29.962) P<0.0005		(χ ² = 50.481) p<0.0005		Ns		(χ ² = 34.314) p<0.0005		Ns	

(Degrees of Freedom = 6)

received advice from their doctors and from government campaigns. Other research in North America also suggests that government involvement in tourist health education may be a significant factor affecting the use of tourist health services (Keystone *et al*, 1994).

In this survey, half of the New Zealand respondents indicated that they received medical advice from a doctor which would appear to contradict the findings from the survey of GPs, reported in Chapter 6.3. In the survey of GPs, it is estimated that 12.49% of New Zealand outbound tourists seek pre-travel health advice from their GPs. However, this discrepancy occurs because the methodology used is different for these two pieces of research. In this survey, respondents were asked if they had ever received health advice from their doctor whereas the GPs were asked how many tourists they had given health advice to over a twelve-month period.

It had been expected that tourists who had visited Africa and Asia would have been more likely to seek pre-travel information from their doctors, yet no statistically significant link exists between the destinations visited and respondents who had received pre-travel advice from a doctor. This is of particular concern in New Zealand because New Zealand respondents were the largest group who visited Asia on each trip and the risks associated with Asia have been well documented (Carter, 1998). Steffen (1997) shows that the morbidity rate for tourists who stay in high-risk malaria zones such as tropical Africa and do not use chemo-prophylaxis, is as high as one person per five jumbo jets while hepatitis A may infect everybody in endemic regions, including those staying in luxury hotels. These results suggest that destination is not a factor affecting whether travellers receive pre-travel medical advice but that accessibility is a more critical factor. Travellers appear to be more likely to seek medical pre-travel health advice if it is readily available through the public health system.

Prevention, the health promotion activity provided primarily by doctors, is the most appropriate activity for many serious tourism health problems such as malaria, typhoid and hepatitis A and B. Consequently, it is important that high- and medium-risk destinations be identified so that all tourists visiting these regions are advised to see their doctors. These results highlight the importance of including risk assessment,

as a separate activity in any model developed to address tourism health problems in New Zealand.

12.6.3 The Advice Received by Respondents from Travel Agents

Some 30.18% of respondents indicated that their travel agent advised them about health issues, which was approximately the same percentage identified in the survey of tourists in Fiji and reported in Chapter 10.5. Table 12.9 shows that a higher percentage of respondents from New Zealand and the United Kingdom received health information from their travel agents than did respondents other regions of booking. This suggests that travel health promotion activities in the United Kingdom may have raised the awareness of travel agents concerning health issues, but it is still of concern to note that 44.44% of the British respondents were advised about health issues. These results confirm those of Grabowski and Behrens (1996) who report that up to 60% of travellers may not receive a health warning when purchasing a ticket to travel to malaria endemic regions.

Table 12. 9 Number and Percentage of respondents from each country of booking advised about health issues by their travel agent and who asked for travel advice from their travel agent.

Region of Origin	Advised by Travel Agent		Asked for Advice from Travel Agent	
	Number	Percentage	Number	Percentage
New Zealand	46	36.22	34	26.77
North America	16	28.07	9	15.19
Western Europe	15	23.44	20	31.25
Asia	2	5.71	2	5.71
United Kingdom	33	45.21	19	26.39
Australia	1	7.14	0	0
Other	1	100	3	25.00
All respondents	116	30.37	87	22.83

Approximately one-quarter of the respondents travelled to developing countries, yet cross tabulation shows that the destination visited on the first three trips was not statistically linked to whether or not respondents asked their travel agents for health advice. This supports the argument that many tourists are unaware of the risks they face and do not consider health issues to be important when planning their travel. In

addition, no significant link existed between destination visited on any of the first three trips and whether respondents were advised about health issues by their travel agents. While it is recognised that this survey relied on respondent recall relating to incidents that, in some cases, took place a number of years ago, it was still expected that those visiting high risk destinations would have been more likely to have sought and received health advice from their travel agents. However, this did not happen and this is of particular concern for tourists who visited Africa and Asia, which are widely acknowledged to be the most risky regions with malaria, AIDS, hepatitis A and typhoid fever endemic in both regions (Behrens, 1997; Carter, 1998; Steffen, 1997).

It is of concern to note that only 18.85% of respondents were advised by travel agents to visit their doctor for pre-travel medical advice. Travel agents argue that it is not their responsibility to give travel health advice to customers (Dawood, 1989) and it has already been argued in Chapter Five of this thesis that the structure of the travel industry makes it difficult for travel agents to give any health advice. These results again highlight the fact that few tourists are currently receiving adequate information from travel agents regarding the risks they face and that no mechanism exists in the travel health promotion model for ensuring tourists visiting high- or medium-risk destination seek pre-travel medical advice.

12.7 Specific Health Information Received by Respondents

Table 12.10 shows that the specific travel health advice most frequently received by respondents was to take care with food and water (40.04%) and the need for vaccinations (35.34%). Previous research has already shown that taking care with food and water is unlikely to affect tourist health outcomes (Blaser, 1986; Bryant *et al*, 1991; Steffen *et al* 1983; Mattila *et al*, 1995) yet this is the advice most often given. It was interesting to note that 18.32% of respondents had been advised to use safe sex practices, indicating that there is a growing awareness of the health risks associated with unprotected sex.

Table 12. 10 Specific Health Advice received by Respondents

Travel Health Advice Received	Number	Percentage
Care with Food	153	40.05
Care to prevent malaria	37	9.69
Vaccinations	135	35.34
Care with sunscreen	10	2.62
Care to prevent insect bites	11	2.88
Safe sex practices	70	18.32

12.8 Socio-Demographic Factors Influencing the Specific Health Advice Given to Respondents

The country of booking was a significant factor only with regard to vaccinations. Some 65.28% of respondents from the United Kingdom had been advised about vaccinations compared to 35.71% from Australia, 30.16% from Western Europe and 30.51% from New Zealand (chi square = 39.379, df = 6, p<0.0005). These results suggest that health promotion activities in the United Kingdom may have had an influence in raising the overall awareness by travel agents regarding vaccinations.

Table 12.11 shows that respondents under-19 years received the least advice about vaccinations and received no information about malaria but were most often warned to take care in the sun. Few respondents aged between 20-39 years rarely received information about the need to take care with food and water but were better advised concerning vaccinations and malaria. These results confirm those reported in the survey of tourists in Fiji which show that age is a significant factor affecting the health information given by tourists (see Chapter 10.5). Gender and occupation were not significant factors affecting the information given to respondents about specific health problems.

Table 12. 11 Specific Health Advice Received According to the Age of Respondents

Age of Respondents	Care with food & water		Malaria		Vaccinations		Care in sun		Care to avoid insect bites		Other	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Under 19 yrs	6	42.86	0	0	2	14.29	2	14.29	1	7.14	1	7.14
20-29 years	75	45.73	24	14.63	67	40.85	2	1.22	5	3.05	29	17.68
30-39 years	36	42.86	9	10.71	36	42.86	1	1.19	2	2.38	20	23.81
40-49 years	8	29.63	0	0	7	25.93	2	7.41	2	7.41	6	22.22
50-59 years	12	35.29	2	5.88	10	29.41	0	0	0	0	6	17.65
60+ years	16	28.07	1	1.75	12	21.05	2	3.51	1	1.75	8	14.04
Total	153	40.05	36	9.69	134	35.34	9	2.62	11	2.88	70	18.32

12.9 The Usefulness of Travel Health Advice to Respondents

Respondents were asked which sources of health advice they considered to be the most useful but not all respondents answered this question so the total does not equal 100% (Table 12.12). Overall, doctors were considered to be the most useful source of health advice which is not surprising given that the information given by doctors has been shown to be the most comprehensive and appropriate. However, as Cossar (1997:24) has indicated, ‘there are logistic and financial constraints on the individual counselling of every tourist by a healthcare professional’. The other useful sources of advice were guidebooks and friends and relatives. Age was not a significant factor whereas gender was, with 39.90% of female respondents regarding doctors as the most useful source compared to only 27.17% of male respondents (chi square = 6.558, df = 1, $p = <0.01$). Some 5.78% of male respondents regarded government campaigns as the most useful source compared to only 1.44% of female respondents (chi square = 5.229, df = 1, $p = <0.02$).

Table 12. 12 Most useful sources of travel health advice

Most useful sources of health advice	Number	Percentage
Friends and Relatives	59	15.45
Guidebooks	68	17.80
Travel agent	41	10.73
Doctor	131	34.29
Brochure	14	3.66
Government campaign	13	3.60
Other	18	4.71

12.10 Precautions Taken by Respondents to Prevent Health Problems

Some 59.42% (n=227) of all respondents identified precautions they take to prevent health problems when they travel which indicates that many tourists take no precautions at all. Respondents could identify more than one precaution so the total does not equal 100% (Table 12.13). Taking care with food and water is the precaution most frequently identified, yet previous research has indicated that this is

unlikely to significantly affect the health experience of tourists (Blaser, 1986; Bryant *et al*, 1991; Steffen *et al*, 1983; Mattila *et al*, 1995).

Some 4.4% of respondents in this survey had been vaccinated, 7.5% used malaria prophylaxis and 1.05% avoided insect bites. Approximately one-quarter of the respondents in this survey visited developing countries in their first three trips, where the risk of being exposed to serious health problems is high and therefore it had been expected that a higher percentage of respondents would have taken precautions. It has been shown that travellers visiting the Indian subcontinent are exposed to 1835 times greater risk of hepatitis A than those visiting France (Behrens, 1997). These results suggest that many tourists facing serious health risks do not receive adequate information about the risks they face nor do they take appropriate preventive actions.

Table 12. 13 Health precautions taken by respondents

Health precautions taken	Number	Percentage
Care with food and water	144	37.70
Care to prevent malaria	29	7.50
Appropriate vaccinations	55	14.40
Care in sun	3	0.79
Care to prevent insect bites	4	1.05
Other	55	14.40

Table 12. 14 Number and Percentage of Respondents who take Precautions According to Age.

Age of Respondents	Number	Percentage
Under 19 years	4	1.76
20-29 years	91	40.09
30-39 years	66	29.07
40-49 years	16	7.05
50-59 years	20	8.81
60+ years	28	12.78
Total	225	59.42

(chi square = 21.159, df = 6, $p < 0.01$)

Gender is not a factor affecting whether respondents took precautions but age was a significant factor (Table 12.14). It was surprising to find that respondents aged 20-39

were the most likely to take precautions because respondents in this age group surveyed in Fiji (Chapter 8.73) and in other surveys experienced the highest incidence of health problems (Cossar *et al*, 1991; Freitag, 1994).

The region of booking is not a significant factor affecting whether respondents take precautions. This result was a little unexpected because considerable resources have been employed in developing travel health promotion programmes in the United Kingdom and Western Europe (Stears, 1996). It had been expected that respondents from those countries would be far more likely to take travel health precautions and these results again question the effectiveness of the health promotion model in modifying tourist health behaviour. It was of concern to note that no statistical link existed between the destinations visited and whether or not respondents took health precautions. This again suggests that few travellers visiting the riskier regions of Asia and Africa are aware of the risks they face and take appropriate precautions.

12.11 The Implications for Travel Health Promotion

These results confirm earlier studies which show that a strong link that exists between destination and health risks (Carter, 1998; Cartwright, 1996), but indicates that very few tourists who visit high- or medium- risk destinations are aware of the risks they face or the precautions they should take. This further highlights the need to include risk assessment strategies focusing on high-risk destinations in any model which addresses tourism health issues. Although the health promotion model of Tannahill (1985) consists of three equal, overlapping domains, Downie *et al*, (1996:57) comment: “in practice, ‘policy makers and managers often seem to place an exclusive, or near exclusive, emphasis on ...educational interventions”. The focus of educational interventions has been upon behavioural change with the “stress placed upon appropriate behaviour modification in relation to personal hygiene, food handling, sexual behaviour and drug use” (Cossar 1997:23). Stears (1996) identifies the need to evaluate health promotion activities. Unfortunately however, this research project overall suggests that health promotion activities in the United Kingdom may have done little to increase the knowledge of tourists or travel agents about the risks associated with travel or to improve the overall health experiences of tourists.

Tourists receive health advice from many sources, including friends and relatives, doctors, travel agents, guidebooks, travel brochures and government campaigns, but again, it appears that receiving advice has little influence on the incidence of health problems experienced. In contrast however, other research shows that preventive services can be the most important for some tourists who face a high risk of contracting serious health problems such as malaria or hepatitis A and typhoid (Behrens, 1997; Steffen, 1997). Therefore tourists visiting high- or medium-risk destinations must be warned of the risks they face and advised to seek preventive services from their doctors. At present, few tourists seek information and preventive services while many who travel to destination that pose higher risks do not take appropriate precautions (Behrens, 1997). These results indicate that a link exists between destination and health problems experienced and therefore risk assessment strategies focusing on destinations must be included in any model seeking to address tourism health issues.

12.12 Summary

Some 6.8% of respondents experienced some health problem on the first trip, 8.12% on the second trip and 8.64% on the third trip. These rates are lower than in some other studies, probably because approximately three-quarters of these respondents visited low-risk destinations whereas other research has for the most part, surveyed tourists who visited medium- and high-risk developing countries. In addition, this research relies on recall, which for some goes back a number of years. The incidence of health problems experienced reflects the percentage of respondents who visited developing regions, thus indicating that environmental factors are strongly linked to health problems. South America, Asia and Africa were statistically linked to health problems, yet few respondents who visited these regions take appropriate precautions.

Travel health promotion activities have been widely undertaken in the United Kingdom and Western Europe since 1990, but respondents from these countries did not experience a lower incidence of health problems than respondents from other countries. Increased travel experience also had no effect on the incidence of health problems experienced.

Health information is disseminated to tourists from a number of sources including friends and relatives, doctors, guidebooks, travel agents, travel brochures and government campaigns. Doctors are regarded by respondents as the most useful source of health advice. A higher percentage of respondents from the United Kingdom were advised by their travel agents about health issues than were respondents from other countries. This suggests that although health promotion activities in the United Kingdom have done little to affect the incidence of health problems experienced by tourists, these activities have raised the general awareness of travel agents about health issues. Unfortunately however, destination does not appear to be a factor influencing whether respondents were advised about health issues by their travel agents yet this is the most important factor affecting the health experience of tourists. Therefore risk assessment activities must be undertaken to increase the percentage of tourists travelling to high-risk destinations who receive medical advice.

Approximately half of the respondents regularly take precautions to avoid health problems when travelling overseas. Taking care with food and water is the most common precaution with few respondents indicating that they have had vaccinations, malaria prophylaxis or routinely take care to avoid insect bites. Respondents who received advice from doctors were also the most likely to take precautions.

Approximately 20% of travellers who had health problems on their first trip also had health problems on their second trip and 22% had problems on their third trip. One third of the respondents who had health problems on their second trip also had problems on their third trip, suggesting that psychographic factors may be linked to the incidence of health problems experienced. Therefore this next chapter will use multivariate analysis to identify whether psychographic factors affect tourist health experiences.

Chapter Thirteen

The Influence of Psychographic Factors on Tourism-Health Experiences

13.1 Introduction

The health promotion model argues that interventions using the activities of education, prevention or protection will reduce the incidence of health problems. Education has been identified as the most important activity for addressing tourism health issues (Cossar, 1997) and accordingly, travel health education campaigns in the United Kingdom have tended to target specific groups of tourists. For example the *Travel Safe* campaign undertaken in June 1993 targeted business travellers who were sexually active, young backpackers, executives seconded overseas, holiday makers and people visiting relations and friends (Stears, 1996). With regard to the need to identify target groups Weston (1996:238) comments:

The needs of specific target groups have to be understood and addressed so as to maximise the effectiveness of the campaign or the message....The information needs of different groups vary, so messages should be targeted directly to their needs.

While it has been shown that socio-demographic factors such as age and gender influence tourist health experiences, other research suggests that psychographic factors also need to be considered. Ryan and Robertson (1997:136) in their study of New Zealand student-tourists suggest “that attitudinal data are important in identifying categories of students who are more at risk than others”. Ryan and Robertson (1997) identified seven groups of student tourists including Moderates, the Reflective Cruisers, the Vibrant Voyagers, the Comfortables, the Isolates, the Experiential Socialisers and the Woebegone Wayfarers. Ryan and Robertson showed that a proportionately high level of risk behaviours were committed by two groupings of students who together accounted for 17.5% of the sample. Psychographic studies of tourists have been conducted including that undertaken by Wickens (1994) who identified five groups of tourists including the Lord Byron, the Cultural Heritage, the

Heliolatrous, the Raver and the Shirley Valentine. In Chapter 12.3 of this thesis, it was shown that 19% of respondents who experienced health problems on their first overseas trip also experienced problems on their second trip while 32% of respondents who experienced health problems on their second overseas trip also experienced problems on their third overseas trip.

Attitudes are viewed as being central to health promotion and influence the overall effectiveness of health promotion activities (Green and Kreuter, 1991). Downie *et al* (1996:120) comment:

The way individuals and groups respond to health promotion initiatives are linked to health related beliefs and behaviour... Attitudes cannot be measured in a direct standardised manner, but are inferred through exploration of beliefs and behaviour.... Attitudes are influenced and determined by societal and situational factors and an understanding of these is central to the development and delivery of health promotion activities.

Thus this chapter examines the influence of attitudes on tourist behaviour and their health experience and whether psychographic factors are useful in identifying at-risk tourists. Factor analysis and cluster analysis can be used to examine whether any association exists between health behaviour and attitude and accordingly, the survey of New Zealand residents and overseas tourists undertaken in New Zealand included a section questioning all respondents about their attitude towards health risks and associated behaviour. This chapter addresses the research questions:

How useful are psychographic factors in identifying at-risk tourists?

How effective are travel health education activities based on psychographic factors?

13.2.1 Factor Analysis

Factor analysis can be used to examine the underlying patterns or relationships between a large number of variables. In this research, which is modelled on that undertaken by Clark and Clift (1994) and replicated by Ryan and Robertson (1997), factor analysis is used to explore the principal attitudinal and behavioural dimensions associated with tourism health issues. All respondents in the survey regarding health

advice and behaviour were asked to complete a section of the questionnaire comprising attitudinal statements which used a seven-point Likert scale. Using the Principal Components method of extraction, six factors with eigenvalues >1 were identified, which accounted for 61.4% of the total variance. Rotation to the varimax criterion revealed six readily interpretable factors with substantial loadings from ± 0.5 for two or more items for all factors (Table 13.1).

Factor 1: Action and Outdoors

This factor focuses upon respondents' attitudes towards the natural environment with a strong emphasis on adventure activities. Three items relate to the natural environment and visiting scenic places while two items relate to outdoor activities. This factor is also defined by a desire to meet new people.

Factor 2: Health Precautions

This factor is the most relevant to the present project as it is concerned entirely with attitudes towards tourist health precautions. This factor included taking care with food and water, avoiding infections, avoiding insect bites and taking care not to get sunburnt.

Factor 3: Cultural Activities

This factor relates to activities that are primarily associated with cities and include shopping, shows, and cultural or historic attractions. Other important items within this factor are being with friends and travelling on package tours.

Factor 4: Night life and Relaxation

This factor is defined by three items regarding attitudes towards an exciting nightlife and drinking alcohol. This factor also identifies whether respondents enjoy just relaxing and sitting in the sun.

Factor 5: Free Independent Travel

This factor is defined by whether respondents like to travel independently and whether cost is an important factor.

Factor 6: New Experiences

This factor is defined by two items concerned with new experiences such as eating local food and trying to see as many new things as possible.

Table 13.1 Six dimensions of attitude towards holiday experiences

Items	1	2	3	4	5	6	Communality
Factor 1: Action & Outdoors							
I like adventure activities	0.744	-0.080	-0.019	0.193	0.111	0.158	0.628
I like lots of outdoor activities	0.744	0.037	-0.000	0.097	-0.770	-0.201	0.608
I like to visit out of the way places	0.743	0.111	-0.051	-0.007	0.014	-0.198	0.608
I like visiting natural and scenic places	0.604	0.346	0.175	-0.281	0.155	-0.071	0.624
I like to meet new people	0.585	0.257	0.105	0.066	0.140	-0.048	0.448
Factor 2: Health Prevention							
I like to ensure food and water is clean	0.060	0.804	0.056	-0.038	0.009	0.033	0.655
I take care to avoid infections	0.115	0.785	0.102	-0.048	-0.078	-0.036	0.650
I take care to avoid insect bites	0.056	0.748	0.170	0.073	0.010	0.003	0.596
I take care not to get sunburnt	0.077	0.526	0.037	-0.182	-0.062	-0.268	0.592
Factor 3: Cultural activities							
I prefer to be with friends	-0.257	0.046	0.683	0.206	0.145	-0.166	0.521
I prefer travelling on a package tour	-0.094	0.166	0.653	0.032	-0.368	0.018	0.610
I love shopping	-0.257	0.046	0.648	0.206	0.145	-0.166	0.579
I like to go to shows, concerts or the theatre	0.144	0.163	0.644	-0.000	0.212	-0.909	0.544
I like visiting historic & cultural attractions	0.323	0.310	0.550	-0.308	0.210	-0.092	0.648
Factor 4: Night life & relaxation							
I usually drink more alcohol than I would at home	0.106	-0.081	-0.078	0.756	0.010	-0.163	0.621
I like an exciting night life	0.244	-0.130	0.151	0.710	0.086	-0.173	0.638
I like to spend time just sitting in the sun	0.065	-0.097	0.261	0.518	0.421	0.079	0.570
Factor 5: Free independent travel							
I like travelling independently	0.298	-0.048	-0.251	-0.001	0.704	0.085	0.658
I try to travel as cheaply as I can	-0.027	0.012	0.182	0.060	0.704	-0.145	0.555
Factor 6: New experiences							
I try to eat local food as often as I can	0.122	0.128	-0.056	0.125	0.129	0.737	0.617
I try to see and do as many new things as I can	0.239	0.063	0.198	0.002	-0.049	0.687	0.575
Variance						12.281	
% Variance						0.614	

13.2.2 Levels of Agreement and Disagreement with Items Defining each Factor.

Factor 1: Action and outdoors

Some 298 (78.01%) respondents liked to visit natural and scenic places and 257 respondents (67.28%) agreed or strongly agreed that they liked lots of outdoor activities. Some 225 (50.25%) agreed that they liked to visit out of the way places.

213 (55.76%) of respondents agreed or strongly agreed that they liked adventure activities while 283 (77.09%) respondents really liked to meet new people.

Factor 2: *Health Precautions*

The health precautions most commonly engaged in were taking care with food and water which was undertaken by 295 (77.22%) respondents while 292 (76.44%) take care to avoid infections. Taking care to avoid sunburn is undertaken by 225 (58.9%) respondents while taking care to avoid insect bites is undertaken by only 181 (47.38%) respondents.

Factor 3: *Cultural Activities*

Less than half of the respondents really liked city/cultural activities with only 141 (36.91%) indicating they like to go to shows, concerts or the theatre. Approximately half of the respondents (51.05%) liked visiting historic or cultural attractions. It was surprising to find that only 103 (26.97%) respondents loved to go shopping. Being with friends was important to 156 (40.83%) respondents.

Factor 4: *Nightlife and Relaxation*

90 (23.56%) respondents usually drank more alcohol than they would at home while 96 (25.13%) liked an exciting nightlife. Just sitting in the sun was not highly popular with only 64 (16.76%) respondents indicating that they really like to do so.

Factor 5: *Independent Travel*

184 (48.17%) liked travelling independently while 144 (37.70%) travelled as cheaply as they could.

Factor 6: *New Experiences*

Trying local food as often as they can on holiday is important for approximately half of the respondents (52.36%) while 305 (79.84%) try to see and do as many new things as they can.

Table 13.2 reports mean responses for attitudinal statements for the total sample. Overall, these results show that respondents in this survey like to see and do new things, they enjoy meeting new people and enjoy the natural, scenic environment. Tourist behaviour towards health issues shows that most respondents take care with food and water and avoid infections with fewer taking care to avoid insect bites and sunburn. Few respondents are keen on travelling on a package tour, drinking more alcohol on holiday, a luxurious lifestyle or doing as little as possible.

13.3 Cluster Analysis

Cluster analysis was undertaken using the Minitab function of Hierarchical Cluster Analysis of Variables using the Ward's method of clustering and modelled on that undertaken by Ryan and Robertson (1997). The purpose of identifying clusters based on attitude is to assess whether any factor exists, apart from socio-demographic factors, to explain behaviour (Ryan and Robertson, 1997). It is recognised that this sample was not as homogenous as the sample in Ryan and Robertson's (1997) study, but it was still hoped that factors, other than socio-demographic factors, would be identified which influence tourist health behaviour. Four groups of respondents were identified and these are described below. The four cluster solution was the best solution in that checking the results using the Minitab Discriminant Analysis commands indicated that 98.8% of the respondents were 'correctly allocated' to their groups. The profiles of responses to the attitudinal items are reported in Table 13.3.

1. *Natural Environmentalists* - comprise 106 observations, which equals 27.74% of all respondents. This group scored above the mean for 'eating local food', 'lots of outdoors activities', 'visiting natural and scenic places', 'I like adventure activities' and 'travelling independently'. Their scores on 'try to see as many things as I can' and 'try to meet local residents' or 'visiting cultural or historic attractions' were a little below the mid-point of the seven point Likert scale. This group is the least interested in going to shows, visiting historic or cultural attractions and having a luxurious lifestyle on holiday. They are also least likely to 'drink more alcohol than at home' and do not particularly 'like an exciting night life'. With regard to tourism health problems, these respondents view health precautions as moderately important and take some care to ensure their food and water is clean, to avoid infections or sunburn and being bitten by insects.
2. *Relaxing Conservatives* comprises 100 observations which is 26.18% of the sample. This group most likes to travel on package tours, live luxuriously on holiday and prefer to unwind and do as little as possible. They like shows and cultural activities and are moderately enthusiastic about shopping. They least like to meet new people or see and do new things and do not particularly like

to be with friends. This group definitely does not like outdoor activities, independent travel, visiting out of the way places, adventure activities. do not drink more alcohol and are not particularly interested in an exciting nightlife. Although respondents in this group are the least adventurous and are therefore the least likely to face health risks, they are very careful to avoid sunburn, infections and insect bites and take good care with food and water. This is the most conservative of all four groups.

3. *Experiential Enthusiasts* comprises 70 observations which is 18.32% of the sample. This group is full of busy tourists who thrive on new experiences and try to do as much as possible. Their scores were higher than those of other clusters for most variables including 'trying to see and do as many things as possible', 'trying local food', 'outdoor activities', 'meeting local residents', 'meeting new people', 'going to shows' and 'historic/cultural attractions', 'shopping' and 'being with friends'. This group enjoyed living more luxuriously than at home and quite enjoyed travelling independently. This group enjoys an exciting nightlife, but do not drink more alcohol than at home. This is the group most likely to be exposed to health risks because of the activities they engage in, yet they also take the most health precautions.
4. *Party animals* comprise 106 observations which equals 27.7% of the sample. An exciting nightlife is the most important aspect of a holiday for this group and they are the most likely to drink more alcohol on holiday than at home. They like travelling independently but don't like the outdoors, visiting natural or scenic places and are not particularly keen on sitting in the sun. They dislike package tours and do not like visiting cultural or historical attractions. Of all four groups, the 'party animals' are the least concerned about possible health risks and take the least precautions.

These results indicate that the relaxing conservatives and the experiential enthusiasts, who total 44.5% of the total sample, are the most concerned about tourism health problems and would be the most likely to take precautions to protect themselves. The other two groups, the natural environmentalists and the party animals, are less

concerned about health issues and therefore would be less likely to take health precautions.

Table 13.2 Responses to the attitudinal statements for the total sample

Item	N=382	Mean	SD
I try to see and do as many new things as I can		1.72	1.11
I try to eat local food as often as I can		2.58	1.52
I like lots of outdoor activities		2.11	1.27
I take care not to get sunburnt		2.63	1.49
I like to visit out of the way places		2.31	1.23
I like visiting natural and scenic places		1.78	1.04
I take care to ensure food and water is clean		1.85	1.18
I take care to avoid infections		1.88	1.18
I try to meet local residents		2.21	1.21
I usually drink more alcohol than I would at home		4.35	2.10
I like an exciting night life		3.95	1.91
I like to meet new people		1.98	1.23
I prefer travelling on a package tour		4.96	2.01
I like to go to shows, concerts or the theatre		3.29	1.84
I like visiting historic and cultural attractions		2.53	1.41
I enjoy a more luxurious lifestyle than at home		4.46	1.92
I like to unwind and do as little as possible		4.47	1.77
I take care to avoid insect bites		2.75	1.55
I like adventure activities		2.58	1.60
I like travelling independently		2.85	1.80
I like to spend time just sitting in the sun		4.21	1.87
I prefer to be with friends		2.87	1.48
I love shopping		3.72	1.96
I try to travel as cheaply as I can		3.06	1.64

(Note: Scale from 1 to 7 with 1 indicating strong agreement and 7 indicating strong disagreement)

It was surprising therefore, to find that although the relaxing conservatives indicated a high concern with health issues, only a quarter of them always or nearly always took health precautions (Table 13.4). The natural environmentalists were the most likely to take precautions, even although they had indicated that they were not overly concerned about health issues. A level of similarity in behaviour occurred between the experiential enthusiasts and the party animals even although their attitudes towards health issues varied somewhat. These results confirm the findings from the survey of tourists in Fiji which showed that attitude does not always translate into behaviour (see Chapter 10.3). Downie *et al* (1995:130) has suggested that 'the behavioural component of an attitude is not always present and, even when it is, it is not necessarily concordant with the other components of attitude'. This would suggest therefore that the health promotion activity of education may not always be effective

Table 13.3 Profile of responses to the attitudinal items for four clusters of respondents

Variable	1	2	3	4	Overall Mean
I try to see and do as many things as I can	1.8491	1.8900	1.2714	1.7358	1.7225
I try to eat local food as often as I can	2.5755	3.0600	2.0286	2.5094	2.5838
I like lots of outdoors activities	2.0283	2.7400	1.4714	2.0377	2.1152
I take care not to get sunburnt	2.4434	2.6200	2.2714	3.0943	2.6387
I like to visit out of the way places	2.0566	3.0500	1.8714	2.1604	2.3115
I like visiting natural and scenic places	1.5283	2.2600	1.3000	1.9245	1.7880
I take care to ensure food and water is clean	1.8302	1.7600	1.3857	2.2925	1.8586
I take care to avoid infections	1.8113	1.7300	1.4429	2.3962	1.8848
I try to meet local residents	2.2453	2.6100	1.7000	2.1698	2.2199
I usually drink more alcohol than at home	5.7925	5.0800	3.4143	2.8491	4.3534
I like an exciting night life	5.3962	4.6400	2.6714	2.7075	3.9529
I like to meet new people	2.0755	2.5700	1.4571	1.6981	1.9869
I prefer travelling on a package tour	6.0660	3.4700	3.6571	6.1321	4.9634
I like to go to shows	4.3585	3.1700	1.7714	3.3585	3.2958
I like visiting historic/cultural attractions	2.7453	2.6900	1.6000	2.8113	2.5393
I enjoy a more luxurious lifestyle	5.5943	3.6700	2.8429	5.1509	4.4634
I like to unwind and do as little as possible	5.5000	3.9900	3.4714	4.5566	4.4712
I take care to avoid insect bites	2.8491	2.6200	1.7143	3.4906	2.7592
I like adventure activities	2.5472	3.6700	1.7429	2.1698	2.5890
I like travelling independently	2.2264	4.4900	2.4857	2.1887	2.8560
I like to spend time just sitting in the sun	5.3585	4.9700	2.7857	3.3208	4.2199
I prefer to be with friends	3.6321	2.6700	1.9286	2.9340	2.8743
I love shopping	5.0000	3.3000	1.8571	4.0660	3.7199
I try to travel as cheaply as I can	3.2547	3.8000	2.2857	2.6981	3.0654
Total	106	100	70	106	382

(Note: Scale from 1 to 7 with 1 indicating strong agreement and 7 indicating strong disagreement)

in reducing the incidence of health problems experienced by tourists and that the other activities of prevention and protection, may be more effective overall.

Table 13. 4 The percentage of respondents in each cluster who always/nearly always take health precautions

Item	1	2	3	4	χ^2	<i>P</i>
Ensure that food you eat is clean	31.62	26.84	20.22	21.32	15.034	0.002
Ensure you drink only clean water	32.20	25.08	19.20	23.53	11.639	0.009
Use sunscreen when in the sun	32.39	26.76	20.19	20.66	9.308	0.025
Use insect repellent	28.03	25.00	27.27	19.70	12.900	0.005

(degrees of freedom = 3)

(1= Natural Environmentalists; 2 = Relaxing Conservatives; 3 = Experiential Enthusiasts; 4 = Party Animals)

Some 17.8% of all respondents experienced a health problem at some stage during their first three overseas trips. Cross tabulation shows that the percentage of relaxing conservatives who experienced health problems remained relatively stable on the first and second trips, but doubled on the third trip (Table 13.5). Again, this was unexpected given their high expressed concern with health issues. In contrast, the party animals who take the least precautions overall, had a high incidence of health problems on both the second and third trips, thus suggesting that a link could occur between behaviour and health experiences. It is very surprising to find that the incidence of health problems experienced by the natural environmentalists, rose on each subsequent trip, particularly as this cluster takes the most precautions. Therefore, although differences in health experiences do exist between the clusters, these differences do not reflect the health behaviour of the clusters (i.e. the precautions taken). This again indicates that influencing tourist health behaviour does not appear to be very effective in reducing the incidence of health problems experienced.

Table 13. 5 Number and percentage of respondents in each cluster who had health problems on each overseas trip

Clusters	First Trip		Second Trip		Third Trip	
	No.	%	No.	%	No.	%
Natural environmentalists	5	4.72	7	6.60	9	8.49
Relaxing Conservatives	7	7.00	6	6.00	12	12.00
Experiential Enthusiasts	7	10.00	2	2.86	0	0
Party Animals	7	6.60	16	15.09	12	11.32
Total	26	6.81	31	8.12	33	8.64

13.4 The Health Advice given by Travel Agents to Clusters

Table 13.6 shows that differences exist between the clusters regarding whether or not travel agents talked to respondents about health issues (chi square = 7.622, df = 3, *p* = 0.055). Travel agents talked most frequently about health issues to the party animals, the group least concerned about health issues, and to the experiential enthusiasts, the group most concerned about health issues. The relaxing conservatives and natural environmentalists received the least advice.

Table 13. 6 Number and Percentage in each Cluster who were advised about health issues, who talked for travel advice and who were advised to seek medical advice

Cluster	Travel agents talked about health issues		Respondents asked about health issues		Advised to seek medical advice	
	No.	%	No.	%	No.	%
Natural Environmentalists	23	21.70	14	13.21	12	11.32
Relaxing Conservatives	28	28.00	25	25.00	12	12.00
Experiential Enthusiasts	26	37.14	19	27.14	20	28.57
Party Animals	39	39.79	30	28.40	28	26.42
Total for Respondents	116	30.37	88	23.04	72	18.85
Statistical Significance	<i>P</i> = 0.055		<i>P</i> = 0.040		<i>P</i> =0.002	

(degrees of freedom = 3)

The same pattern was repeated with regard to how often respondents asked travel agents about health issues (chi square = 8.317, df = 3, *p*= 0.040) with the highest percentage of party animals and experiential enthusiasts asking their travel agents about health issues. These results were unexpected because the attitudinal mean regarding health precautions for each group had indicated that the experiential

enthusiasts and the relaxing conservatives would be the most likely to ask for health advice while the party animals would be the least likely. Significant differences exist between clusters regarding whether respondents were advised by their travel agents to seek medical advice (chi square = 15.288, df = 3, $p = 0.002$). Only 11.32% of natural environmentalists were advised to seek medical advice, compared to 12.00% of relaxing conservatives, while 26.42% of party animals and 28.57% of experiential enthusiasts were advised to seek medical advice. This was again unexpected, given that the party animals were the least concerned about health issues.

13.5 The Influence of Socio-Demographic Factors on the Clusters

Nominal regression analysis was undertaken to examine whether age and gender were multiple determining variables of the clusters, but the results showed that this did not occur. Correlation analysis of age, gender and country of booking was also undertaken and of these factors, only age was correlated with the clusters (Pearson's Correlation = -0.191, p-value = 0.000). Although only 65.35% of all respondents were aged between 20 to 40 years, cross tabulation shows that this age group accounts for 83.33% of the party animals and 71.55% of the natural environmentalists (Table 13.7). In contrast, 48.38% of the relaxing conservatives were aged 50 years and over, while only 38.7% of this cluster were aged 20 to 40 years. With regard to asking and receiving health advice, it would seem likely that age is a determining factor influencing behaviour of the clusters, particularly the relaxing conservatives of whom approximately half were aged 50 years and over. While this cluster indicated a high concern with health issues, they were less likely to ask for advice and age would be a reasonable explanation for this behaviour. However, age does not entirely explain the differences in attitude and health experience between the other clusters, which all comprise a high percentage of those aged 20-40 years. It has already been shown that age was not statistically linked to the health problems experienced by respondents in this survey (see Chapter 12.5) which suggest that socio-demographic factors alone are not the key determinants underlying the incidence of health problems experienced by clusters.

Table 13.7 The age of respondents in each cluster.

Age	Natural Environmentalists		Relaxing Conservatives		Experiential Enthusiasts		Party Animals	
	No.	%	No.	%	No.	%	No.	%
Under 19 years	2	1.72	4	4.30	2	2.86	6	5.88
20-29 years	52	44.83	18	19.35	34	48.57	62	60.78
30-39 years	31	26.72	18	19.35	11	15.71	23	22.55
40-49 years	8	6.90	8	8.60	4	5.71	7	6.86
50-59 years	9	7.76	16	17.20	9	12.86	0	0
60+ years	14	12.07	29	31.18	10	14.29	4	3.92
Total	116	100.00	93	100.00	70	100.00	102	100.00

13.6 Implications for Travel Health Promotion

These results show that differences between the four clusters exist in their attitude towards health issues and differences also exist in health behaviour. However, the differences in health behaviour do not reflect the differences in attitude expressed by respondents between clusters. The health promotion model is premised on the belief that changing people's attitudes by education will lead to changed health behaviour which will result in a reduced incidence of health problems. However, these findings indicate that attitude and behaviour are not always linked, which means that travel health education may not be particularly effective at reducing the incidence of tourist health problems. This supports the argument of this thesis that the health promotion model is not an effective strategy for addressing tourism health problems.

Differences between the clusters also exist regarding the health advice received from travel agents, with the *party animals* being most likely to ask and receive information, yet being the least likely to take precautions. While age is correlated to the clusters, this socio-demographic factor does not entirely explain the difference in behaviour or health experience between clusters. These results show that the cluster most likely to experience health problems (the party animals), are also the least likely to take precautions even although they appear to be the most open to education activities which suggests that travel health education activities may be relatively ineffective. Overall however, the differences between the clusters in terms of attitude and behaviour were not large which suggests that strategies to reduce the incidence of

health problems should focus on identifying risks associated with destination, rather than associated with psychographic factors.

13.7 Summary

Factor analysis identifies six composite factors which underlie tourist attitudes towards their holiday experience. These factors relate to attitudes concerning action and outdoors, health precautions, cultural activities, nightlife and relaxation, independent travel and new experiences.

Cluster analysis identifies four psychographic groupings categorised as 'Natural Environmentalists', 'Relaxing Conservatives', 'Experiential Enthusiasts' and 'Party Animals'. Two of these groups, the 'Relaxing Conservatives' and the 'Experiential Enthusiasts' are the most concerned about tourism health problems and indicate they take the most precautions. However, although individuals in these two clusters believe that they take care, cross tabulation shows that these differences in attitude do not translate into significant differences in behaviour with only 60% of the 'Relaxing Conservatives' taking any precautions at all.

Differences occurred in the rate of health problems experienced between the groups on each trip, and overall the 'Party Animals' experienced the highest rate of health problems while the 'Experiential Enthusiasts' suffered the least. Psychographic factors influence the precautions taken by respondents, but do not affect the incidence of health problems experienced. Psychographic factors also appear to influence whether travel agents give health information to tourists. The 'Party Animals' were the most likely to both receive and ask for advice from their travel agents and the most likely to be advised by travel agents to seek medical advice. However, although the 'Party Animals' were most likely to receive the advice, they were the least likely to follow advice, thus suggesting that travel health education activities may be ineffective for this group of tourists. The socio-demographic factor of age was correlated to the clusters, but this factor did not explain all the differences between the clusters. Overall therefore, while psychographic factors do exist, it would seem to be more efficient to identify high-risk destinations rather than attempting to identify

tourists at risk using psychographic factors. Further research is recommended to examine the influence of psychographic factors in more detail.

PART SEVEN

Chapter Fourteen

The Tourism Health Management Model

14.1 Limitations of the Applying the Health Promotion Model to Tourism

In the course of this research, a number of difficulties have been identified that arise when the principles of the health promotion model are applied to tourism health problems. The first difficulty arises because of the international nature of tourism. An inherent assumption of the health promotion model is that both behavioural and environmental issues will be addressed concurrently, with behavioural issues being addressed by education activities while environmental issues are addressed by protection activities which are initiated by government (Parish, 1995). Yet within the international context of tourism, no government has the jurisdiction to engage in protection activities outside its own borders and therefore no government can engage in protection activities relating to its own outbound tourists. International health programmes relating to travel health issues involving more than one country have been developed in Europe (Bröring, 1996; Stears, 1996), but these are for the most part, health education initiatives relating to sexually transmitted diseases or to the prevention of skin cancer, both of which can be regarded as public health problems. None of these initiatives address the environmental aspects of tourism health problems.

Many tourism health problems arise because of environmental issues and are destination-specific, rather than being caused by lifestyle or behaviour. This is in contrast to the health problems that have traditionally been the focus of health promotion activities such as heart diseases, smoking related diseases and cancer, all of which are regarded as lifestyle diseases. While it is true that sexually transmitted diseases and cancer resulting from over-exposure to the sun are lifestyle diseases, it is argued that these are public health problems rather than being purely tourism health problems. Much of the criticism about the health promotion model concerns the

failure to address environmental issues and it seems that a different approach for dealing with these problems may be needed.

The implementation of protection activities can only be undertaken by the host government, but in less developed countries, this is unlikely to occur, particularly when the residents of those countries are exposed on a daily basis to the same health problems faced by tourists. Cartwright (1996:63) comments that travellers' diarrhoea "is a condition which can largely be prevented, although the political will and investment required is huge". Consequently it is unlikely that protection activities will be undertaken in the less developed countries where the risks are the greatest. This is particularly so for residents of smaller tourism generating countries such as New Zealand. The underlying philosophy of health promotion is that all three activities (education, prevention and protection) must be undertaken together and therefore the overall effectiveness of this model must be limited because one of these activities (protection) is often not engaged in.

The provision of advice and information is the foundation of health education action and is the most commonly adopted travel health promotion activity on the assumption that these activities will result in a change in behaviour that leads to a reduced incidence of tourism health problems. However, none of the research undertaken in this thesis demonstrates that any link exists between health advice received and either change in behaviour or a reduction in the incidence of health problems experienced. This questions the effectiveness of the health promotion model as a strategy for reducing the incidence of tourism health problems.

Empowerment of the individual is another fundamental concept of the health promotion model (Downie *et al*, 1996) yet it would seem that the primary motive for undertaking travel health promotion by destination governments is to ensure that tourism health problems do not affect market share. Empowerment of tourists does not appear to be a reason for host governments engaging in protection activities. This again suggests that the theoretical constructs underpinning the health promotion model cannot be adhered to in practice and therefore it is inappropriate to apply to tourism health problems.

The tourism process consists of three phases: pre-travel, travel and post-travel, yet the strategies of prevention, education and protection are applicable only in the pre-travel and travel phase of tourism. Tourism health problems often continue to affect tourists in the post-travel phase of tourism, yet this research shows that no travel health promotion strategy can be applied in this phase. This thesis argues that the travel health promotion model needs to be expanded to recognise this fact.

The severity of health problems experienced by tourists varies greatly. The majority of tourist health problems tend to be minor in nature, and while they may affect the enjoyment of the tourist during the time they are experiencing these problems, this research shows that these minor health problems have little impact on tourists' perceptions of their overall experience. This research suggests that travel health promotion activities make very little difference to the incidence of these minor health problems experienced. However, a small percentage of tourists experience health problems with very serious consequences and a strategy must be developed for identifying the risks associated with certain destinations and tourism activities. Steffen (1997:35) comments that "...it is essential to know the incidence rate of the various health risks and their impact. It would not be logical to protect travellers from rare risks, while leaving them unprotected from more important ones." Behrens (1997:46) comments

Health care providers face problems of defining regional and local risks of infectious diseases for their clients and over- or under- preparing them with advice and vaccines.... Objective definitions of high-, medium- and low-risk areas for vaccine and non-vaccine preventable illness are fundamental to this approach.... Actively seeking out risk groups, educating them on the risks and ways of reducing travel-related illness would be one way of tackling this problem.

This thesis recognises that risk assessment is implicit within the health promotion model, but argues that this activity must be identified as a discrete, fundamental activity in any model applied to tourism health issues. Risk assessment is important

to increase both the effectiveness and efficiency of activities engaged in to address tourism health problems. Effectiveness relates to reducing the incidence of tourism health problems while efficiency relates to the cost of the activities engaged in. The cost of treating malaria is much higher than the cost of malaria prophylaxis. Although hepatitis A is preventable with vaccinations, it is not cost effective to vaccinate all tourists travelling to regions where this disease is endemic. Therefore, some form of risk assessment is necessary to increase the overall cost effectiveness of preventive services. The resources available for addressing tourism health problems are limited and this fact must be acknowledged.

This research has shown that a percentage of tourists will experience health problems regardless of the strategies undertaken to prevent them, yet the travel health promotion has no strategy for dealing with health problems that do occur. The goal of health promotion is to improve the overall well-being and health of individuals and treatment must be acknowledged as a strategy which adheres to this goal. However, the health promotion model does not include treatment as a valid strategy for meeting this goal of the overall well-being and health of individuals and therefore this reduces its effectiveness as a strategy for addressing tourism health problems.

Thus it can be seen that a number of difficulties arise when attempting to apply the principles of the health promotion model to tourism health and safety issues. Having identified those weaknesses, it is now appropriate to present a new model that has been developed in the course of this research in an attempt to address these issues.

14.2 The Tourism Health Management Model

The proposed Tourism Health Management Model (Figure 8) seeks to address the limitations that have been identified in this research which arise in applying the health promotion model to tourism. In the Tourism Health Management Model, tourism health problems are viewed as the focus of all activities and are represented as a triangle. This triangle depicts the range of tourism health problems that occur, with the majority being minor in nature, a smaller number being more serious while a small percentage are serious with long-term implications.

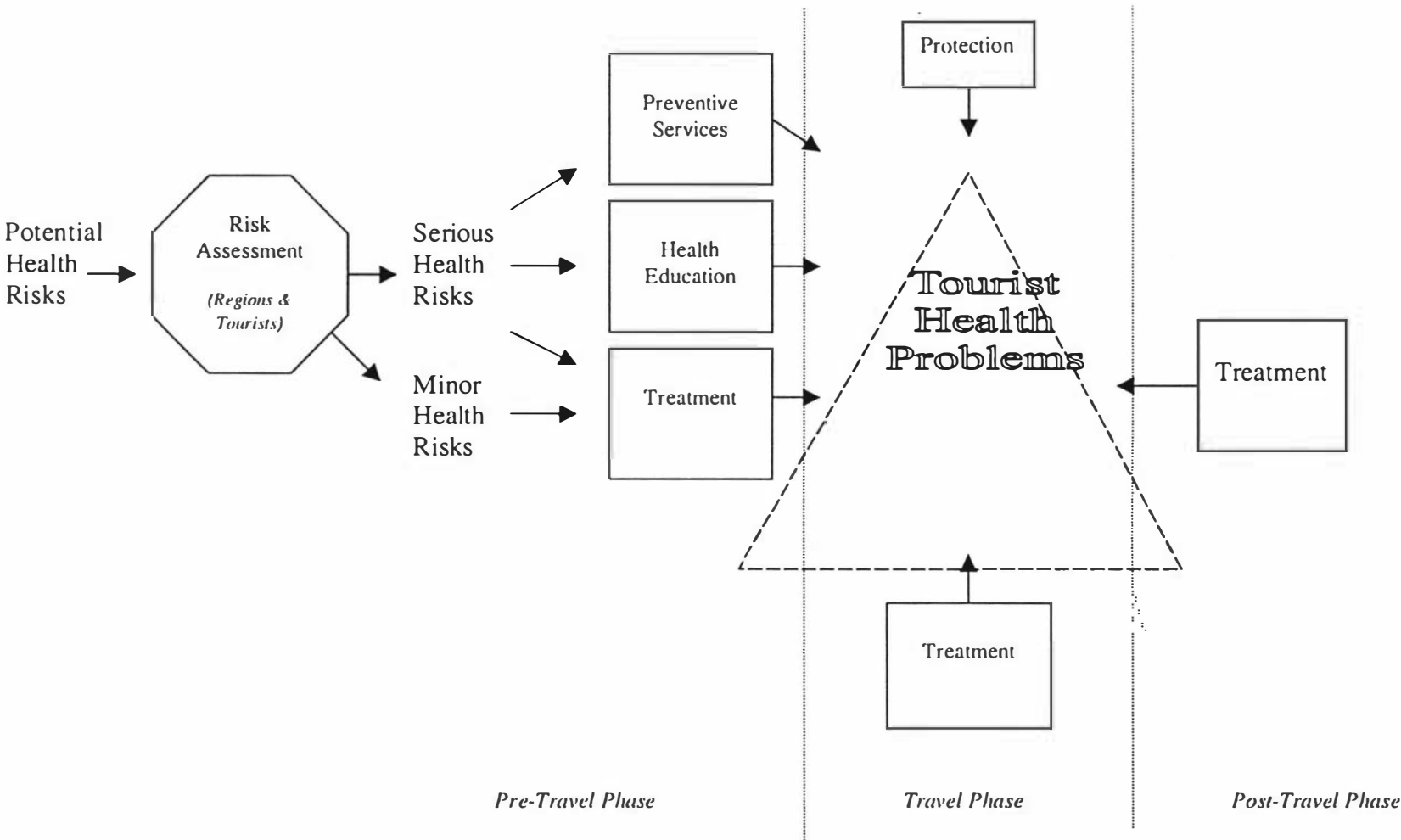


Figure 8 The Tourism Health Management Model

Tourism health problems can have implications in all three phases of the tourism process and this is shown in the Tourism Health Management Model. The three phases are identified and the relevant strategies for addressing health problems are placed within each of these three phases. Risk assessment is a new activity included in the Tourism Health Management Model. The focus of this activity is to identify the risks associated with destinations, rather than identifying risks associated with the socio-economic or psychographic factors of tourists. The inclusion of risk assessment in this model recognises the multi-sectoral nature of tourism health problems and acknowledges that the impact of tourism health problems extend beyond the tourism industry. This activity also recognises the factors that limit the role of the travel agent in the provision of accurate health advice. Risk assessment is an activity that must be undertaken by qualified medical personnel within the public health sector. Resources for addressing tourism health problems will be limited and risk assessment should increase the overall cost effectiveness of prevention and education by providing a mechanism whereby those most in need of these activities are identified.

This research has shown that no link currently exists between the advice that tourists receive and the destinations they visit, yet most tourism health problems are clearly linked to destination. Risk assessment is concerned with the establishment and maintenance of a tourism health database by qualified medical personnel which should be readily accessible to travel agents. In this way, the risks associated with destinations can be clearly identified so that travel agents can alert all outbound tourists travelling to those destinations of the need to seek medical advice and preventive services from a doctor. They do not need to have medical training or give advice about the risks their customers might face, but rather would advise all tourists planning to visit destinations identified as medium- or high-risk to seek advice from their doctors. It has already been argued that travel agents are not the appropriate channel through which to disseminate health information to tourists or to undertake risk assessment. However, their high uptake of information technology and their willingness to use a database could mean that a higher percentage of tourists requiring medical education and prevention activities are advised of that fact. The risk assessment strategy is therefore developed as a means to overcome the current ineffectiveness of the distribution channel in delivering travel health promotion activities to tourists who require them.

Protection is the responsibility of the host government in a destination, but this thesis argues that the overall effectiveness of this activity appears to be limited and unlikely to be affected by governments of outbound tourists. The Tourism Health Management Model acknowledges this reality by reducing the comparative size of protection in the model. This activity occurs in the travel phase of the tourism process as is shown in the Tourism Health Management Model.

This research has demonstrated that regardless of the precautions taken, a percentage of tourists will experience health problems, yet the health promotion model has no activity for dealing with health problems when they arise. In contrast, the Tourism Health Management Model includes the activity of treatment as a means of dealing with tourism health problems. This is an activity that can be undertaken by either trained medical personnel or by tourists themselves (for example, treating a mild infection of travellers diarrhoea with medication) and can take place during any of the three phases of tourism. Treatment is appropriate in the pre-travel phase when existing health problems can be managed so that they are not aggravated during the travel phase, as well as in both the travel and post-travel phases of tourism. The Tourism Health Management Model does not regard treatment as an alternative to other health promotion activities, but as an additional activity to be used in improving the overall health and well-being of tourists.

Education remains a relevant activity within the Tourism Health Management Model because there are a number of tourism health problems for which prevention and protection cannot reduce the incidence of health problems. For example, it is extremely important that tourists travelling to dengue fever endemic destinations are made aware of that fact and educated regarding the importance of preventing insect bites. Other health problems exist for which preventive services are available (for example, hepatitis A), but for which the vaccination for all tourists is not cost-effective. In addition, it is important that education activities focus on warning tourists who require preventive services of the risks they face and the need to seek medical interventions. Risk assessment is therefore undertaken in order to identify tourists visiting high-risk destinations who need to be educated regarding the need for preventive services and to increase the percentage who are educated.

The Tourism Health Management Model has been specifically developed to address the unique issues associated with international tourism health problems and to overcome limitations in the travel health promotion model. Having presented this model, the final chapter will assess whether the research question has been answered and will present the conclusions of this thesis.

Chapter Fifteen

Conclusions

15.1 Introduction

Tourism health issues in New Zealand affect a number of stakeholders including travel agents, GPs, the ACC, inbound tourists and outbound tourists. In attempting to deal with the complex issues that arise at the tourism-health interface, it has been suggested that the principles of health promotion can be applied. Stears' (1996) has suggested that the health promotion model, which consists of three core activities of education, prevention and protection, could be used as a strategy for addressing tourism health problems. Both disease and accidents are regarded as preventable within the health promotion model and accordingly, this model has been viewed by many researchers as an appropriate model which can be used to address tourism health and safety issues. An inherent assumption within the health promotion model is that the behavioural and environmental causes of ill-health will be addressed concurrently. Behavioural causes are addressed by education activities and environmental causes are addressed by protection activities.

Criticisms of the health promotion model have been made, particularly with regard to how effective the model is in addressing the environmental causes of health problems. Therefore, this thesis has asked the research question: Can the health promotion model be used as a strategy for addressing international tourism health problems? Case study methodology has been used to address this question because it is exploratory, descriptive or explanatory (Yin, 1989), and all three activities have been undertaken in this research. An important aspect of case study methodology is that several pieces of information from the same case can be linked together and applied to some theoretical proposition. Accordingly, five surveys have been undertaken so that issues associated with tourism health problems in New Zealand can be examined from the perspectives of different stakeholders. The impact of tourism health issues on travel agents, GPs, the ACC, inbound and outbound tourists in New Zealand has been

evaluated in this research. This thesis has sought to answer the research question by evaluating the overall effectiveness of the health promotion activities at each stage of the tourism process. During the course of this research, descriptive baseline data concerning tourism health problems in New Zealand has been generated and key issues that affect the application of the health promotion model to tourism have been identified.

15.2.1 The Limitations of Travel Health Education Activities

Education activities are regarded as the primary focus of current travel health promotion activities (Cossar, 1997). However, in Chapter 12.7 it has been shown that over half of all tourists never receive any health information and the information that is given tends to be of a general nature and does not relate to the specific health risks associated with the destinations being visited. For example, in Chapter 10.6, it was shown that only 10% of tourists surveyed in Fiji were advised to take care to prevent insect bites, even although dengue fever is endemic in that country. In Chapter Ten, it was also suggested that knowledge, gained either from information given by travel agents or gained by previous experience, did not affect the health experience of tourists. The sources from which tourist receive health advice do not affect the health knowledge of tourists.

Psychographic factors have been identified which show that tourists can be divided into four clusters. While differences exist between clusters in their attitudes, behaviour and health experiences, these differences do not appear to be sufficiently robust to be useful as a tool which can be used to identify tourists most at risk. This research has also shown that differences in attitude between the clusters do not translate into expected differences in behaviour. Thus these results indicate that changing the attitude of individuals by means of education, does not necessarily result in a change in behaviour or health outcomes. Socio-economic factors appear to influence the health advice given to tourists as well as their health experiences. Overall however, the most significant factor affecting the incidence of health problems experienced appears to be the environment. In general, tourism health problems tend to be destination specific, rather than caused by lifestyle as is the case with the diseases usually targeted by health promotion activities within a single

country (for example, heart disease and cancer). Consequently, health education activities must become more focused on informing tourists about the risks associated with specific destinations, rather than providing general advice that may have little real relevance to the health risks faced by tourists.

Within the health promotion model, accidents are regarded as preventable, but this research suggests that education is unlikely to reduce the incidence of tourism health accidents experienced by either inbound tourists in New Zealand or outbound New Zealand residents.

It has been shown in Chapter Twelve that approximately 60% of tourists take precautions to avoid health problems, but this most often extends only to taking care with food and water. This research has shown that a large percentage of tourists take no precautions and do not in any way modify their behaviour to avoid health problems. The effectiveness of travel health education activities with their current focus on behaviour modification must therefore be changed to a focus on informing tourists of the need to seek preventive services from doctors when appropriate.

15.2.2 The Failure of Health Promotion Model to Identify Tourists Requiring Prevention Services.

The second health promotion activity of prevention is the remit of qualified medical personnel and includes immunisation against diseases such as typhoid, hepatitis A as well as the provision of medication such as anti-malarial prophylaxis. However, tourists are unlikely to seek medical preventive services (for example, vaccinations, malaria prophylaxis) if they are not advised of the need for prevention. Very few tourists appear to engage in preventive activities such as being vaccinated, using malaria prophylaxis or avoiding insect bites. This research has shown that approximately 10% of outbound tourists from New Zealand receive pre-travel health education or preventive services from their GP, which means that approximately 152,456 outbound tourists who travel to medium- or high-risk destinations do not receive appropriate pre-travel education or preventive services. It is estimated that 312 cases of malaria and 112 cases of dengue fever were contracted by New Zealanders and treated by their GPs on their return. Both these diseases can have

serious consequences and are preventable. Prevention activities are the most important activity for many serious tourism health problems yet no strategy exists within the health promotion model for identifying tourists who are at risk and who require preventive services. This is a major weakness that arises when applying the health promotion model as a strategy to reduce the incidence of tourism health issues.

15.3 The Limitations of Protection

This research has shown that protection activities are difficult to undertake in the context of international tourism. The New Zealand government has no jurisdiction to implement protection activities in other countries, even though protection may be an important factor affecting the incidence of tourist health problems. The health promotion model is based on the assumption that protection will take place alongside education and prevention, but it is unlikely that this will ever occur with regard to tourism health problems. Consequently, the underlying concept of the health promotion model, that all three activities are engaged concurrently, cannot be adhered to.

15.4 The Role of Travel Agents in the Dissemination of Health Information

Less than half of all travel agents in New Zealand surveyed in this research, regularly give health advice to their customers and consequently, one of the key issues that has arisen in this research concerns the role of travel agents in the dissemination of health information to tourists. There have been calls by researchers for travel agents to take greater responsibility for tourism health issues and provide more health advice to tourists (Behrens, 1997; Cossar, 1992, 1996, 1997; Grabowski and Behrens, 1996; Reid *et al* 1986; Schiff, 1991; Stears, 1996). However, this research suggests that in reality, increased involvement by travel agents is unlikely to occur. Not only are travel agents hampered by their limited knowledge concerning the health risks associated with specific destinations, but the economic and structural constraints of the tourism industry make it very difficult for them to provide accurate health information to tourists. Calls for travel agents to increase their involvement in the provision of health advice do not recognise that the primary role of travel agents is to act as intermediaries in the tourism distribution channel for tourism suppliers. No

motivation exists for travel agents to engage in travel health education activities. Thus a major limitation of the travel health promotion model is that no appropriate channel currently exists for the dissemination of tourism health information to the majority of tourists. However, travel agents have expressed a willingness to use a travel health database and if the risks associated with tourism to different destinations were identified by qualified medical personnel and made available to travel agents on a database, it would seem likely that many travel agents would be willing to advise all tourists visiting at-risk destinations to seek accurate advice and preventive services from qualified medical personnel. It would also seem important that a greater emphasis is placed on health issues in the training of travel agents.

15.5 Responsibility for Addressing Tourism Health Issues in New Zealand.

This research suggests that the majority of travel agents consider tourism health issues to be the responsibility of the health sector rather than of the tourism industry. By and large, travel agents consider GPs to be the most appropriate source of health advice for tourists and consequently any expectation that travel agents or the wider tourism industry will take more responsibility would appear to be quite unrealistic.

GPs also regard themselves as the most appropriate source of health information for outbound tourists, yet it is both impractical and inefficient for all tourists to visit their GP for pre-travel medical advice. Although 62% of the GPs surveyed consider that travel agents have some role to play in the provision of travel health advice, opinion appears to be divided among GPs regarding overall responsibility for informing tourists about the health risks they face. This thesis argues that tourism health problems are primarily a public health issue, rather than a tourism industry issue, in the same way that drunk driving is regarded a public health issue rather than an automobile industry issue. Addressing tourism health problems requires the input of medical knowledge and in many cases, intervention by trained doctors is necessary. This indicates that the overall responsibility for tourism health problems should be accepted by the public health sector.

This occurs in the United Kingdom, with the Ministry of Health accepting overall responsibility for educating tourists about tourism health issues and funding a number

of national 'Travel Safe' campaigns (Stears, 1996). District health promotion units undertake travel health promotion activities along with other health promotion activities and consequently, inter-sectoral collaboration has increased between the health sector and travel agents. In contrast, Ministry of Health involvement in tourism health issues is minimal in New Zealand, apart from the publication of the occasional brochure (for example, *Passport to Healthy Travel*). Therefore the fundamental issue of overall responsibility for tourism health issues in New Zealand has yet to be addressed. This thesis argues that because of the multi-sectoral nature of the tourism-health interface, government involvement is necessary and tourism health issues must be acknowledged as a public health problem.

This thesis has argued that the strategy of risk assessment must be included in any model addressing tourism health issues in New Zealand. This activity involves the identification of medium- and high-risk destinations and is undertaken by qualified medical personnel. It is only when risk assessment occurs that tourists who require pre-travel preventive services are likely to be identified and referred to doctors. However, risk assessment will only occur if tourism health issues become the responsibility of the public health sector. Risk assessment should increase both the effectiveness and efficiency of the other health promotion activities.

15.6 The Health Experience of Overseas Tourists in New Zealand

Some 14.17% of overseas tourists interviewed in 1997 experienced health problems during their stay in New Zealand, which equals 219,825 tourists. This rate is lower than that reported in many other destinations which confirms that New Zealand is a relatively safe destination with no serious public health problems. It is estimated that approximately 4.6% of all overseas tourists require medical treatment in New Zealand in a twelve-month period, which equals 71,361 overseas tourists. The most common health problems experienced by overseas tourists are minor illnesses and/or infections, minor injuries and diarrhoea and/or vomiting (1.57%).

It would seem that any increase in the health promotion activities of education, prevention and protection will do little to reduce the incidence of health problems experienced by overseas tourists in New Zealand. The health promotion activity of

protection is undertaken by the government in New Zealand, although the underlying motive seems to be to ensure that New Zealand's overall share of the international tourism market is not reduced as a result of health problems experienced by tourists. It has been suggested that tourism health problems may affect the perception tourists have of a destination, and consequently negatively affect new and repeat business (Wilks and Oldenburg, 1995), but this research indicates that this is unlikely to occur in New Zealand. The empowerment of tourists does not appear to be a motive for engaging in this activity. A major problem relating to international tourism is that the health promotion model has no activity that addresses tourism health problems once they occur. Thus the effectiveness of the health promotion model as a strategy for reducing the incidence of tourism health problems appears to be quite limited.

15.7 The Impact of Tourism Health Problems on Outbound Tourists in New Zealand.

Few outbound tourists in New Zealand receive information about the health risks they face when travelling. Only 30% of New Zealand tourists in Fiji could identify any health risks in Fiji while only 10% received advice from their travel agent about the risks in Fiji. Some 12% of New Zealand tourists travelling overseas each year seek pre-travel health advice from their GPs. Approximately three-quarters of New Zealand outbound tourists travel to low-risk destinations, and consequently this means that approximately 150,000 New Zealanders (12.5% of New Zealand outbound tourists) travel to medium or high risk destinations and do not receive pre-travel advice from doctors. Overall therefore, few New Zealand outbound tourists receive appropriate advice and few receive preventive services from GPs. This means that for many New Zealand outbound tourists, protection, which is undertaken by the government of destination countries, is the only health promotion activity that they may encounter and other research suggests that this is unlikely to be effective in less developed countries posing the greatest health risks.

It is estimated that each year, GPs treat 300 cases of malaria and 113 cases of dengue fever that New Zealanders have contracted while travelling overseas. It is also estimated that approximately 3,000 ACC claims are made each year for injuries

sustained by New Zealanders travelling overseas and that 13,000 outbound tourists (1.29% of all outbound tourists) require medical treatment on their return.

Travel agents in New Zealand do not consider that tourism health problems are their responsibility. Overall, it can be seen that New Zealand outbound tourists are not adequately protected and the majority are unaware of the risks they face. The health promotion model appears to be ineffective in reducing the incidence of tourism health problems experienced by New Zealand outbound tourists. Unless the public health sector takes responsibility for addressing tourism health issues, it is unlikely that any reduction will occur in the incidence of health problems experienced by New Zealand outbound tourists.

15.8 The Impact of Tourism on GPs in New Zealand

This research has shown that tourism health issues affect the health sector in New Zealand. GPs give pre-travel health advice to an average of 36 patients per year, which totals 97,000 New Zealand residents. The majority of GPs spend more than ten minutes giving pre-travel health advice to travellers, compared to travel agents, of whom only 7.32% spend more than five minutes talking about health issues. The workload associated with outbound tourism equals that of 15.7 full-time GPs.

GPs are the most appropriate source of accurate health education and are also the key providers of preventive services. While it is neither possible nor necessary for all tourists to receive health education or prevention from GPs, it is important that tourists travelling to medium- or high-risk destinations are identified and advised to see their GP. However, the health promotion model does not include any strategy for identifying these tourists, which is a fundamental weakness of applying this model as a strategy for addressing international tourism health issues.

GPs treated an estimated 12,928 New Zealand residents in 1996/1997 for health problems sustained during overseas travel, which equals 1.29% of all outbound tourists. Accordingly, this thesis argues that the impact of outbound tourism health problems is greater than has been previously recognised and that government

involvement is necessary if the incidence of outbound tourism health problems is to be reduced.

It has been estimated that approximately 4.59% of overseas tourists in New Zealand visited a doctor during a twelve-month period in 1996/1997, which equals 73,060 tourists. The majority of tourists who require medical treatment visit one of a small number of GPs located within clearly defined central tourist regions and thus the impact of inbound tourism on GPs is geographically limited. The total GP workload resulting from overseas tourist consultations equals that of 10.44 GPs. The over-riding goal of health promotion is 'to enhance positive health and reduce the risk of ill health' (Downie *et al*, 1996), and one strategy for achieving this is to treat health problems when they occur. This research has shown that a percentage of tourists will experience health problems, yet the health promotion model contains no strategy to deal with health problems that do occur. Consequently, it is argued that the health promotion model is not an appropriate strategy to deal with tourism health problems.

The overall impact of tourism health problems on GPs appears to be lower in New Zealand than in Fiji. The most common health problems faced by overseas tourists in New Zealand were minor illnesses and infections, minor injuries and gastro-intestinal problems. The estimated total GP workload resulting from all tourism activities (inbound and outbound) equals that of 22.9 full-time GPs and consequently these results indicate that the primary medical infrastructure that currently exists is more than adequate to meet demands placed upon it by tourism in the foreseeable future.

Tourism has an economic impact on GPs with outbound tourism being more significant than inbound tourism. It is estimated that 109,935 New Zealand residents require tourism-related medical advice or treatment from their GPs. This generates \$4,177,530 for GPs during a twelve-month period. In contrast, it is estimated that inbound tourism generates \$1,910,336 for GPs. Altogether therefore, it is estimated that tourism generates \$6,087,866 in earnings for GPs and equals the workload of approximately 23 GPs. Some 0.25% of overseas tourists in New Zealand are referred by GPs to other health specialists such as physiotherapists, radiologists and medical specialists which equals 3,923 tourists.

15.9 The Impact of Tourism on ACC

In this thesis it is estimated that a total of 3,162 ACC claims were made by GPs for injuries sustained by New Zealand residents while travelling overseas in 1996/1997. These claims cost a total of \$1,342,783 and thus outbound tourism does have an economic impact on New Zealand, but the health promotion model provides no strategy for reducing the incidence of accidents suffered by New Zealand residents travelling overseas.

It is estimated that 17,905 claims were made to ACC for injuries sustained by overseas tourists in 1996/1997, and of these, 13,428 were minor claims and 386 were entitlement claims. Minor claims account for 97.85% of all ACC claims for overseas tourists and it is estimated that all ACC claims made for overseas tourists cost a total of \$3,744,342 during a twelve-month period. The claim rate for tourists is only 22.4 per 1,000 tourists which is considerably lower than the overall claim rate of 39.68 per 1,000 for all claims in New Zealand, with tourist claims accounting for only 0.23% of all claims. Altogether, ACC tourist related ACC claims cost \$5,490,421. The cost to the ACC for claims resulting from inbound tourism claims is higher than for claims resulting from outbound tourism. Thus tourism-health issues do have an economic impact on New Zealand as a destination, but health promotion activities are unlikely to reduce this cost.

Overall therefore, this thesis argues that the health promotion model is a prescriptive model rather than being descriptive and has a number of weaknesses as a strategy for reducing the incidence and impact on stakeholders of tourism health problems. The application of the health promotion model as a strategy to reduce tourism health problems (inbound and outbound) in New Zealand appears to be relatively ineffective. Consequently, it is argued that a new model must be developed to take into account the unique features and limitations associated with international tourism.

15.10 The Tourism Health Management Model

The focus of the Tourism Health Management Model is tourism health problems, which are represented as a triangle. Tourism health problems can have implications

for stakeholders at all three phases of the tourism process and consequently the strategies relevant to each phase are identified in this model. The international context of tourism limits the effectiveness of the health promotion activity of protection and this is shown in the Tourism Health Management Model.

Education and prevention are key activities within the Tourism Health Management Model, but their overall effectiveness is likely to be increased by the new activity of risk assessment. Risk assessment is a crucial strategy in the Tourism Health Management Model. This activity focuses on identifying risks associated with destinations rather than on identifying high -risk tourists based on socio-economic or psychographic factors. Risk assessment recognises the limited role that travel agents have in the health education process and places overall responsibility for addressing tourism health problems on the public health sector. Risk assessment involves the establishment and maintenance of a tourism health database by qualified medical personnel, which is also accessible to travel agents. The strategy of risk assessment should increase the overall effectiveness and efficiency of the travel health promotion activities of education and prevention.

A certain percentage of tourists will experience health problems and the Tourism Health Management Model has included the strategy of treatment to address these problems. Treatment can be undertaken by medical personnel or by the tourists themselves and can take place in any of the three phases of tourism.

15.11 Summary

This thesis has evaluated the effectiveness of applying the health promotion model as a strategy to reduce the incidence of international tourism health problems. The results of this thesis suggest that two of the activities of the health promotion model (education and protection) do little to reduce the incidence of health problems experienced by tourists. No channel exists for disseminating travel health education to tourists and governments do not have the jurisdiction to undertake protection activities in other countries. Prevention is the most important activity for reducing the incidence of many tourism health problems, but few tourists engage in preventive activities. This thesis argues that the health promotion model does not take into

account the unique characteristics associated with international tourism and concludes that the health promotion model is relatively ineffective as a strategy for reducing the incidence of international tourism health problems. Consequently, a new model, the Tourism Health Management Model, has been developed which addresses these issues.

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APPENDIX A

Survey of Travel Agents

Travel Health Questionnaire - Massey University

For Office Use only
☐☐☐
(1-3)

Q1 What is your title and responsibility in your organisation?

Q2 Are you:- a travel agent ☐ ☐
a tour operator ☐ (4-6)
other (please specify) ☐
(You may tick more than one category)

Q3 What are the main client groups you deal with ? ☐
(7-9)

holiday makers ☐
business travellers ☐
others (please specify) ☐

Q4. Approximately what percentage of the total travel booked through your office ☐
is Pacific based? (10)

- 1. Less than 10%
- 2. 10% - 25%
- 3. 25% - 50%
- 4. 50% - 75%
- 5. More than 75%

Q5. Which of the following do you personally consider to be appropriate for giving health advice to travellers? Please rank the categories using 1 for the most important, 2 for the 2nd most important and so on. Use 0 if you do not consider the source to be appropriate.

- 1. Department of Health leaflet (*Passport to Healthy Travel*) ☐ ☐
 - 2. Travel agents ☐ (11-18)
 - 3. The traveller's own G.P. ☐
 - 4. Pharmacies ☐
 - 5. Travel guides (e.g. Lonely planet guide, Fodors) ☐
 - 6. Airlines ☐
 - 7. Tour operators brochures ☐
 - 8. Other (please specify below). ☐
-

Q6. Would you use a database giving specific health advice relating to individual ☐
destinations if one was available at an appropriate cost? (19)
Yes / No.

Q7. How often do you give health advice to intending travellers? Please tick the ☐ most appropriate answer. (20)

- | | | |
|----|---------------|--------------------------|
| 1. | Always | <input type="checkbox"/> |
| 2. | Nearly always | <input type="checkbox"/> |
| 3. | Sometimes | <input type="checkbox"/> |
| 4. | Very rarely | <input type="checkbox"/> |
| 5. | Never | <input type="checkbox"/> |

Q8. Approximately how much time per traveller do you **usually** spend talking ☐ about travel health issues? Please tick the most appropriate answer. (21)

- | | | |
|----|---------------------|--------------------------|
| 1. | No time | <input type="checkbox"/> |
| 2. | Less than 1 minute | <input type="checkbox"/> |
| 3. | 1 - 2 minutes | <input type="checkbox"/> |
| 4. | 2 - 5 minutes | <input type="checkbox"/> |
| 5. | More than 5 minutes | <input type="checkbox"/> |

Q9. How often do you use the Department of Health booklet '*Passport to Healthy Travel*' or give it to intending travellers? ☐ (22)

- | | |
|----|---------------|
| 1. | Always |
| 2. | Nearly always |
| 3. | Sometimes |
| 4. | Very rarely |
| 5. | Never |

Q10. Does the mode of travel (i.e. business travellers, package tourists, free independent travellers) affect the type and level of health advice you give travellers? ☐ (23)

Yes / No

Q11. Which of the following do you mention when giving general travel health advice to intending travellers? Please circle the appropriate answer. ☐ (24-28)

1 = always, 2 = nearly always, 3 = sometimes, 4 = rarely, 5 = never.

- | | | | | | | |
|----|--|---|---|---|---|---|
| 1. | Vaccinations | 1 | 2 | 3 | 4 | 5 |
| 2. | Malaria pills | 1 | 2 | 3 | 4 | 5 |
| 3. | Care to ensure food and water is clean | 1 | 2 | 3 | 4 | 5 |
| 4. | Need to prevent insect bites | 1 | 2 | 3 | 4 | 5 |
| 5. | Need to take care in sun | 1 | 2 | 3 | 4 | 5 |

Q12. Which of the following health issues do you discuss with travellers intending to visit the Pacific locations listed below? (Please circle. You may circle more than one issue).

V = vaccinations, M = malaria pills, F = care with food/water,
I = need to avoid insect bites, S = need to take care in sun.

Please circle X if you have personally visited this destination.

1. Australia	V	M	F	I	S	X	<input type="checkbox"/>	(1-6)
2. Hawaii	V	M	F	I	S	X	<input type="checkbox"/>	(7-12)
3. Fiji	V	M	F	I	S	X	<input type="checkbox"/>	(13-18)
4. Tahiti	V	M	F	I	S	X	<input type="checkbox"/>	(19-24)
5. Western or American Samoa	V	M	F	I	S	X	<input type="checkbox"/>	(25-30)
6. Tonga	V	M	F	I	S	X	<input type="checkbox"/>	(31-36)
7. New Caledonia	V	M	F	I	S	X	<input type="checkbox"/>	(37-42)
8. Cook Islands	V	M	F	I	S	X	<input type="checkbox"/>	(43-48)
9. Papua New Guinea	V	M	F	I	S	X	<input type="checkbox"/>	(49-54)
10. Solomon Islands	V	M	F	I	S	X	<input type="checkbox"/>	(55-60)
11. Vanuatu	V	M	F	I	S	X	<input type="checkbox"/>	(61-66)

Q13 How often do you recommend that travellers take out medical insurance? ☐ (67)

- 1. Always
- 2. Nearly always
- 3. Sometimes
- 4. Very rarely
- 5. Never

Q14. Do you have any other comments regarding traveller health issues?

.....

.....

Q15. Would you be willing to have a follow-up interview of approximately half an hour's duration at a later date? ☐ (68)

Yes / No.

*Thank you for your willingness to participate in this survey.
Please return this questionnaire in the reply paid envelope. Thank you.*

APPENDIX B

Survey of General Practitioners (GPs)

☐☐☐☐

(1-3) (4)

(For office use only)

- Q1. Approximately how many patients have come to you for pre-travel advice and/or travel vaccinations in the past twelve months?
- Q2. Approximately how much time would you spend with a patient giving pre-travel health advice or pre-travel vaccinations? (Please tick)

- i. Less than 5 minutes ☐
- ii. 5-10 minutes ☐
- iii. More than 10 minutes ☐

- Q3. In the past twelve months have you treated any New Zealand patients for illnesses or accidents suffered as a result of overseas travel? (Please circle) **Yes/No/Don't know**
- If yes, approximately how many?

How many were ACC related?.....

What did you treat them for?

.....

- Q4. In the past twelve months have you treated any overseas tourists? **Yes/No/Don't know**
- If yes, approximately how many?

Approximately how many were ACC related?

Approximately how many overseas tourists have you referred to other health services such as physiotherapists or specialists?

What have you treated them for?.....

.....

- Q5. Which of the following health issues would you discuss with patients intending to visit the Pacific locations listed below (Please circle as many as you feel appropriate).

V = vaccinations, **M** = malaria pills, **F**= care with food/water, **I** = need to avoid insect bites, **S** = need to take care in the sun, **X** = importance of safe sex practices

1. Australia	V	M	F	I	S	X
2. Hawaii	V	M	F	I	S	X
3. Fiji	V	M	F	I	S	X
4. Tahiti	V	M	F	I	S	X
5. Western/American Samoa	V	M	F	I	S	X
6. Tonga	V	M	F	I	S	X
7. New Caledonia	V	M	F	I	S	X
8. Cook Islands	V	M	F	I	S	X
9. Papua New Guinea	V	M	F	I	S	X
10. Solomon Islands	V	M	F	I	S	X
11. Vanuatu	V	M	F	I	S	X

- Q6. Have you ever seen or used any Health Department publications concerning travel health information (e.g. *Passport to Health, Health Advice for Overseas Travellers*)
Yes/No
- Q7. Do you think it is more appropriate for travellers to visit a travel medicine clinic for pre-travel or post-travel treatment rather than visiting a GP.
Yes/No/No opinion
Why?
- Q8. Do you know of any travel medicine clinic? **Yes/No**
If yes, what is its name and location?
- Q9. Would you seek a second opinion from a travel medicine clinic if you were unsure of the vaccinations or health precautions needed for a less common destination? **Yes/No**
- Q10. Do you believe that educating the public about basic travel health issues should be the responsibility of the travel industry or the Department of Health in New Zealand?
.....
- Q11. Many travel agents give no advice to clients regarding travel health issues and say that it is **not** their responsibility. Do you agree with this view?
Yes/No/No opinion
- Q12. Do you believe that:-
i. travel agents should refer their clients to medical practitioners for health advice if they are going to unusual destinations? **Yes/No/No opinion**
ii. travel agents should give basic travel health advice to most of their customers?
Yes/No/No opinion
- Q13. Which of the following sources do you personally consider to be appropriate for giving health advice to intending travellers. Please rank the categories using 1 for the most appropriate, 2 for the second most appropriate and so on. Use 0 if you do not consider the source to be appropriate.
- | | |
|--|--------------------------|
| 1. Department of Health leaflet (e.g. <i>Passport to Healthy Travel</i>) | <input type="checkbox"/> |
| 2. Travel agents | <input type="checkbox"/> |
| 3. The traveller's own GP. | <input type="checkbox"/> |
| 4. Travel guides (e.g. Fodors, Lonely Planet Guide) | <input type="checkbox"/> |
| 5. Airlines | <input type="checkbox"/> |
| 6. Tour operators' brochures | <input type="checkbox"/> |
| 7. Travel health clinics | <input type="checkbox"/> |
| 8. Pharmacies | <input type="checkbox"/> |
| 9. Public health programmes | <input type="checkbox"/> |
| 10. Other (please specify below). | <input type="checkbox"/> |
-
- Q14. Do you have any further comments regarding travel health issues as they affect you as a General Practitioner?
.....
.....

Thank you for your willingness to participate in this survey.
Please return this questionnaire in the reply paid envelope. Thank you.

APPENDIX C

Survey of Tourists in Fiji

(For office use only)

☐☐☐

(1-3)

Dear Passenger

This questionnaire survey on tourists' health experiences in Fiji is being undertaken by researchers from Massey University in Auckland, New Zealand. If you could spare a few moments to fill in the questions below it would be greatly appreciated and all replies will be kept in strictest confidence.

- Q1. Date _____ ☐ (4)
- Q2. Flight No. _____ ☐ (5)
- Q3. How many nights have you spent in Fiji on this trip? _____ nights ☐ (6)
- Q4. Have you visited Fiji before? Yes _____ No _____
If yes, in what year? _____ ☐ (7-8)
- Q5. What is the main reason you are visiting Fiji? (Please tick)
Visiting Friends or Relatives _____ Holiday _____ Business trip _____ ☐
Other (Please specify) _____ (9-12)
- Q6. What type/s of accommodation did you stay in? (You may tick more than one category)
Hotel _____ Motel _____ With family _____ Backpackers hostel _____
Island Resort _____ Other (please specify) _____ ☐ (13-18)
- Q7. During your time in Fiji did you mainly travel:-
as an individual _____ with your family _____ with a partner _____ ☐ (19)
- Q8. Which places have you visited during this stay in Fiji, even for less than one day?
(Please tick) ☐ (20-31)
- | | |
|--|--------------------------------|
| 1. Nadi _____ | 2. Suva _____ |
| 3. Lautoko _____ | 4. Sigatoka _____ |
| 5. Nausari _____ | 6. The Mamanucas Islands _____ |
| 7. Yasawa Islands _____ | 8. Ovalau Island _____ |
| 9. Kadavu Island _____ | 10. Vanua Levu _____ |
| 11. Tavenui Island _____ | |
| 12. Any of the Nadi offshore islands (e.g. Musket Cove, Castaway, Treasure, Beachcomber, Mana, Sonaisali, Plantation etc.) _____ | |
- Q9. During your time in Fiji did you need to visit:-
a doctor _____ a chemist (for medication) _____ a hospital _____
an Accident and Emergency clinic _____ ☐ (32-35)

Q10. Did you suffer from any of the following during your stay in Fiji? (Please tick) ☐ (36-50)

- | | | | |
|----------------------------------|-----|-----------------------------|-----|
| 1. Sprained wrists or ankles | ___ | 2. Broken bones | ___ |
| 3. Cuts or bruises | ___ | 4. Migraines or headaches | ___ |
| 5. Bee stings or insect stings | ___ | 6. Sunburn or heatstroke | ___ |
| 7. Cardiac or heart problems | ___ | 8. Bronchitis or asthma | ___ |
| 9. Diarrhoea | ___ | 10. Vomiting | ___ |
| 11. Fever or temperature | ___ | 12. Sore throat or colds | ___ |
| 12. Breathlessness | ___ | 14. Snake or scorpion bites | ___ |
| 15. Other (please specify) _____ | | | |

Q11. Was this holiday booked as a package holiday? Yes ___ No ___ ☐ (51)

Q12. Did you book your travel at a travel agent? Yes ___ No ___ ☐ (52)
If No, go to Q14.

Q13. Did you ask your travel agent about health issues at the time of booking?
Yes ___ No ___ ☐ (53)

Q14. Did your travel agent raise health issues with you at the time of booking?
Yes ___ No ___ ☐ (54)

If so, did they recommend any of the following (Please tick) ☐ (55-59)

- | | |
|---|-----|
| 1. Vaccinations | ___ |
| 2. Malaria pills | ___ |
| 3. The need to prevent insect bites | ___ |
| 4. The need to take care in the sun | ___ |
| 5. The need to ensure food and water is clean | ___ |

Q15. Did you think health issues are an important consideration when going on holiday?
Yes ___ No ___ ☐ (60)

Q16. Are you aware of any of health risks associated with Fiji? Yes ___ No ___ ☐ (61)
If yes, please specify _____ ☐ (62)

Q17. In which country did you book this trip to Fiji? _____ ☐ (63)

Q18. What is your age group? (Please tick) ☐ (64)

Under 19yrs	___	20-29 yrs	___	30-39yrs	___
40-49 yrs	___	50-59 yrs	___	Over 60 yrs	___

Q19. What is your sex? Male ___ Female ___ ☐ (65)

Thank you for your time and cooperation in completing the survey.

APPENDIX D

Survey regarding Health Advice and Behaviour

Survey of Overseas Tourists in New Zealand

(For office use)
(1-3)

- Q1

What is your country of residence?
- Q2

How many times have you travelled overseas from your own country? **(Please tick)**
1.... 2 3 4 5 6-10 10- 20 More than 20....
- Q3

When was your first trip overseas? **(Please circle)**

Before 1950	1950-1955	1956-1960	1961-1965	1966-1970	1971-1975
1976-1980	1981-1985	1986-1990	1991-1995	After 1995	
- Q4

Which regions did you visit on your **first** overseas trip? **(Please circle)**

Australia or New Zealand	Pacific Islands	Asia or China	Japan
North America	Central or South America	United Kingdom	Africa
Western Europe	Eastern Europe or Russia	Middle East	Other

Did you experience any health problems on your first trip? **Yes / No** If yes, what were they?
.....
- Q5

Which regions did you visit on your **second** overseas trip? **(Please circle)**

Australia or New Zealand	Pacific Islands	Asia or China	Japan
North America	Central or South America	United Kingdom	Africa
Western Europe	Eastern Europe or Russia	Middle East	Other

Did you experience any health problems on your second trip? **Yes / No**
If yes, what were they?.....
- Q6

Which regions did you visit on your **third** overseas trip? **(Please circle)**

Australia or New Zealand	Pacific Islands	Asia or China	Japan
North America	Central or South America	United Kingdom	Africa
Western Europe	Eastern Europe or Russia	Middle East	Other

Did you experience any health problems on your third trip? **Yes / No.** If yes, what were they?
.....
- Q7

Please list any other regions that you have subsequently visited
- Q8

Please tick if you have received travel health advice from any of the following:-
(You may tick more than one)

Friends or relatives... Guidebooks Travel agent Doctor Travel Brochures ...
Government health campaigns Other (please specify)
- Q9

Which source was the most useful?
- Q10

What health advice were you given?
- Q11

Do you take extra precautions to avoid getting sick when you travel overseas? **Yes / No**

If yes, what precautions do you take?

Q12. When travelling overseas how often do you:- (Please circle)

Ensure that the food you eat is clean	<i>always</i>	<i>nearly always</i>	<i>usually</i>	<i>sometimes</i>	<i>rarely</i>	<i>never</i>
Ensure you only drink clean water	<i>always</i>	<i>nearly always</i>	<i>usually</i>	<i>sometimes</i>	<i>rarely</i>	<i>never</i>
Use sunscreen when in the sun	<i>always</i>	<i>nearly always</i>	<i>usually</i>	<i>sometimes</i>	<i>rarely</i>	<i>never</i>
Use insect repellent	<i>always</i>	<i>nearly always</i>	<i>usually</i>	<i>sometimes</i>	<i>rarely</i>	<i>never</i>

Q13. Did you book this trip through a travel agent? Yes / No
(If No, please go to Question 21)

Q14. Did your travel agent mention health issues to you? Yes / No
Did you ask your travel agent about health issues? Yes / No
Did your travel agent suggest that you get further medical advice? Yes / No

Q15. Have you ever visited a Doctor or Travel Clinic before travelling overseas? Yes / No

Q16. Have you heard of giardia? Yes / No

Q17. When I am overseas... (Please circle)
Strongly agree strongly disagree

I try to see and do as many new things as I can	1	2	3	4	5	6	7
I try to eat local food as often as I can	1	2	3	4	5	6	7
I like lots of outdoor activities	1	2	3	4	5	6	7
I take care not to get sunburnt	1	2	3	4	5	6	7
I like to visit out of the way places	1	2	3	4	5	6	7
I like visiting natural and scenic places	1	2	3	4	5	6	7
I take care to ensure food and water is clean	1	2	3	4	5	6	7
I take care to avoid infections	1	2	3	4	5	6	7
I try to meet local residents	1	2	3	4	5	6	7
I usually drink more alcohol than I would at home	1	2	3	4	5	6	7
I like an exciting night life	1	2	3	4	5	6	7
I try to avoid eating local food	1	2	3	4	5	6	7
I like to meet new people	1	2	3	4	5	6	7
I prefer travelling on a package tour	1	2	3	4	5	6	7
I like to go to shows, concerts or the theatre	1	2	3	4	5	6	7
I like visiting historic and cultural attractions	1	2	3	4	5	6	7
I enjoy a more luxurious lifestyle than at home	1	2	3	4	5	6	7
I like to unwind and do as little as possible	1	2	3	4	5	6	7
I take care to avoid insect bites	1	2	3	4	5	6	7
I like adventure activities	1	2	3	4	5	6	7
I like travelling independently	1	2	3	4	5	6	7
I like to spend time just sitting in the sun	1	2	3	4	5	6	7
I prefer to be with friends	1	2	3	4	5	6	7
I love shopping	1	2	3	4	5	6	7
I try to travel as cheaply as I can	1	2	3	4	5	6	7

Q18. What is your sex? *(Please circle)* Male Female

Q19. What is your age group? *(Please circle)*

Under 20 years	20-29 years	30-39 years
40-49 years	50-59 years	60+ years

Q20. What is your occupation?

Overseas Visitors Only

Q21. How many nights have you spent in New Zealand?

Q22. What is the **main** reason you are visiting New Zealand? *(Please tick)*
Visiting friends or relatives Business Holiday Other(please specify)

Q23. What types of accommodation have you stayed in during this stay in New Zealand?
(You may tick more than one)
Motel Hotel.... Backpackers Hostel With friends or family Campervan
Camping ground Other (please specify)

Q24. Have you taken out travel insurance for this trip? **Yes / No**

Q25. During **this** stay in **New Zealand** did you :
visit a doctor visit a pharmacy visit a hospital
visit an Accident & Emergency clinic use your own medication *(Please tick)*

Q26. Have you had any health problems during this visit to New Zealand? **Yes / No**
(If No, please go to Question 27)
If yes, what were these problems?

Q27. Did any of these health problems cause you change your plans while in NZ? **Yes/No**
Was your enjoyment affected during the time you were experiencing these problems? **Yes/No**
Did any of these health problems affect your overall enjoyment of your time in NZ? **Yes/No**

Q28. What activities have you undertaken during this stay in New Zealand? *(Please tick)*

Visited friends or relatives	<input type="checkbox"/>	Visited a museum	<input type="checkbox"/>
Visited an art gallery or theatre	<input type="checkbox"/>	Shopping	<input type="checkbox"/>
Visited a bar or nightclub	<input type="checkbox"/>	Eating out at restaurants	<input type="checkbox"/>
Wine tasting or vineyard tour	<input type="checkbox"/>	Fishing	<input type="checkbox"/>
Watched a <i>Maori</i> cultural performance	<input type="checkbox"/>	Bungy jumping	<input type="checkbox"/>
White or black water rafting	<input type="checkbox"/>	Hot air balloon ride	<input type="checkbox"/>
Whale watching	<input type="checkbox"/>	Bush walk or tramping	<input type="checkbox"/>
Beach activities (swimming, sunbathing)	<input type="checkbox"/>	Parachute jumping	<input type="checkbox"/>
Taken a jet boat ride	<input type="checkbox"/>	Rock or mountain climbing	<input type="checkbox"/>
Snow skiing	<input type="checkbox"/>	Visited a wildlife sanctuary	<input type="checkbox"/>
Visited a geothermal attraction	<input type="checkbox"/>	Kayaking or sailing	<input type="checkbox"/>
Helicopter or scenic flight	<input type="checkbox"/>	Mountain biking	<input type="checkbox"/>
Other (please specify below)	<input type="checkbox"/>		

.....
Thank you for taking the time to complete this questionnaire

APPENDIX E

List of Countries of Booking by Respondents in Survey of Overseas Tourists

	Number of Respondents	Percentage
Belgium	4	1.05
United Kingdom (England, Scotland, Wales)	72	19.37
Germany	19	4.97
Switzerland	2	0.52
Holland	16	4.19
New Zealand	128	33.51
United States of America	45	11.78
Sweden	8	2.09
Israel	7	1.83
Japan	18	4.71
Australia	14	3.66
Cameroon	1	0.26
France	2	0.52
Canada	12	3.14
South Africa	1	0.26
Italy	3	0.79
Denmark	4	1.05
Thailand	2	0.52
China/Hong Kong	3	0.79
Malaysia	2	0.52
Vietnam	1	0.26
Pacific Islands	2	0.52
Finland	1	0.26
Norway	2	0.52
Korea	3	0.79
Argentina	1	0.26
Spain	1	0.26
Singapore	6	1.57
Total	381	100.00